AGENDA

DEVELOPMENT DETERMINATION PANEL MEETING

Notice is hereby given that a Meeting of the Development Determination Panel will be held on

WEDNESDAY 14 JULY 2021



Ashleigh Sherry
Manager Business Systems and Administration

Agenda for a Meeting of the Development Determination Panel to be held on Wednesday 14 July 2021

1.0 APOLOGIES & DECLARATIONS OF INTEREST

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2.0 CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

2.1 MINUTES OF DEVELOPMENT DETERMINATION PANELS HELD 23 JUNE AND 25 JUNE 2021

RECOMMENDATION

That the Panel note that the Minutes of the Development Determination Panels held 23 June and 25 June 2021 were approved by all Panel Members and have been posted on Council's website.

3.0 DEVELOPMENT DETERMINATION PANEL REPORTS

ITEM 3.1	**MOD2021/0235 - 24 LANCASTER CRESCENT , COLLAROY - MODIFICATION OF DEVELOPMENT CONSENT DA2016/0963 GRANTED FOR DEMOLITION WORKS AND THE CONSTRUCTION OF A NEW DWELLING HOUSE AND SWIMMING POOL.**
REPORTING MANAGER	**Lashta Haidari**
TRIM FILE REF	**2021/490511**
ATTACHMENTS	**1 Assessment Report**
	2 Working Plans

PURPOSE

To refer the attached application for determination by the discretion of the Executive Manager Development Assessment.

RECOMMENDATION OF DEVELOPMENT ASSESSMENT MANAGER

THAT Council, as the consent authority, **approves** Mod2021/0235 for Modification of Development Consent DA2016/0963 granted for demolition works and the construction of a new dwelling house and swimming pool on land at Lot 3 Sec 10 DP 11899, 24 Lancaster Crescent , Collaroy, subject to the conditions outlined in the Assessment Report.

APPLICATION FOR MODIFICATION ASSESSMENT REPORT

Application Number:	Mod2021/0235

Responsible Officer:	Anne-Marie Young
Land to be developed (Address):	Lot 3 DP 11899, 24 Lancaster Crescent COLLAROY NSW 2097
Proposed Development:	Modification of Development Consent DA2016/0963 granted for demolition works and the construction of a new dwelling house and swimming pool
Zoning:	Warringah LEP2011 - Land zoned R2 Low Density Residential
Development Permissible:	Yes
Existing Use Rights:	No
Consent Authority:	Northern Beaches Council
Delegation Level:	DDP
Land and Environment Court Action:	No
Owner:	Sarah Louise Genev
Applicant:	Jon Garling

Application Lodged:	05/05/2021
Integrated Development:	No
Designated Development:	No
State Reporting Category:	Residential - Alterations and additions
Notified:	13/05/2021 to 27/05/2021
Advertised:	Not Advertised
Submissions Received:	3
Clause 4.6 Variation:	Nil
Recommendation:	Approval

EXECUTIVE SUMMARY

The subject modification seeks to review a number of conditions imposed under the approval of the 2019 modification (MOD2019/0253) in relation to the pool screen, privacy treatment to the level 2 windows to the north and the operation of security cameras. In addition, the application seeks consent for an as built brushwood fence along part of the eastern boundary. On merit, some of the modifications are acceptable (as modified by conditions of consent) for the reasons detailed throughout this report. This include a minor 200mm increase in the height of the pool screen to 900mm for a length of 1500mm which is considered to be a reasonable compromise in improving the privacy to the pool deck while retaining reasonable view sharing to the west facing living room windows of No. 22 Lancaster Crescent.

The proposal received two unique objections in relation to the proposal breaching previous approvals,

unauthorised work, view loss, privacy from windows and security cameras, light spill, error in the plans and issues with the height and material of the side fence. These matters are addressed in this report.

Based on the detailed assessment contained in this report, it is recommended that the application be conditionally approved with an amendment to the pool screen as described above. The changes to the landscaping is not supported due to view loss issues with the changes to the species. In addition, the height and material of the brushwood fence are inconsistent with the controls and previous approval and the approval of this structure is not supported.

PROPOSED DEVELOPMENT IN DETAIL

The proposal seeks consent for a modification to DA2016/0963 which was granted for demolition works and the construction of a new dwelling house and swimming pool. The original consent was modified under Mod2019/0253 which relates to a privacy screen to the pool, fencing and windows. Essentially the subject modification seeks to review the 2019 modification and respond to an Order issues by Council in relation to brush wood boundary fence along part of the north-eastern boundary.

In detailed the application seeks consent for:

- The applicant refers to the deletion of condition 41 regarding security cameras which was added as an additional condition under MOD2019/0253. Condition 41 reads: *Any and all security cameras installed on the subject site are to be installed such that they record the subject site only, and not any other adjoining property*.

- The depiction on the architectural plans of the pool side seating previously approved on the landscape plan.

- Amendment to condition 15A Pool Side Screen to increase the height of the privacy screen from 700mm RL +61.69 to 1100m to RL +62.795. (It is noted that the SEE refers to an increase of 535mm increase in the height which would result in a height of 1235mm).
- Approval of the “as built” brushwood fence located along the north eastern boundary of the property where adjacent to the games/ rumpus room.
- The removal of the frosted glazing from 2 of the north facing second floor ensuite windows (Condition 15B), and
- Changes to the approved landscape regime as depicted on the “as built” landscape plans.

ASSESSMENT INTRODUCTION

The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act 1979 and the associated Regulations. In this regard:

- An assessment report and recommendation has been prepared (the subject of this report) taking into account all relevant provisions of the Environmental Planning and Assessment Act 1979, and the associated regulations;
- A site inspection was conducted and consideration has been given to the impacts of the development upon the subject site and adjoining, surrounding and nearby properties;
- Notification to adjoining and surrounding properties, advertisement (where required) and referral to relevant internal and external bodies in accordance with the Act, Regulations and relevant Development Control Plan;

- A review and consideration of all submissions made by the public and community interest groups in relation to the application;
- A review and consideration of all documentation provided with the application (up to the time of determination);
- A review and consideration of all referral comments provided by the relevant Council Officers, State Government Authorities/Agencies and Federal Government Authorities/Agencies on the proposal.

SUMMARY OF ASSESSMENT ISSUES

Warringah Development Control Plan - D1 Landscaped Open Space and Bushland Setting
Warringah Development Control Plan - D7 Views
Warringah Development Control Plan - D8 Privacy
Warringah Development Control Plan - D10 Building Colours and Materials
Warringah Development Control Plan - D12 Glare and Reflection
Warringah Development Control Plan - D15 Side and Rear Fences

SITE DESCRIPTION

Property Description:	Lot 3 DP 11899 , 24 Lancaster Crescent COLLAROY NSW 2097
Detailed Site Description:	The subject site consists of one allotment located on the northern side of Lancaster Crescent . The site is irregular in shape with a frontage of 36.575m along Lancaster Crescent and a maximum depth of 51.31m. The site has a surveyed area of 704.5m². The site is located within the R2 Low Density Residential zone and accommodates a four-storey detached dwelling house which has recently completed construction (as approved under DA2016/0963 and as modified under MOD2017/0057) and MOD2019/0253). The site slopes approximately 7m from north to south, and landscaping is underway in accordance with the above approvals. **Detailed Description of Adjoining/Surrounding Development** Adjoining and surrounding development is characterised by multi-storey detached dwelling houses.

Map:



SITE HISTORY

Development application **DA2016/0963** was granted deferred commencement approval on 23 December 2016 for demolition works and the construction of a new dwelling house and swimming pool as follows:

"1. Amended Plans to Retain Significant Rock Outcrop and Reduce Building Height
Amended plans are to be submitted to Council in accordance with the following:
a. The terrace component off the kitchen on the First Floor and equivalent area of Bedroom 3 and planters at the entry indicated on the Ground Floor are to be deleted.
In this regard, the natural rock in the area of the deleted components is to be maintained and protected.
More detailed information on the requirement can be found in the Landscape Referral Response, dated 22 December 2016 (available on Council's E-Services - DA2016/0963).
Furthermore, the amendments are to include the retention of Tree 6 (Banksia integrifolia) located on the rock.
b. The roof over the front terrace (adjacent to the master bedroom) is to be reduced by 0.5m in length and/or modified to ensure compliance with the 8.5m Building Height control under Warringah Local Environmental Plan 2011.
Reason: In order to maintain visual integrity and context of the rock outcrop in the landscape and compliance with Warringah Local Environmental Plan
2011."

On 15 February 2017, the Applicant provided documentation to satisfy the above requirements, and operational consent was granted by Council on 21 February 2017.

Modification application **MOD2017/0057** for modification of DA2016/0963 sought to undertake excavation up to the eastern boundary so to create a lightwell to enable light to bedroom 3 on the ground floor. MOD2017/0057 was approved by Council on 1 June 2017.

On 12 October 2017, **Court Orders** were issued by the Land and Environment Court in respect of proceeding between the owners of No. 22 Lancaster Crescent and the owners of the subject site in relation to the maximum height of the walls/ pool fence and landscaping. The Court Order requirements

set out requirements in relation to the maximum height (RL63.13) for the pool fence on the retaining wall, a boundary fence to a maximum height of 1.8m measured vertically from the nosings of the stairs on 22 Lancaster Crescent and vegetation within 1 metre of the boundary not to exceed RL 62.00 in height.

Modification application **MOD2019/0253** for the modification of DA2016/0963 sought to undertake changes to the basement, amendment to landscaping adjacent to the pool and in the rear garden, amendments to floor levels (RLs), changes to windows, the addition of a privacy screen to the east of the pool and minor internal changes. On the 24 July 2020 the modification was approved by the DDP subject to the addition of the following conditions:

B. Add Condition 15A Amended Pool Privacy Screen / Boundary Pool Barrier to read as follows:

The proposed pool privacy screen above the existing masonry wall adjacent to the eastern boundary shared with 22 Lancaster Crescent is to be 700mm in height above the wall on which it is erected (that is, to RL 62.26), and is to extend from a point 900mm north of the northernmost pool barrier to a point 900mm south of the southernmost pool barrier (i.e. to meet swimming pool safety standards). The privacy screen is to consist of vertical louvres that allow views from 22 Lancaster Crescent in a southerly direction.

As the screen also acts as a boundary pool barrier, the screen and the wall on which it is erected are to be constructed in accordance with Australian Standard AS1926.1-2012 Swimming Pool Safety, particularly (but not limited to) in relation to non-climbable zones and exclusion zones.

Details demonstrating compliance with this condition are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure consistency with the relevant Australian Standard, while ensuring privacy for the subject site and reducing view loss to 22 Lancaster Crescent.

C. Add Condition 15B Frosting to Windows to read as follows:

The east-facing windows to the ensuite (WL04.08-13) and walk-in-robe (WL04.24-25) at the second floor are to be frosted to a minimum height of 1500mm above finished floor level. The north-facing windows to the second floor ensuite (WL04.05-07) are to be frosted to a minimum height of 1500mm above finished floor level. The east-facing windows to the daybed (WL04.18-20) and bedroom (WL04.14) at the second floor are to be fully frosted. Details demonstrating compliance with this condition are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure visual privacy to adjoining properties.

D. Add Condition 15C Amended Landscape Plan to read as follows:

The approved Landscape Plan prepared by Selena Hannan Landscape Design dated 17 May 2019 is to be amended to limit vegetation in the south-eastern portion of the site (being the landscaped areas south of the pool terrace and pool, and east of the driveway) and those in the planter bed to the east of the pool to species that achieve a maximum mature height that will not exceed RL 62.00. Details demonstrating compliance with this condition are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To protect against unreasonable view loss to 22 Lancaster Crescent.

E. Add Condition 15D Deletion of Western and Northern Walls to read as follows:

The western and northern masonry walls that act as side and rear fences are to be deleted from plans.

Details demonstrating compliance with this condition are to be submitted to the satisfaction of the of the Certifying Authority prior to the issue of the Construction Certificate.

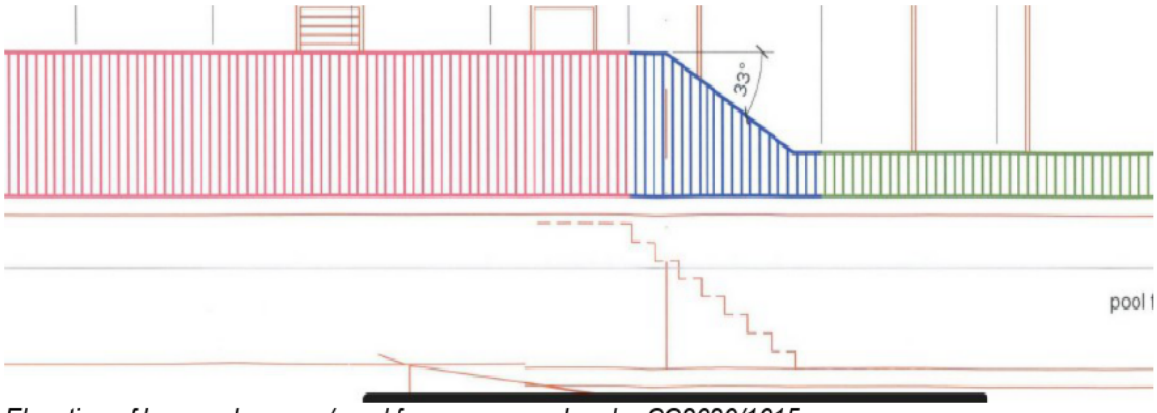
Reason: The location of the walls is unclear from plans.

F. Under a new heading 'ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES', add Condition 41 Security Cameras to read as follows:

Any and all security cameras installed on the subject site are to be installed such that they record the subject site only, and not any other adjoining property.

Reason: To ensure suitable privacy to adjoining private land.

On 21 October 2020, **Construction Certificate CC2020/1015** was issued which approved 200mm of extra blockwork on top of the existing wall along the eastern boundary adjacent to the pool in order to achieve BCA compliance with the 1800mm pool fence requirement. The stamped plans document the 200mm block work and a 500mm louvres fence on top resulting in an RL of 61.695 with the 500mm screen the final RL equates to 62.195 which complies with condition 15A of Mod201/0253 which required the RL to be no greater than 62.26. The CC also approved a transition angled section (see blue screen in image below).



Elevation of louvered screen / pool fence approved under CC2020/1015

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 (EPAA)

The relevant matters for consideration under the Environmental Planning and Assessment Act, 1979, are:
The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act 1979 and the associated Regulations. In this regard:

- An assessment report and recommendation has been prepared and is attached taking into all relevant provisions of the Environmental Planning and Assessment Act 1979 and associated regulations;
- A site inspection was conducted and consideration has been given to the impacts of the

development upon all lands whether nearby, adjoining or at a distance;
- Consideration was given to all documentation provided (up to the time of determination) by the applicant, persons who have made submissions regarding the application and any advice given by relevant Council / Government / Authority Officers on the proposal;

In this regard, the consideration of the application adopts the previous assessment detailed in the Assessment Report for DA2016/0963, in full, with amendments detailed and assessed as follows:

The relevant matters for consideration under Section 4.55(1A) of the Environmental Planning and Assessment Act, 1979, are:

Section 4.55(1A) - Other Modifications	**Comments**
A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:	
(a) it is satisfied that the proposed modification is of minimal environmental impact, and	**Complies in part** The application seeks consent for a number of modifications which include changes to the approved privacy screen to the pool, screening to windows and conditions relating to security cameras and landscaping in addition to an unauthorised boundary wall. Some of the proposed modifications are supported as they have minimal environmental impacts, other changes have been assessed as having unreasonable impacts on neighbouring amenity and the built environment. A summary of the changes are below: The modification of condition 15A allows a 200mm increase in the height of the privacy screen for a length of 1500mm to allow for privacy while ensuring reasonable view sharing is maintained. The deletion of the condition to allow two narrow ensuite windows not to have obscure glazing will not result in unreasonable privacy impacts to neighbours given the design and orientation of the windows. The condition relating to the security cameras in not enforceable therefore the deletion of the condition is supported. The height and material of the brushwood fence on part of the eastern boundary is the out of character with the area and not supported. The changes to the approved landscaping will result in unreasonable view loss impacts when the species reach full height at maturity. Refer to detailed discussion throughout this report.
(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and	The development, as proposed, is substantially the same as that already approved under DA2016/0963.
(c) it has notified the application in accordance with:	The application has been publicly exhibited in accordance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000, Warringah Local

Section 4.55(1A) - Other Modifications	Comments
(i) the regulations, if the regulations so require, or (ii) a development control plan, if the consent authority is a council that has made a development control plan under section 72 that requires the notification or advertising of applications for modification of a development consent, and	Environment Plan 2011 and Warringah Development Control Plan.
(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.	See discussion on "Notification & Submissions Received" in this report.

Section 4.15 Assessment

In accordance with Section 4.55 (3) of the Environmental Planning and Assessment Act 1979, in determining an modification application made under Section 4.55 the consent authority must take into consideration such of the matters referred to in section 4.15 (1) as are of relevance to the development the subject of the application.

The relevant matters for consideration under Section 4.15 of the Environmental Planning and Assessment Act, 1979, are:

Section 4.15 'Matters for Consideration'	Comments
Section 4.15 (1) (a)(i) – Provisions of any environmental planning instrument	See discussion on "Environmental Planning Instruments" in this report.
Section 4.15 (1) (a)(ii) – Provisions of any draft environmental planning instrument	Draft State Environmental Planning Policy (Remediation of Land) seeks to replace the existing SEPP No. 55 (Remediation of Land). Public consultation on the draft policy was completed on 13 April 2018. The subject site has been used for residential purposes for an extended period of time. The proposed development retains the residential use of the site, and is not considered a contamination risk.
Section 4.15 (1) (a)(iii) – Provisions of any development control plan	Warringah Development Control Plan applies to this proposal.
Section 4.15 (1) (a)(iiia) –	None applicable.

Section 4.15 'Matters for Consideration'	Comments
Provisions of any planning agreement	
Section 4.15 (1) (a)(iv) – Provisions of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation 2000)	Division 8A of the EP&A Regulation 2000 requires the consent authority to consider Prescribed conditions of development consent. These matters have been addressed via a condition in the original consent. Clauses 54 and 109 of the EP&A Regulation 2000 allow Council to request additional information. No additional information was requested. Clause 92 of the EP&A Regulation 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter has been addressed via a condition in the original consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider insurance requirements under the Home Building Act 1989. This matter has been addressed via a condition in the original consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider the provisions of the Building Code of Australia (BCA). This matter has been addressed via a condition in the original consent.
Section 4.15 (1) (b) – the likely impacts of the development, including environmental impacts on the natural and built environment and social and economic impacts in the locality	(i) **Environmental Impact** The environmental impacts of the proposed development on the natural and built environment are addressed under the Warringah Development Control Plan section in this report. (ii) **Social Impact** The changes to the required glazing of the ensuite windows will not have unreasonable impacts on neighbouring amenity in terms of visual privacy. On balance a small section of the screen to the pool can be increase in height to allow for privacy protection while maintaining reasonable view sharing. The condition relating to the security cameras cannot be enforced. Refer to the detailed discussed throughout this report. (iii) **Economic Impact** The proposed development will not have a detrimental economic impact on the locality considering the nature of the existing and proposed land use.
Section 4.15 (1) (c) – the suitability of the site for the development	While the site is suitable for a dwelling the proposed works associate with the subject modification is considered unsuitable.
Section 4.15 (1) (d) – any submissions made in accordance	See discussion on “Notification & Submissions Received” in this report.

Section 4.15 'Matters for Consideration'	Comments
with the EPA Act or EPA Regs	
Section 4.15 (1) (e) – the public interest	The proposal is not in the public interest.

EXISTING USE RIGHTS

Existing Use Rights are not applicable to this application.

BUSHFIRE PRONE LAND

The site is not classified as bush fire prone land.

NOTIFICATION & SUBMISSIONS RECEIVED

The subject development application has been publicly exhibited from 13/05/2021 to 27/05/2021 in accordance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000 and the Community Participation Plan.

As a result of the public exhibition process council is in receipt of 3 submission/s from:

Name:	Address:
Mr Nicholas Richard Van Weeren	26 Lancaster Crescent COLLAROY NSW 2097
Mr Richard Andrew Dinham Joanne Maree Jefferies	22 Lancaster Crescent COLLAROY NSW 2097
Addisons Lawyers	22 Lancaster Crescent COLLAROY NSW 2097

The following issues were raised in the submissions and each have been addressed below:

- **Repeat application**
- **Unauthorised works**
- **Breach of Court Orders and planning approvals**
- **View loss from screen and landscaping**
- **Privacy issues**
- **Light spill**
- **Brushwood fence is too high and material is unacceptable**
- **Errors and inconsistencies in documentation**

The matters raised within the submissions are addressed as follows:

- **The application seeks to alter conditions imposed by the DDP in the previous MOD Council should not accept the application in principle and it needs to be determined by the same panels as before. There has been no significant material change in circumstances or factors material to the decision made by Council which would warrant the approval of a privacy screen or vegetation at a higher height than as set forth in conditions 15A and 15C, respectively.**

If the application is approved it will authorising development to be carried out on the Subject Site that is contrary to the 2017 Court Orders and the carrying out of those works would be unlawful and in contempt of the 2017 Court Orders and the neighbour reserve their rights to commence fresh proceedings in the Land and Environment Court challenging the validity of Council's determination.

Comment:

The current application that was submitted to Council under the provisions of section 4.55 of the Environmental Planning and Assessment Act and seeks to modify the development consent. While the application seeks to review the conditions of the 2019 modification it is not a request to review the determination of the determination of the DDP made under section 8.2 of the EP&A Act. There are no time restrictions in lodging a section 4.55 application. The application will be determined by the DDP.

The orders made the NSW Land and Environment Court relate to civil proceedings to which Council was not a party. Council may modify the development consent as acceptable on merit and consistent with the Environmental Planning and Assessment Act 1979. Assessment of the modification is detailed throughout this report, in relation to the relevant planning controls.

- **The "as built" brushwood fence is an unauthorised built structure (both in terms of height and material) in contravention of the Consent, 2017 Court Orders and a Developmental Control Order issued by Council on or around 24 March 2021 (Control Order) which set a maximum RL of 63.13 and Condition 15A of the 2019 modification. Council should enforce the Control Order and not approve the "as built" brushwood fence which would be in direct contradiction of the Control Order.**

  Comment

  It is agreed that the height of the as built fence breaches the height limit. In addition, the material is inconsistent with tat approved in the original DA which referenced a timber paling fence on the stamped approved elevation.

- **The increase in the height of the privacy screen will create substantial privacy implication and substantially impact views from the living room windows of No. 22 Lancaster Crescent and exceeds the maximum height set out in the Court Orders at RL 63.13. The modifications will completely block primary water and city views from their living area.**

  Comment:

  It is agreed that approval of the privacy screen to a height of 1.2m above the existing wall for its entire length being 9m would result in unacceptable view loss to No. 22 Lancaster Crescent. As a compromise an additional height of 200mm is supported for a length of 1500mm to minimise privacy impacts from the south most window to the pool deck and POS of the subject site while retaining reasonable view sharing. Refer to detailed discussion under Clause 7 and 8 .

- **Security cameras breach the privacy rights to neighbouring properties noting there are approximately 10 cameras with lenses that point in the direction of neighbouring properties. The matter relating to the cameras was determined under MOD2019/0253 the applicants reasoning to remove the condition imposes under the previous MOD is not valid namely that due to a reported break and enter is irrelevant when considering that any concerns regarding this can be handled by security cameras which are positioned to film the subject site only. There should be no ethical reason for the applicant to request the removal of this condition meaning they are effectively requesting approval to film into adjoining private properties. The Applicant's argument that the condition has been applied unreasonably and does not fairly and reasonably relate to the proposed development and accordingly, such a condition fails the Newbury Test is not justified. The privacy of neighbours is a legitimate concern especially within 10 cameras being**

installed including one large cameras with what appears to be 360- degree rotation and night vision. Further a portable security camera which is situated on the one of the windowsills which they are now maintaining should not be required to be frosted and appears to be recording the rear yard of our neighbouring private property.
Comment:
The condition relating to security cameras was imposed as part of the 2019 to address issues raised by neighbours regarding privacy. The submissions received in respect of the current application continue to issues with relation to privacy with security cameras pointing into the neighbouring properties.

The deletion of the condition allows the surveillance cameras to be directed to neighbouring residential properties and the concerns from neighbours in regards to their impacts on privacy is a valid material planning consideration. In order to ensure that privacy is maintained it is recommended that the condition is amended to require the cameras not to be directed towards the neighbouring properties. The amended condition is reasonable, meets the Newbury test and allows for the Applicant to retains the cameras to continue providing enhanced security and surveillance to the subject site while protecting the privacy of the neighbouring residents. Refer to discussion under Clause D8 of this report. .

- **The as-built landscape and changes to species such as banksia integrifola, bambusa textilis gracilis and dracaena magariita which at maturity would significantly exceed the approved RL of 62.00 (seeks to amend condition 15C of the Consent) and the Court Orders. The limit to the height of planting is required in order to protect views. The proposed bamboo on the eastern boundary can grow to a maximum mature height of 6m and would result in total view loss of primary water and city views from the living area windows.**
  Comment:
  It is agreed that the changes to the species will result in the height of plants at maturity breaching the approved RL of 62.00 contrary to the condition of the DA consent. As such, the amended landscape plan is not supported.

- **The sensory lighting is triggered when someone walks on neighbouring property causing light spill impacts**.
  Comment:
  A condition requires the overspill from lighting to be minimised to avoid impacts to neighbours by ensuring the light source is locating away from adjoining properties or boundaries and directed within the site.

- **The lack of frosting on the upper floor windows (W104.14) results in privacy breach to neighbouring properties including areas of private open space. In addition, a security camera has been installed in one of the windows which looks into the neighbouring rear yard. Frosting is required up to a height of 1500mm in accordance with the previous DDP determination of the 2019 modification. It is noted that the plans and SEE are inconsistent with the requirements of condition 15B which requires the east-facing windows to …….. and bedroom (WL04.14) at the second floor are to be fully frosted." No significant argument has been presented for the removal of the glazing requirements.**
  Comment:
  The DA application only seeks consent to remove the requirement for obscure glazing to two of the north facing ensuite windows. Given the narrow design of the windows and orientation towards the rear gardens / boundaries of the adjoining properties it is considered that the removal of the requirement for obscure glazing to these windows will not result in unreasonable amenity impacts to neighbours by way of a loss of privacy. The applicant on site explained that the there is a gate to a right of way to the rear of the site which has been used as an access

point to gain entry to the break in and robbery earlier in the year. The two narrow windows to the ensuite overlook this gate and the applicant seeks consent to remove the requirement for obscure glazing to these windows in order to allow for continued passive surveillance. The justification is reasonable given that there is no overlooking of the primary areas of private open space to neighbouring properties.

- **Errors in the documentation.**
  Comment:
  As discussed above, the application will only consider the modifications detailed in the documentation. In terms any misrepresentation with respect to the pool fence the Assessing Officer relied upon the RL shown on the remaining plans, and observations on site, for the assessment.

REFERRALS

Internal Referral Body	Comments
Building Assessment - Fire and Disability upgrades	Building Control raises no objections as they are not matters involving BCA considerations. The amenity/ planning considerations will be dealt by your department. It is suggested that a condition be included to the Modification that clearly states that no approval is granted to the two top courses of blockwork to the rear wall bounding No. 26 and also not granting approval to the concrete garden stairs within the front yard to the south of the swimming pool. Both of these items are subject to proposed Orders seeking demolition. Planners response The work to the rear wall to No. 26 and the garden stairs in the front yard do not form any part of the application, therefore the suggested condition cannot be imposed.
Landscape Officer	Amended Landscape Plans LP01-D prepared by Selena Hannan are noted. The *Bambusa textilis* 'Gracilis' (6-8m mature height) indicated on the boundary adjacent to the pool and the *Banksia integrifolia* (10-15m mature height) on the southern side of the pool shown on the Landscape Plan LP01-D are both capable of attaining a maximum height greater than RL 62.00, and therefore do not comply with Condition 15C of Mod2019/0253. A note on the plans indicates the Banksia located in a narrow bed on the southern side of the pool as required by Deferred Commencement condition. It was actually a condition to be addressed prior to Construction Certificate. The condition didn't indicate that a Banksia was required there, but required any Banksias removed to be replaced.

Internal Referral Body	Comments
	The Landscape Plan indicates rocks/boulders located in the road verge planting that were not indicated on the approved plans. I would suggest that Road Assets would need to comment on the rocks in the road reserve in terms of Council liability. I note correspondence from Roads Assets dated 25/11/2020 approving minor landscape works in the road reserve, but specifically not approving rocks in the road reserve and requiring removal. The amended Landscape Plans are therefore not able to be supported due to non-compliance with the conditions of consent.

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)*

All, Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the merit assessment of this application.

In this regard, whilst all provisions of each Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the assessment, many provisions contained within the document are not relevant or are enacting, definitions and operational provisions which the proposal is considered to be acceptable against.

As such, an assessment is provided against the controls relevant to the merit consideration of the application hereunder.

State Environmental Planning Policies (SEPPs) and State Regional Environmental Plans (SREPs)

SEPP (Building Sustainability Index: BASIX) 2004

A BASIX Certificate was submitted with the original DA and amended under the last modification. The amended BASIX certificate remains valid.

SEPP (Coastal Management) 2018

The site is subject to SEPP Coastal Management (2018). Accordingly, an assessment under the SEPP has been carried out as follows:

13 Development on land within the coastal environment area

(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:

(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,

(b) coastal environmental values and natural coastal processes,

(c) the water quality of the marine estate (within the meaning of the Marine Estate

Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,

(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,

(e) 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,

(f) Aboriginal cultural heritage, practices and places,

(g) the use of the surf zone.

Comment:
The modified development is designed and sited such that it is not likely to adversely impact upon the matters listed above. The proposed modifications are generally within the approved building footprint.

(2) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

(a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comment:
The modified development has been designed in such a way that it satisfies the relevant matters identified in this clause.

14 Development on land within the coastal use area

(1) (a) has considered whether the proposed development is likely to cause an adverse impact on the following:
(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,
(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
(iv) Aboriginal cultural heritage, practices and places,
(v) cultural and built environment heritage, and

(b) is satisfied that:
(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or
(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

Comment:
The modified development is designed and sited such that it is not likely to adversely impact upon the matters listed above. The proposed modifications are generally within the approved building footprint.

15 Development in coastal zone generally—development not to increase risk of coastal hazards

Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land.
Comment:
The proposal is unlikely to cause increased risk of coastal hazards on that land or other land, due to its design and siting, and relevant reports indicating no unreasonable impacts.

Coastal Management Act 2016
The subject site identified as Coastal use area under the Coastal Management Act 2016. The management objectives for the coastal use area are as follows:

(a) to protect and enhance the scenic, social and cultural values of the coast by ensuring that:
(i) the type, bulk, scale and size of development is appropriate for the location and natural scenic quality of the coast, and
(ii) adverse impacts of development on cultural and built environment heritage are avoided or mitigated, and
(iii) urban design, including water sensitive urban design, is supported and incorporated into development activities, and
(iv) adequate public open space is provided, including for recreational activities and associated infrastructure, and
(v) the use of the surf zone is considered,
(b) to accommodate both urbanised and natural stretches of coastline.
Comment:
The proposal is setback from the foreshore and will not impact upon the existing and safe access to and along the foreshore. The visual amenity from private and public space is not adversely effected. In addition, the surrounding area consists of examples of similar developments.

Warringah Local Environmental Plan 2011

Is the development permissible?	Yes
After consideration of the merits of the proposal, is the development consistent with:	
aims of the LEP?	Yes
zone objectives of the LEP?	Yes

Principal Development Standards

Development Standard	Requirement	Approved	Proposed	% Variation	Complies
Height of Buildings:	8.5m	8.5m	No change	N/A	Yes

Compliance Assessment

Clause	Compliance with Requirements
4.3 Height of buildings	Yes
6.2 Earthworks	Yes
6.4 Development on sloping land	Yes

Warringah Development Control Plan

Built Form Controls

Standard	Requirement	Approved	Proposed	Complies
B1 Wall height	7.2m	7.9m	No change	As approved
B3 Side Boundary Envelope	East: 4m	300mm outside envelope	No change	As approved
	West: 4m	Within envelope	No change	As approved
B5 Side Boundary Setbacks	East: 900mm	Min. 1m to dwelling east	No change	As approved
	West: 900mm	Min. 1m to dwelling west	No change	As approved
B7 Front Boundary Setbacks	6.5m	3.465m to pool 4.726m to dwelling	No change	As approved
B9 Rear Boundary Setbacks	6m	Min. 3m to dwelling	No change	As approved
		0m to 1.9m fence	No change	As approved
D1 Landscaped Open Space and Bushland Setting	40%	40.3%	No change	As approved
D15 Side and Rear Fences	1.8m	West and north: Max. 1.9m	No change	As approved
		East: 3.1m	Max. 3.9m	No

Compliance Assessment

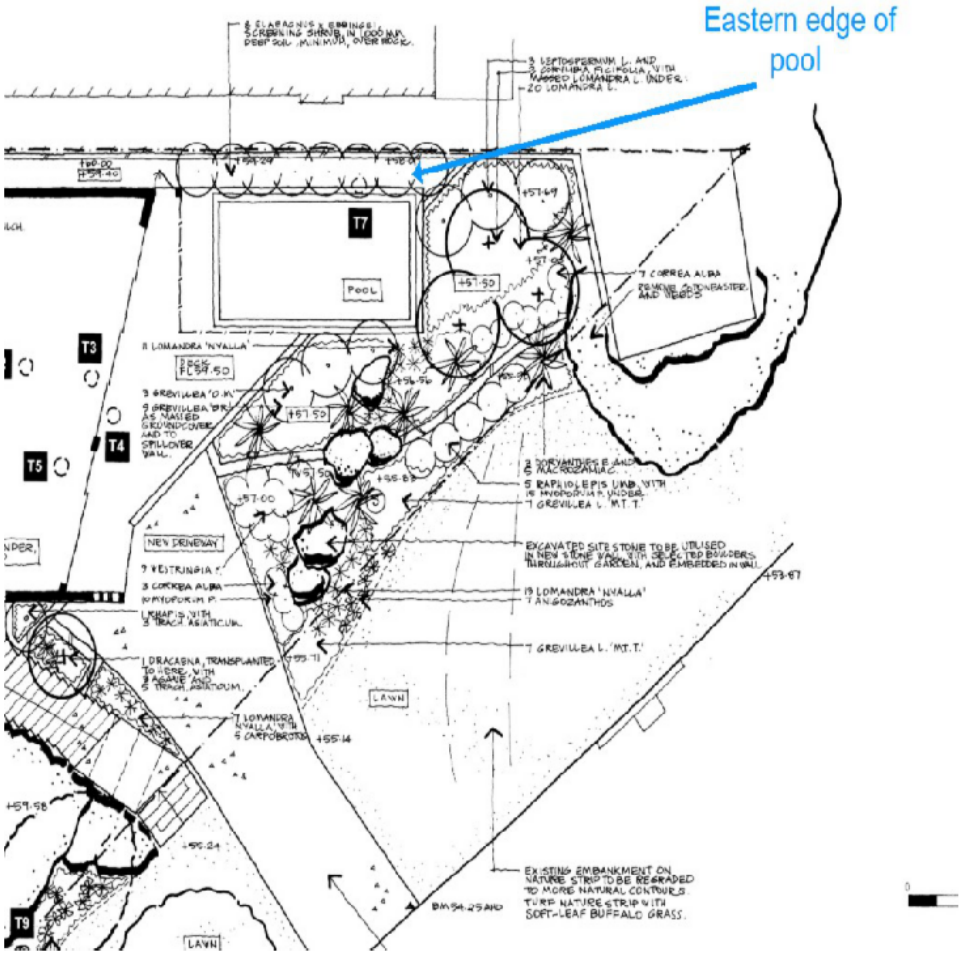
Clause	Compliance with Requirements	Consistency Aims/Objectives
A.5 Objectives	Yes	Yes
B1 Wall Heights	Yes	Yes
B3 Side Boundary Envelope	Yes	Yes
B5 Side Boundary Setbacks	Yes	Yes
B7 Front Boundary Setbacks	Yes	Yes
B9 Rear Boundary Setbacks	Yes	Yes
C2 Traffic, Access and Safety	Yes	Yes
C3 Parking Facilities	Yes	Yes
C4 Stormwater	Yes	Yes
C6 Building over or adjacent to Constructed Council Drainage Easements	Yes	Yes
C7 Excavation and Landfill	Yes	Yes
C8 Demolition and Construction	Yes	Yes
C9 Waste Management	Yes	Yes

Clause	Compliance with Requirements	Consistency Aims/Objectives
D1 Landscaped Open Space and Bushland Setting	No	No
D2 Private Open Space	Yes	Yes
D3 Noise	Yes	Yes
D6 Access to Sunlight	Yes	Yes
D7 Views	Yes	Yes
D8 Privacy	Yes	Yes
D9 Building Bulk	Yes	Yes
D10 Building Colours and Materials	No	No
D11 Roofs	Yes	Yes
D12 Glare and Reflection	Yes	Yes
D14 Site Facilities	Yes	Yes
D15 Side and Rear Fences	No	No
D20 Safety and Security	Yes	Yes
D21 Provision and Location of Utility Services	Yes	Yes
D22 Conservation of Energy and Water	Yes	Yes
E1 Preservation of Trees or Bushland Vegetation	Yes	Yes
E2 Prescribed Vegetation	Yes	Yes
E6 Retaining unique environmental features	Yes	Yes

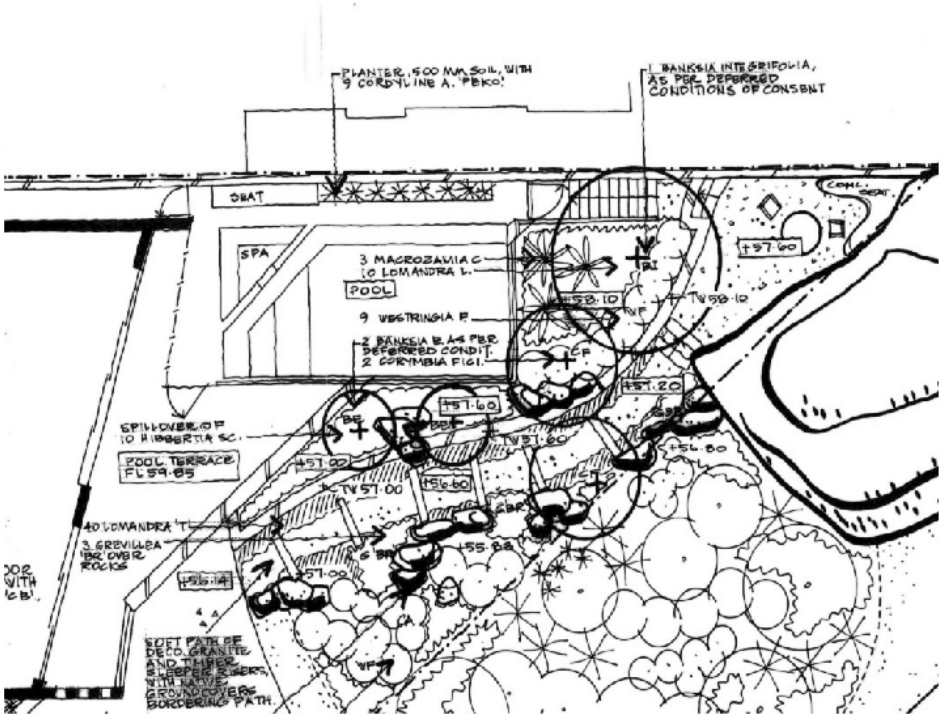
Detailed Assessment

D1 Landscaped Open Space and Bushland Setting

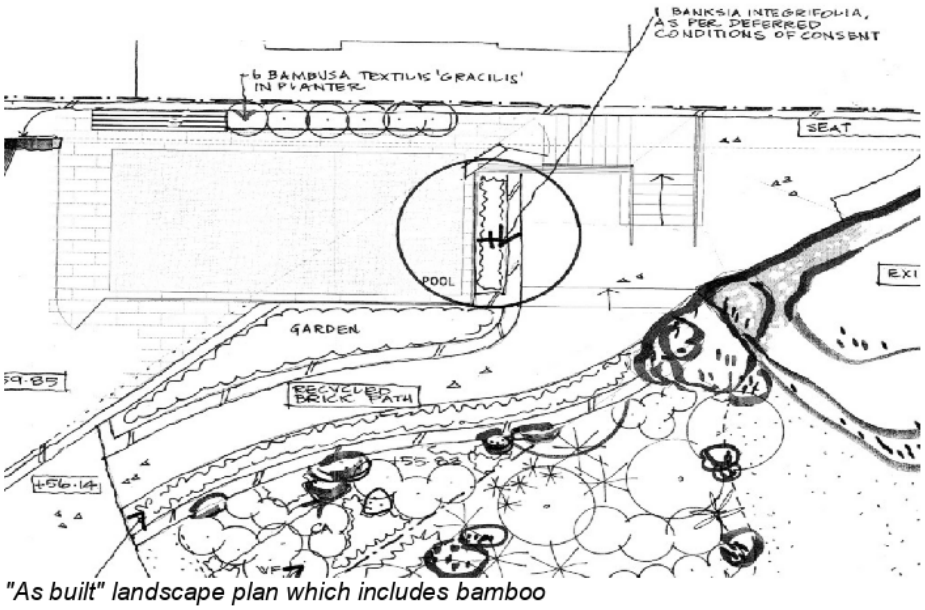
The proposal seeks consent for an amendment to the approved landscape plan to be superseded with an *"As Built"* Landscape Plan. The application also seeks consent for a seat associated with the pool which the applicant references as being included in the original landscape plan. The images below show the approved landscape plans and the proposed as built plan.



Approved Landscape Plan LP01-A dated 12/9/16
It is noted that there was no seat approved in the original landscape plan or reference to bamboo along the eastern edge of the pool.



Approved Landscape Plan LPo1-C approved with MOD2019/
Note: the planting along the eastern boundary of the pool comprises 9 cordyline A "peko" which have a max height of 1500mm at maturity.



"As built" landscape plan which includes bamboo

The Bambusa textilis 'Gracilis' (6-8m mature height) proposed on the boundary adjacent to the pool and the Banksia integrifolia (10-15m mature height) on the southern side of the pool shown on the

Landscape Plan LP01-D are both capable of attaining a maximum height greater than RL 62.00, and therefore do not comply with Condition 15C of Mod2019/0253. The species selection is not supported as it will have impacts on view sharing and the amended landscape plan is not approved.

D7 Views

An objection from No. 22 Lancaster Crescent raised concern regarding view loss resulting from the increase in the height of the privacy screen / pool fence between the subject site and 22 Lancaster Crescent.

A similar view loss issue was considered under MOD2019/0253 which sought consent for a 1.5m screen / fence above the existing masonry wall. The DDP in the 2019 modification approved the maximum height of the screen / fence to be 700mm above the existing wall. (It is noted that the Assessing Planner recommended that the height be set at 500mm above the wall). Since the 2019 modification was approved a construction certificate approved a further 200mm of blockwork on top of the wall taking the RL to RL61.695 to ensure the pool fence complied with the BCA. A sample of a louvred privacy screen at a height of 500mm has also been installed on the southern most side of the wall. The proposed modifications to seeks consent for a 1.1m screen / fence above the existing wall to RL. 62.795.

A detailed assessment of the proposal against the underlying objectives of the control is as follows:

To allow for the reasonable sharing of views.
Comment:
In determining the extent of potential view loss to adjoining and nearby properties, the four (4) planning principles outlined within the Land and Environment Court Case of Tenacity Consulting Pty Ltd Vs Warringah Council (2004) NSWLEC 140, are applied to the proposal.

1. Nature of the views affected
"The first step is the assessment of the views to be affected. Water views are valued more highly than land views. Iconic views (e.g. of the Opera House, the Harbour Bridge or North Head) are valued more highly than views without icons. Whole views are valued more highly than partial views, e.g. a water view in which the interface between land and water is visible is more valuable than one in which it is obscured".
Comment to Principle 1:
The affected view from No. 22 Lancaster Crescent is predominantly of Dee Why Lagoon, Dee Why Beach and their interface with the land, including Dee Why Headland. The view also includes district western views of the Dee Why suburbs and a distant view of the Sydney city skyline. The affected view is impacted upon by the proposed pool privacy fence (that also acts as the boundary pool barrier), and the proposed amended landscaping in the front yard and along the eastern edge of the pool which is proposed to be bamboo.

2. What part of the affected property are the views obtained
"The second step is to consider from what part of the property the views are obtained. For example the protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries. In addition, whether the view is enjoyed from a standing or sitting position may also be relevant. Sitting views are more difficult to protect than standing views. The expectation to retain side views and sitting views is often unrealistic".
Comment to Principle 2:
The affected view is obtained across the western side boundary from the main living room, from standing and seated positions, though reduced from a seated position. The view is also obtained across the western side boundary from the dining room and kitchen, from standing and seated positions, though in a lesser way than from the living room. The photographs below depict the view. In each photo, the Sydney city skyline is circled in yellow for clarity where it is visible, as it is clearer in person, and the string installed by the Applicant to depict the proposed additional screen height above the

existing masonry wall in red. The owner at No. 22 Lancaster Crescent has suggested that string has been installed at a height of approximately 1300mm above the wall and not 1200mm as proposed. While the proposed height indicated by the Applicant with string is not accurate it provides an idication of the imapacts of the additioanl height and as such is of valuse in the view loss assessment. The photos also show the height of the screen approved by the DDP at 700mm above the existing wall marked with a yellow arrow.



Photo 1 external view of privacy screen.
The photo is taken from Lancaster Crescent looking to the east towards No. 22 Lancaster Crescent.
The affected windows are referenced Window 1 (W1) and windows 2(W2).

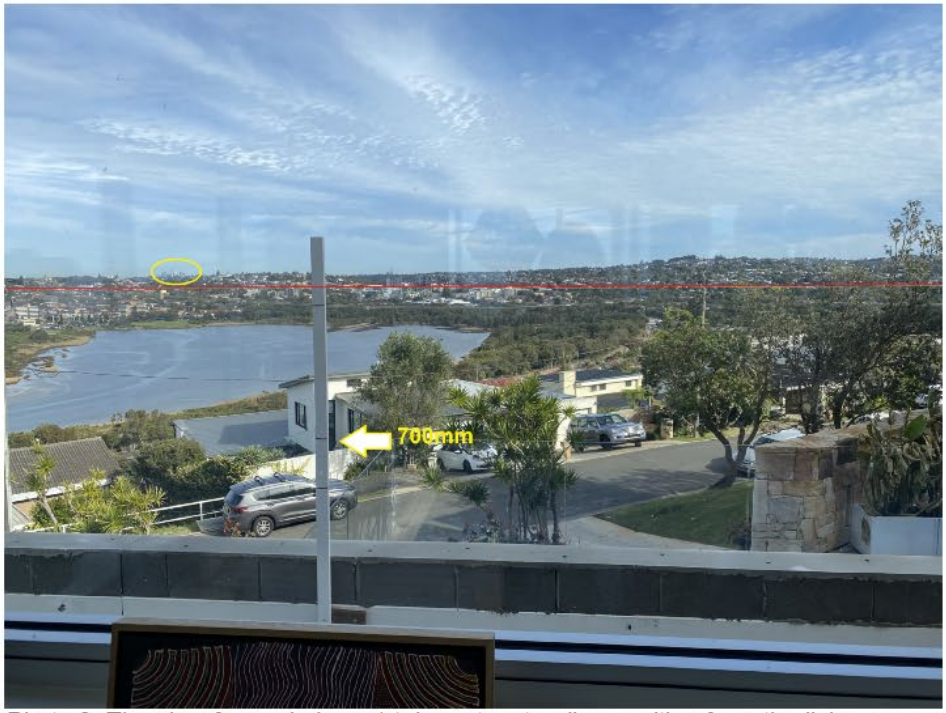


Photo 2: The view from windows 1 taken at a standing position from the living room, across the western side boundary across the subject site and road towards the lagoon in a south-westerly direction. The water view of the lagoon is considered in this assessment as the critical view to be retained. The photo also shows the additional blockwork on top of the existing wall approved under the Construction Certificate.



Photo 3: The view taken from window 1 taken from a sitting position in the living room, across the side boundary to the west.



Photo 4 standing view taken from window 2 in the living room window which shows the that the approved 700mm (combined with the vertical louvres installed to the window) is sufficient in protecting privacy to the POS to the subject site and vice versa.



Photo 5 The view from a standing position from the dining room / kitchen, across the side boundary to the west.



Photo 6 : The view from a seated position from the dining room, across the side boundary to the west.

It is important to note that No. 22 Lancaster Crescent also benefits from significant views to the east, south, and south-west from the dining and living rooms and associated balcony, from standing and seated positions. These views include views of Long Reef golf course, Long Reef Beach and headland and Dee Why Beach. The views are not affected by the proposed modifications. See photographs below.



Above: The views from a standing position from between the dining and living rooms looking to the east, south, and south-west.

3. Extent of impact

"The third step is to assess the extent of the impact. This should be done for the whole of the property, not just for the view that is affected. The impact on views from living areas is more significant than from bedrooms or service areas (though views from kitchens are highly valued because people spend so much time in them). The impact may be assessed quantitatively, but in many cases this can be meaningless. For example, it is unhelpful to say that the view loss is 20% if it includes one of the sails of the Opera House. It is usually more useful to assess the view loss qualitatively as negligible, minor, moderate, severe or devastating".

Comment to Principle 3:

Plans indicate a 1100mm privacy screen / fence above the existing masonry wall, which is proposed for the purpose of providing privacy to the approved pool and adjoining private open space on the subject site. A string was installed on site by the Applicant which depicts a height of approximately 1100mm - 1200m height above the existing masonry wall. While not accurate to the proposed plans, the string assists in assessing potential view loss.

Window 1

The impact of the proposed pool privacy screen / fence as proposed (1100mm above the existing masonry wall) along the entire length of the eastern edge of the pool would be severe, in that a significant portion of the affected view (including water views) looking to the south-west would be lost from a standing position, and completely obscured from a seated position, refer to photos 2 and 3 above. Affected views would be further impacted upon by proposed amended vegetation in the front yard, which includes some tall species and bamboo along the eastern edge of the pool, refer to photo 1 and the referral comments from Council's Landscape Officer.

Likewise the impact on the view from window 1 looking towards the south-west from a siting and standing position in the dining area and kitchen would be moderate.

Despite this, the view loss assessment has confirmed that window 1 overlooks the POS and pool deck of the subject site when looking in a north-westerly direction back towards the subject dwelling. The wider view at this angle is primarily a district views as opposed to a water view.

Window 2

The view loss assessment confirmed that the privacy screen approved at a height of 700mm above the existing wall offers sufficient privacy protection from a standing and siting position from window 2 when looking towards the subject site and the POS / pool deck. The additional height of the screen in this location

is deemed to be unnecessary and would result in unreasonable view loss from a standing and seated position.

4. Reasonableness of the proposal that is causing the impact

"The fourth step is to assess the reasonableness of the proposal that is causing the impact. A development that complies with all planning controls would be considered more reasonable than one that breaches them. Where an impact on views arises as a result of non-compliance with one or more planning controls, even a moderate impact may be considered unreasonable. With a complying proposal, the question should be asked whether a more skilful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours. If the answer to that question is no, then the view impact of a complying development would probably be considered acceptable and the view sharing reasonable."

Comment to Principle 4:

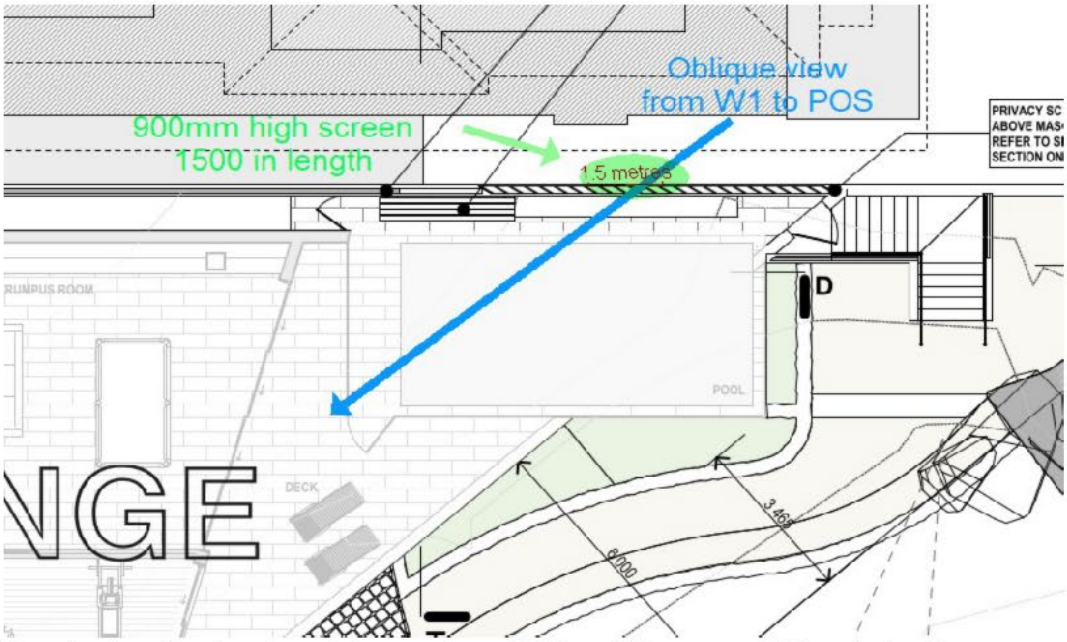
The proposed pool privacy screen / boundary pool barrier installed along the entire eastern edge of the pool for a height of 1100mm does not demonstrate a skilful design, in that it is unnecessarily high and long. Australian Standard AS1926.1-2012 requires a boundary barrier used a pool barrier to be a minimum of 1800mm in height above the finished ground level within the pool area.

The finished ground level of the pool area is RL 59.845, requiring the privacy screen / boundary pool barrier to be a height of RL 61.645. This height comes to 85mm above the existing masonry wall, which is surveyed as constructed to a height of RL 61.56. A site visit confirms that without some screening the existing wall does not provide adequate privacy to the pool and pool deck on the subject site. The proposed privacy screen sits 1100mm above the masonry wall is 1015mm in excess of the BCA requirement and if apporved along the entire length of the eastern edge of the pool will results in unreasonable view loss to No. 22 Lancaster Avenue.

As discussed above, the 700mm high approved screen, in addition to the vertical louvers installed to window 2 at No. 22 Lancaster Crescent provides adequate protection to provide for privacy between the POS / pool side deck and the living room of No. 22 Lancaster Crescent. The proposed additional height to the screen in front of window 2 will of the subject site and the between and vice versa without the need for any additional height which will result in unreasonable view loss.

Conversely, a site visits two the both No. 22 and No. 24 Lancaster Crescent suggests that the approved 700mm approved screen will not provide sufficient privacy protection to the entire area of POS / pool side deck when looking back in a north-westerly oblique direction from window 1, refer to images below.

In an attempt to reach a balance between view sharing and privacy it is therefore suggested that the height of the screen can be extended to a maximum height of 900mm for a length of 1500mm



Plan showing view loss from oblique angle and 900mm high screen 1500mm in length

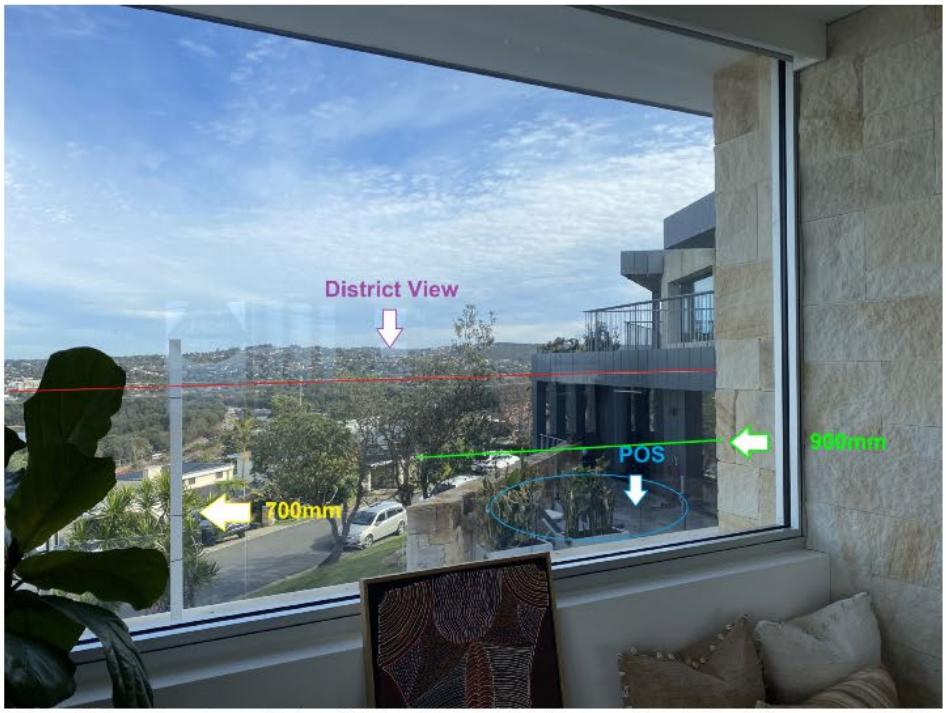


Photo 7 The view from window 1 taken from a standing position in the living room, looking across the side boundary in a north-westerly direction.

The above photo depicts the area of private open space (POS) to the subject site adjacent to the pool which the applicant seeks to protect. The photo shows the height of the proposed screen at 1100mm above the wall in red and approximate position of the screen approved by the DDP in the 2019 modification at 700mm.

The green line is an approximate position of the privacy screen at a height of 900mm (200mm above the height of the approved screen) for a length of 1500mm along a section of the eastern boundary would offer some additional privacy protection to the applicant from views looking back at an oblique angle from window 1 towards the area of POS. Although this would result in some loss of minimal loss of the district view, the significant water view to the south-west of the lagoon would be retained. It is therefore recommended that condition 15B is modified to reflect this compromised position which would be in the interest of both parties, the objector and applicant.

In regards to the the proposed modifications to the landscaping it is assessed that the changes are not skilful in that the amended landscape plan includes species in the front yard of the subject site that grow 5-8m in height at maturity, and would impact upon views. The as built landscape plan is therefore not supported and the existing condition of consent limiting the height of proposed vegetation in the front yard, should be retained in order to protect the views enjoyed by 22 Lancaster Crescent.

Below is an assessment of the proposal against the underlying objectives of the control.

To encourage innovative design solutions to improve the urban environment.
Comment:
As proposed, the pool privacy screen to a height of 1100m for the entire length of the eastern edge of the pool does not adequately demonstrate an innovative design solution. As above, a condition of consent has been recommended to allow for a partial increase in the height of the screen to 900mm above the existing wall for a length of 1500mm, in order to provide a more suitable design solution. Additionally, the changes to the species selection in the approved landscape plan is not supported as they will result in unreasonable view loss and the existing condition of consent limiting the height of proposed vegetation in the front yard shall be retained.

To ensure existing canopy trees have priority over views.
Comment:
The proposed modifications to the approved development do not involve removal of canopy trees.

D8 Privacy

The Requirements of Clause D8 are:

1. Building layout should be designed to optimise privacy for occupants of the development and occupants of adjoining properties.
2. Orientate living areas, habitable rooms and windows to private open space areas or to the street to limit overlooking.
3. The effective location of doors, windows and balconies to avoid overlooking is preferred to the use of screening devices, high sills or obscured glass.
4. The windows of one dwelling are to be located so they do not provide direct or close views (ie from less than 9 metres away) into the windows of other dwellings.
5. Planter boxes, louvre screens, pergolas, balcony design and the like are to be used to screen a minimum of 50% of the principal private open space of a lower apartment from overlooking from an upper apartment.

There is no change to the building footprint or location of windows or balconies as approved. The modification seeks to review some of the conditions imposed in the 2019 modification which relate to the pool privacy / screen, security cameras and obscure glazing to the level 2 windows of the master bedroom and ensuite. A detailed assessment of each component of the modification against clause D8 (Privacy) is provided below:

Privacy screen to pool

The applicant justifies the need for the additional height to the privacy screen on the basis of protecting the privacy of the pool. The SEE notes that the DA Assessment Report for DA2015/0545 for the dwelling at No. 22 Lancaster contained commentary in relation to the side / eastern living room window requiring opaque glass up to 1.65m above the floor level. The applicant forms the opinion that it was the assessing officers intention to impose the condition requiring obscure glazing to the side windows, however, such condition failed to be incorporated into the DA consent which has resulted in an awkward privacy relationship to the subject pool which the privacy screen to a height of RL62.795 seeks to address.

It is noted that DA2014/0372 for 22 Lancaster Crescent approved three (3) large living room windows in the same position as the windows approved under DA2015/0545 without any privacy conditions. Condition 18 of DA2014/0372 specified obscure glazing in the eastern elevation of level 1 of the approved dwelling not the ground level. An angled slatted privacy screen has been installed to the most northern eastern window to the ground level living room, despite no condition having been imposed.

Furthermore, the issue regarding the obscure glazing condition to the living room windows of No. 22 Lancaster Crescent and alleged issued with the conditions of consent for this dwelling were considered by the DDP in the assessment of 2019 modification. With the exception of the addition of the privacy screen to one of the living room windows to No. 22 Lancaster Crescent and the additon of the 200mm of block work to the eastern wall there are no material change in circumstance since the DDP decision in July 2019.

The 2019 modification sought a privacy screen 1500mm in height above the existing wall which was considered to be excessive in height due to view loss impacts. The DDP approved a 700mm privacy screen above the wall as it was considered to be of a sufficient height to provide for privacy to the users of the pool while allowing for view sharing to the neighbour at No. 22 Lancaster Crescent. The screen was also restricted in length to relate to the pool area to avoid unreasonable impacts to No. 22 Lancaster Crescent.

The subject application seek consent for 1200mm privacy screen above the existing wall. The additional height of the screen for the entire length of the pool will result in unreasonable view loss to No. 22 Lancaster Crescent as discussed under Clause D7 of this report. Despite this it is acknowledged that there is some overlooking between the southern most living room window (W1) and the POS / pool deck of the subject site look in a north-westerly direction back towards the subject house.



Above photo take from the pool deck which adjoins the rumpus room.

No. 22 Lancaster Crescent sits forward of the subject site and the east facing living room windows in question generally overlook part of the front garden of No. 24 Lancaster Crescent in addition to the public street. This patterns of development is typical of other dwellings in the area which are noted to have windows and balconies to the frontage which overlooking the front of neighbouring properties so as to take advantage of views. The primary area of POS to the subject site is to the frontage with the pool and pool deck within the front setback taking advantage of the water views to the south and south-east.

In order to address this privacy issue a condition is recommended to allow a 200mm increase in the height of the screen to 900mm for a length of 1500mm. The approved 700mm screen plus the additional 200mm in height along a small section of the eastern boundary is considered sufficient to allow for privacy protection to the pool deck while allowing for continued view sharing. On balance, subject to an amendment to condition 15 the applicant's argument that there is an awkward relationship between No. 22 and the pool is not supported.

Security Cameras
The modification seeks to delete the following condition (No. 41)

Any and all security cameras installed on the subject site are to be installed such that they record the subject site only, and not any other adjoining property.

The applicant justifies the need for the cameras on the basis of a requirement for enhanced security following a break in, entry and robbery. The applicant also argues that the condition:

"does not serve a proper planning purpose with the installation and operation of security cameras located on private property not a relevant matter for consideration pursuant to section 4.15 of the Environmental Planning and Assessment Act 1979 (the Act). This condition has been unreasonably applied and does not fairly and reasonably relate to the proposed development. Accordingly, such

*condition fails the Newbury Test and should be deleted."(*source BBF Planners).

The condition was added under MOD2019/0253 in response to issues raised by neighbours in relation to concerns that security cameras point into neighbouring private property and impact on privacy. The protection of privacy is a legitimate and valid planning concern as is the owners right to enhance safety and security to the dwelling. In this regard there is a challenge in reaching a balance between the two valid planning issues.

The deletion of the condition appears to be for the purpose of avoiding the limitations imposed in respect of any continued use of the cameras. If there is no condition which restricts the use of surveillance cameras by the owners of the Subject Site, the concern that there will be no proper privacy afforded to neighbours is a valid material planning consideration. In order to ensure that privacy is maintained it is recommended that the condition is amended to require the cameras not to be directed towards the neighbouring properties. The amended condition is reasonable and allows for the applicant to retains the cameras to continue providing enhanced security and surveillance to the subject site while protecting the privacy of the neighbouring residents. The amended condition is considered to be reasonably applied for a planning purpose, namely to protect privacy and meets the Newbury Test.

Obscure glazing to windows
The modification seeks to delete the requirement for obscure glazing from 2 of the north facing second floor ensuite windows required under condition 15B:

Condition 15B was imposed under the 2019 modification and requires:

The east-facing windows to the ensuite (WL04.08-13) and walk-in-robe (WL04.24-25) at the second floor are to be frosted to a minimum height of 1500mm above finished floor level. The north-facing windows to the second floor ensuite (WL04.05-07) are to be frosted to a minimum height of 1500mm above finished floor level. The east-facing windows to the daybed (WL04.18-20) and bedroom (WL04.14) at the second floor are to be fully frosted.



Above photo of the northern elevation which shows the 2 esuite windows depicted with a star.

The applicant justifies the modification to condition on the basis that "*the condition has been unreasonably applied as it serves no proper planning purpose given the size and orientation of these ensuite windows relative to the adjoining properties. There is no privacy issue which would warrant the frosting of all 3 windows with frosting maintained to the eastern most window where located within proximity of the boundary*" (SEE BBF Planners).

The 2019 approved obscure glazing to the north and east facing level 2 windows which was consistent with the plans submitted by the applicant for the modification. Condition 15B sought to reinforced what the applicant had applied for in order to ensure clarity. In this regard, the condition was not unreasonably imposed as it was consistent with the modifications sought by the applicant. Despite this, given the design of the three (3) north facing ensuite windows, namely the windows being narrow and orientated to look toward the rear boundary, there is no privacy issue. The ensuite windows to the east which are adjacent to the rear gardens of No. 22 and No. 26 Lancaster Crescent have been treated with obscure glazing as is the most easterly north facing window. On balance, the amendment of this condition is reasonable.



Above, photo of ensuite window

It is also noted that the plans submitted with the subject modification are inconsistent with the requirements of Condition 15B, imposed under the 2019 modification, in respect of the east facing

bedroom windows (WL04.14). The condition required this window to have obscure glazing whereas the current plans reference clear glass to the window. The application does not reference any change to this specific window in the documentation, as such, the modification to condition 15B in respect of window WL04.14 does not form part of the subject application and this part of the condition remains unchanged.

The proposed modifications to the approved development as considered against the underlying objectives of the privacy control as follows:

To ensure the siting and design of buildings provides a high level of visual and acoustic privacy for occupants and neighbours.
Comment
The approved 700mm privacy screen (MOD2019/253) with a section allowing for an additional 200mm in the height of the screen will ensure that sufficient privacy is provided for the pool and pool deck while allowing for view sharing. The increase in the height of the screen along the entire length is not supported as it will result in unreasonable impacts on neighbouring amenity in terms of view loss. On balance, the modification of condition 15A to allow a small section of the screen to be increased in height is considered to be a reasonable compromise.

Condition 41 allows for the protection of privacy of neighbouring residents which is consistent with the objectives of the control.

Given the orientation, location and design of the windows to which the obscure glazing requirement is sought to be removed it is not anticipated that it will give rise to unreasonable privacy issues. In addition, the windows are to an ensuite bathroom and not a habitable room, as such the room would be used less frequently compared to a living room or kitchen.

To encourage innovative design solutions to improve the urban environment.
Comment

The proposed increase in the height of the privacy screen to the pool for its entire length is not necessary and is not supported. A reasonable compromise will allow for a 200mm increase in the height of the screen for a length of 1500mm to improve the urban environment.

To provide personal and property security for occupants and visitors.
Comment
The modification of condition 41 allows the Applicant to retain the security cameras which allow for enhanced security for occupants and visitors to the subject property while protecting the privacy of neighbouring residents.

D10 Building Colours and Materials

Clause D10 requires:

1. In highly visible areas, the visual impact of new development (including any structures required to retain land) is to be minimised through the use of appropriate colours and materials and landscaping.
2. The colours and materials of development on sites adjoining, or in close proximity to, bushland areas, waterways or the beach must blend in to the natural landscape.
3. The colours and materials used for alterations and additions to an existing structure shall complement the existing external building façade.
4. The holiday/fisherman shack character of the waterfront of Cottage Point is to be enhanced by the use of building materials which are sympathetic to the small timber and fibro cottages currently in

existence on the waterfront. All buildings visible from the water are to utilise materials such as weatherboard, fibre cement, corrugated steel and timber. The use of masonry is discouraged.

The proposed fence is assessed against the underlying objective of the control as follows:

To ensure the colours and materials of new or altered buildings and structures are sympathetic to the surrounding natural and built environment.
Comment
The unauthorised brush wood fence along part of the eastern boundary is inconsistent with the external building materials of the subject dwelling, namely rendered brickwork, natural stone and timber. The material is not sympathetic to the surrounding built environment and results in a visual impact to neighbouring properties and the public street. In addition, the material is not suitable as it causes staining and bleaching of adjoining surfaces. It is noted that the original plans for the dwelling included an elevation which illustrated a timber fence in this location which is consistent with the materials of other fences within the surrounding area.

D12 Glare and Reflection

Clause D12 requires:

1. The overspill from artificial illumination or sun reflection is to be minimised by utilising one or more of the following: Selecting an appropriate lighting height that is practical and responds to the building and its neighbours;
- *Minimising the lit area of signage;*
- *Locating the light source away from adjoining properties or boundaries; and*
- *Directing light spill within the site.*

2. Any glare from artificial illumination is to be minimised by utilising one or more of the following:
- *Indirect lighting;*
- *Controlling the level of illumination; and*
- *Directing the light source away from view lines.*

Concern has been expressed from neighbours regarding light spill from sensory security lights on the Subject Site impacting neighbours. The objectives of the control require:

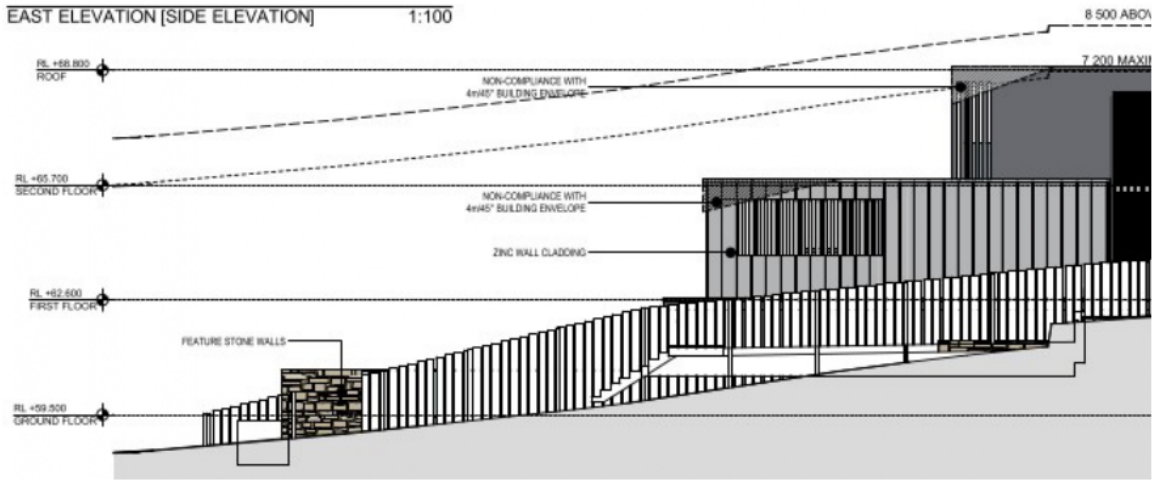
- *To ensure that development will not result in overspill or glare from artificial illumination or sun reflection.*
- *To maintain and improve the amenity of public and private land.*
- *To encourage innovative design solutions to improve the urban environment.*

In order to ensure that the proposal complies with the control and minimises light spill to private property a condition is recommend requiring the overspill from lighting to be minimised to avoid impacts to neighbours by ensuring the level of illumination is limited and the light source is locating away from adjoining properties or boundaries and directed within the site.

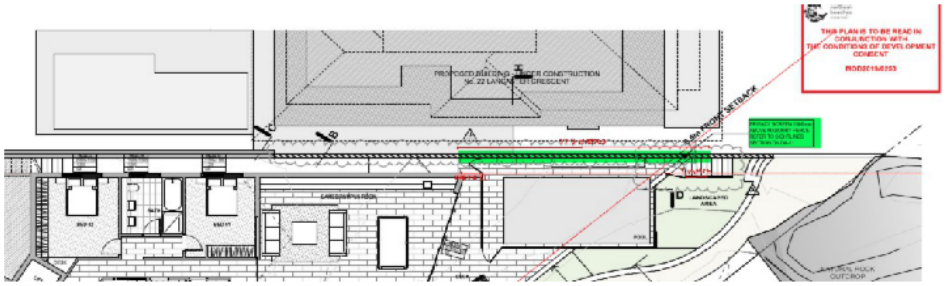
D15 Side and Rear Fences

The proposed modifications seek retrospective consent for a brushwood fence on top of an existing masonry wall along the eastern boundary, reaching maximum heights of 3.8m, where 1.8m is permitted. The proposed modifications also seek consent for a 1.1m privacy screen / fence above the existing masonry wall to the east of the subject site, reaching a maximum overall height of 3.9m above ground, where 1.8m is permitted.

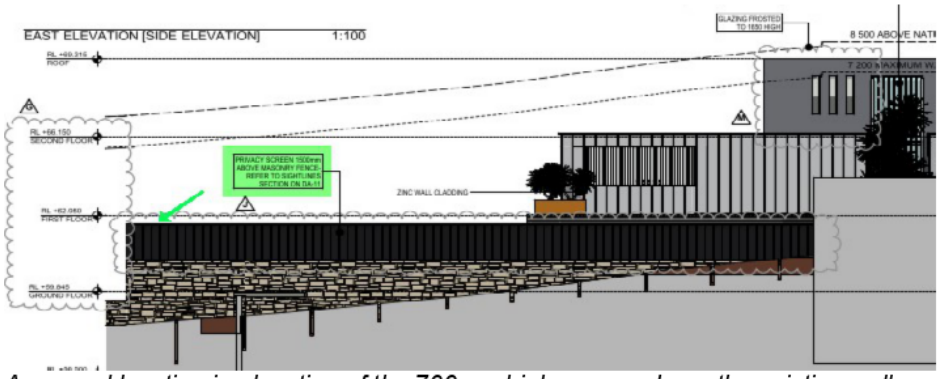
Modification MOD2019/0253 approved a 700mm screen above the masonry wall which extended from a point 900mm north of the northernmost pool barrier to a point 900mm south of the southernmost pool barrier (i.e. to meet swimming pool safety standards). No approval as given for the extension of the fence / screen in the area where the brushwood fence has now been installed. Below is a comparison of the original approved of the eastern boundary treatment, MOD2019/0253 and the subject modification:



Eastern Elevation original DA (DA2016/0693) which depicted a timber slatted fence with a max height of 2.5m along the eastern boundary.
Note: the ground floor plan did not provide details of the fence.

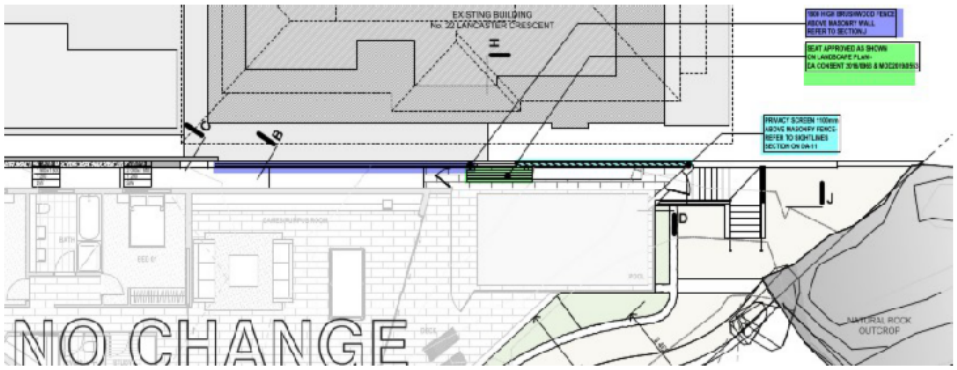


Approved location in plan of 700mm high screen above the existing wall MOD2019/253 (source GartnerTravato)

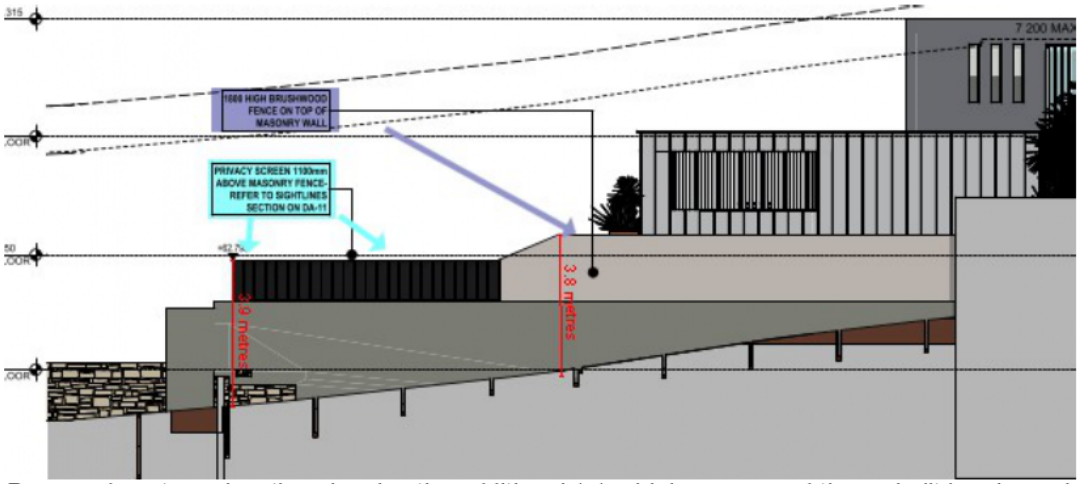


Approved location in elevation of the 700mm high screen above the existing wall

MOD2019/253 (source GartnerTravato)
Note: the previous Modification application did not include the extension of the screen beyond the area of the pool



Proposed location of privacy screen in blue, the "as built" brushwood fence in purple and "as built" pool seat in green (source GartnerTravato)



Proposed eastern elevation showing the additional 1.1m high screen and the as built brushwood fence.

The western elevation submitted with the subject modification also include reference to a "boundary wall neighbour negotiation to be determined". Condition E of MOD2019/ required the deletion of this wall and a northern masonry wall due to unresolved issues in respect of surveys and land ownership. This condition is still of relevance and the assessment of Clause D15 relates only to the fences to the eastern boundary.

The development is considered against the underlying objectives of the control as follows:

To encourage innovative design solutions to improve the urban environment.
Comment:
Privacy screen / pool fence
The applicant argues that the additional height of the masonry wall and privacy screen to the east is intended to provide a suitable privacy response for the approved pool area. However, the height of the proposed privacy screen (1100mm) along the entire eastern edge of the pool is assessed as being unnecessary and results in unreasonable view loss impacts for the property to the east, 22 Lancaster Crescent.

MOD2019/0253 approved a slatted angled privacy screen of 700mm which was assessed as a suitable height for the maintenance of privacy for the pool area, while allowing for adequate view sharing, and demonstrating a more innovative design solution. While there is some legitimate Subject to this condition the subject modification is supported as will help improve the urban environment providing some additional privacy protection to meet the needs of the applicant while ensuring neighbouring amenity if not unreasonably compromised.

Brushwood fence
The applicant justified the unauthorised brushwood fence on the following basis:

"it serves as a balustrade to the pathway located on the adjoining property whilst affording a reasonable level of privacy between properties. The fence is of high quality and finish and does not give rise to any adverse streetscape or residential amenity impacts in terms of views, privacy or solar access. (Extract from the SEE prepared by BFF Planners).

The following photo is included in the SEE of the existing wall and part of the brushwood fence



Photo of the existing wall and part of the as built brushwoood fence (source SEE BFF Planners)

The control requires side fences to have a maximum height of 1.8m. The as built fence has a maximum height of height of 3.8m (52.6% breach of the control) and is therefore inconsistent with the side boundary control.

As there are no windows on the eastern elevation of the subject dwelling to which the fence provides privacy protection to the excessive height apears to be unnecessary.

Concern has also been raised from the neighbour at No. 22 Lancaster Crescent regarding the materiality of the fence which has been noted to cause staining of the limestone pavers on the adjoining outdoor area. The photo above, supplied by the applicant, demonstrates that the brushwood has caused staining to the masonry wall on the subject site as such this is a valid concern and the material is not supported.

It is noted that the eastern elevation in the original DA illustrated a slatted timber fence along this part of

the boundary which would be a more suitable material consistent with the character of the area. In summary, the unauthorised brushwood fence is not considered to be an innovative design solutions to improve the urban environment due to its height and length and materiality and is not supported.

THREATENED SPECIES, POPULATIONS OR ECOLOGICAL COMMUNITIES

Refer to Assessment by Council's Natural Environment Unit elsewhere within this report.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposal is consistent with the principles of Crime Prevention Through Environmental Design.

POLICY CONTROLS

Northern Beaches Section 7.12 Contributions Plan 2019

Section 7.12 contributions were levied on the Development Application.

CONCLUSION

The site has been inspected and the application assessed having regard to all documentation submitted by the applicant and the provisions of:

- Environmental Planning and Assessment Act 1979;
- Environmental Planning and Assessment Regulation 2000;
- All relevant and draft Environmental Planning Instruments;
- Warringah Local Environment Plan;
- Warringah Development Control Plan; and
- Codes and Policies of Council.

This assessment has taken into consideration the submitted plans, Statement of Environmental Effects, all other documentation supporting the application and public submissions, and does not result in any unreasonable impacts on surrounding, adjoining, adjacent and nearby properties subject to the conditions contained within the recommendation.

In consideration of the proposal and the merit consideration of the development, the proposal is considered to be:

- Consistent with the objectives of the DCP
- Consistent with the zone objectives of the LEP
- Consistent with the aims of the LEP
- Inconsistent with the objectives of the relevant EPIs
- Consistent with the objects of the Environmental Planning and Assessment Act 1979

In summary, a detailed assessment has been required in relation to:

- View loss from the west facing living room windows of No. 22 Lancaster Crescent as a result of the increase in the height of the privacy screen to the pool and amendments to the landscape plan;
- The "as built" brushwood fence along part of the northern boundary; and
- Privacy impacts to No. 22 and 26 Lancaster Crescent from the modified windows.

It is considered that the proposed development satisfies the appropriate controls and that all processes and assessments have been satisfactorily addressed.

RECOMMENDATION

THAT Council as the consent authority grant approval to Modification Application No. Mod2021/0235 for Modification of Development Consent DA2016/0963 granted for demolition works and the construction of a new dwelling house and swimming pool on land at Lot 3 DP 11899,24 Lancaster Crescent, COLLAROY, subject to the conditions printed below:

The development must be carried out in compliance (except as amended by any other condition of consent) with the following:

A. Modify Condition 15A Amended Pool Privacy Screen / Boundary Pool Barrier to read as follows:

The proposed pool privacy screen above the existing masonry wall adjacent to the eastern boundary shared with 22 Lancaster Crescent is to be ***500mm*** in height above the wall on which it is erected ***which is inclusive of the 200mm of extra blockwork*** (that is, to RL 62.26), and is to extend from a point 900mm north of the northernmost pool barrier to a point 900mm south of the southernmost pool barrier (i.e. to meet swimming pool safety standards). ***The privacy screen shall be increase to a height of 700mm above the wall on which it is erected, inclusive of the 200mm of extra brickwork (that is, RL62.26) for a length of 1500mm from a point 1500mm to the south of the pool bench.***

The privacy screen is to consist of vertical louvres that allow views from 22 Lancaster Crescent in a southerly direction.

As the screen also acts as a boundary pool barrier, the screen and the wall on which it is erected are to be constructed in accordance with Australian Standard AS1926.1-2012 Swimming Pool Safety, particularly (but not limited to) in relation to non-climbable zones and exclusion zones.

Details demonstrating compliance with this condition are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure consistency with the relevant Australian Standard, while ensuring privacy for the subject site and reducing view loss to 22 Lancaster Crescent.

B Add Condition 15A (i) Amended Pool Privacy Screen / Boundary Pool Barrier / Survey to read as follows:

A survey certificate prepared by a Registered Surveyor shall be submitted within one month of the installation of the screen to ensure that the it has been installed in accordance with the approved levels and dimensions.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To determine the height of privacy screen and ensure it complies with levels specified in Condition 15A.

C. Modify Condition 15B Frosting to Windows to read as follows:

The east-facing windows to the ensuite (WL04.08-13) and walk-in-robe (WL04.24-25) at the second floor are to be frosted to a minimum height of 1500mm above finished floor level. The ***eastern most*** north-facing window to the second floor ensuite ~~*(WL04.05-07) are*~~ is to be frosted to a minimum height of 1500mm above finished floor level. The east-facing windows to the daybed (WL04.18-20) and bedroom (WL04.14) at the second floor are to be fully frosted. Details demonstrating compliance with this condition are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate.

The eastern most north-facing windows to the second floor ensuite (WL04.05-07) are is

Reason: To ensure visual privacy to adjoining properties.

D. Amend Condition 41 to read as follows:

Any and all security cameras installed on the subject site are to be installed such that they are not directed towards the neighbouring residential properties.

Reason: To ensure suitable privacy to adjoining private land.

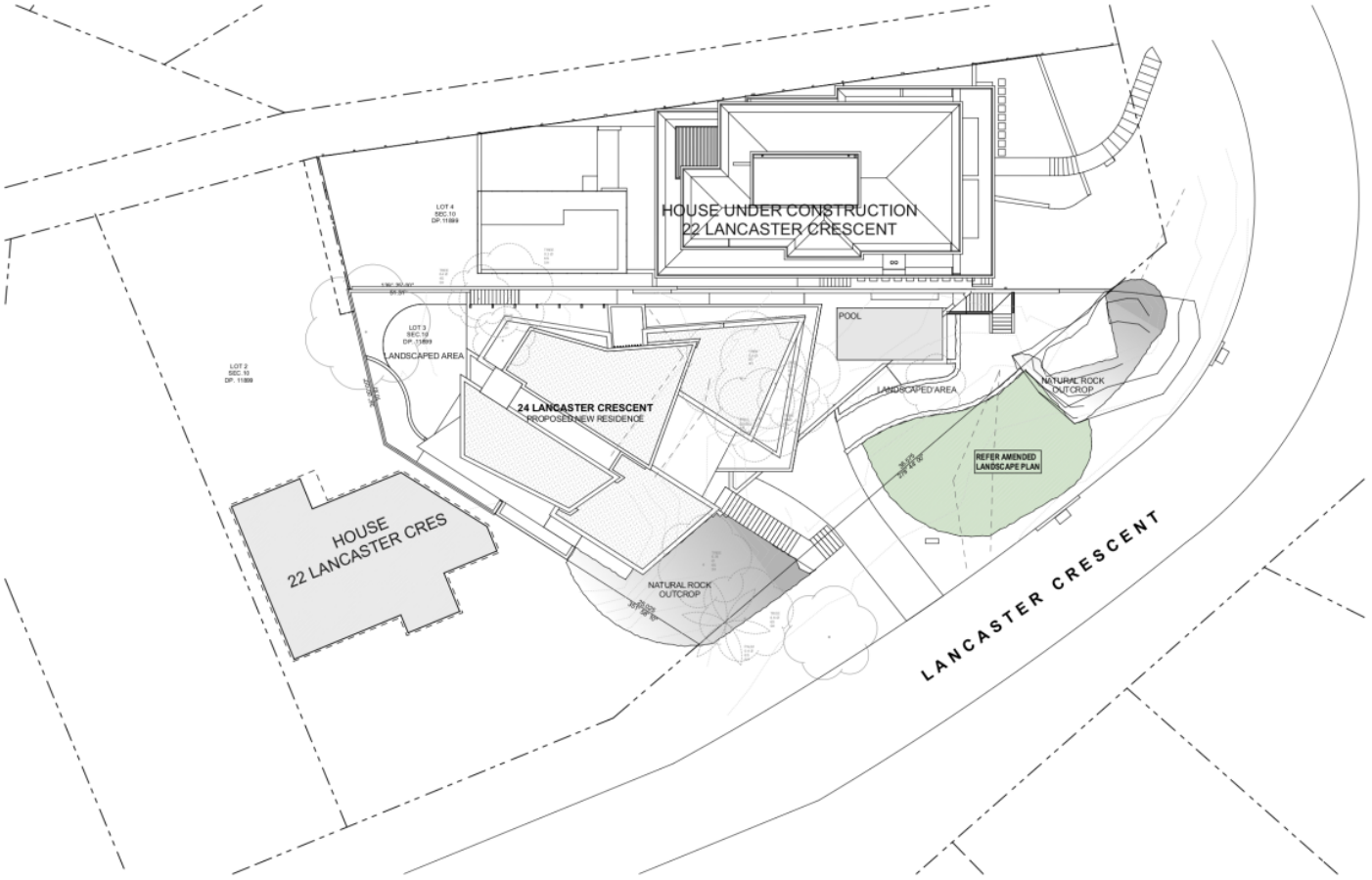
E. Add Condition 42 which reads as follows:

The overspill from lighting to be minimised to avoid impacts to neighbours by ensuring the level of illumination is limited and the light source is locating away from adjoining properties or boundaries and directed within the site.

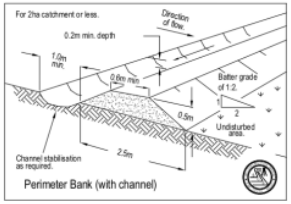
Certification is to be provided that any outdoor lighting does not detrimentally impact upon the amenity of neighbouring properties and complies with where relevant, Australia Standard Performance and design requirements and Australian Standard AS 4282:1997 Control of the obtrusive effects of outdoor lighting.

The Certification shall be submitted to the Certifying Authority within one month of the date of the decision on MOD2021/0235.

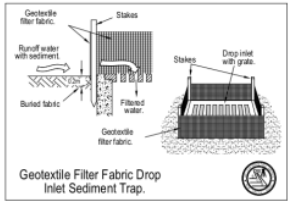
Reason: To protect the amenity of adjoining properties.



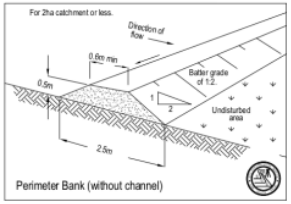




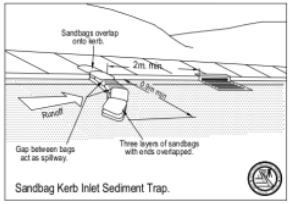
Perimeter Bank (with channel)



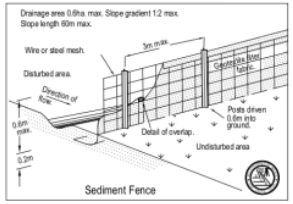
Geotextile Filter Fabric Drop Inlet Sediment Trap.



Perimeter Bank (without channel)



Sandbag Kerb Inlet Sediment Trap.



Sediment Fence

CONSTRUCTION SEQUENCE:

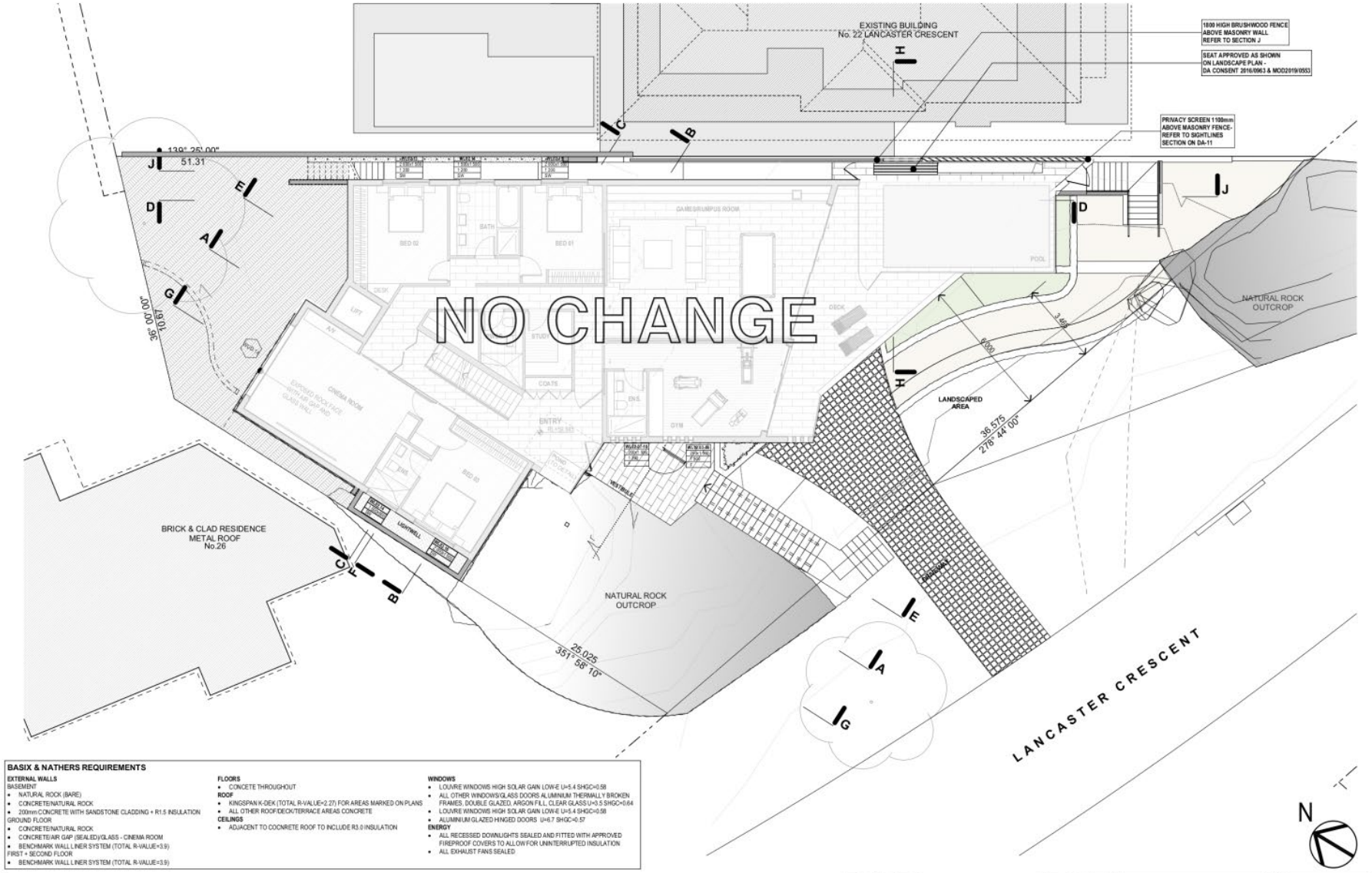
1. PROVIDE SOIL EROSION SEDIMENT CONTROL MEEASURES SUCH AS SILT FENCING AND STRAW BALES AS INDICATED.
2. PROVIDE SHAKER PAD AND ENSURE SITE ACCESS IS LIMITED TO ONE LOCATION. ENSURE ALL VEHICLE MOVEMENTS IN AND OUT OF THE SITE PASS OVER THE SHAKER PADS.
3. UNDERTAKE BULK EARTHWORKS ENSURING THAT ALL SEDIMENT CONTROL MEASURES ARE REGULARLY MAINTAINED AND IN GOOD WORKING ORDER.

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISIISON 2021	DVI	LT

GARLING HOUSE
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP.11899
FOR MR & MRS GARLING

DRAWING TITLE: **PLANS**
SITE PLAN

SCALE	DRAWN BY	PLOT DATE
1:200, 1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-01	G



BASIX & NATHERS REQUIREMENTS

EXTERNAL WALLS
BASEMENT
- NATURAL ROCK (BARE)
- CONCRETE/NATURAL ROCK
- 200mm CONCRETE WITH SANDSTONE CLADDING + R1.5 INSULATION

GROUND FLOOR
- CONCRETE/NATURAL ROCK
- CONCRETE/AIR GAP (SEALED)/GLASS - CINEMA ROOM
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FIRST + SECOND FLOOR
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FLOORS
- CONCETE THROUGHOUT

ROOF
- KINGSPAN K-DEK (TOTAL R-VALUE=2.27) FOR AREAS MARKED ON PLANS
- ALL OTHER ROOF/DECK/TERRACE AREAS CONCRETE

CEILINGS
- ADJACENT TO CONCRETE ROOF TO INCLUDE R3.0 INSULATION

WINDOWS
- LOUVRE WINDOWS HIGH SOLAR GAIN LOW-E U=5.4 SHGC=0.58
- ALL OTHER WINDOWS/GLASS DOORS ALUMINIUM THERMALLY BROKEN FRAMES, DOUBLE GLAZED, ARGON FILL, CLEAR GLASS U=3.5 SHGC=0.64
- LOUVRE WINDOWS HIGH SOLAR GAIN LOW-E U=5.4 SHGC=0.58
- ALUMINIUM GLAZED HINGED DOORS U=6.7 SHGC=0.57

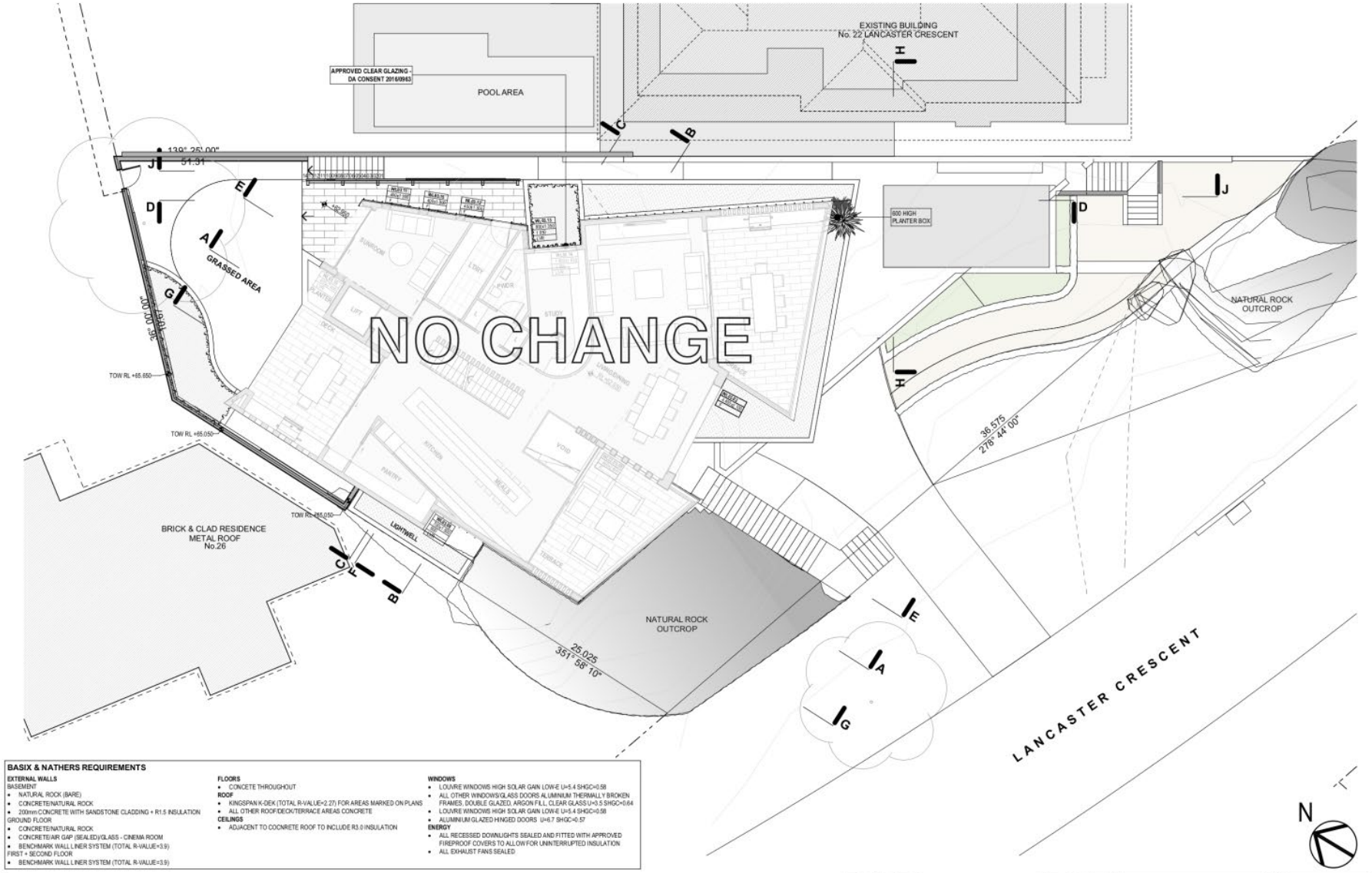
ENERGY
- ALL RECESSED DOWNLIGHTS SEALED AND FITTED WITH APPROVED FIREPROOF COVERS TO ALLOW FOR UNINTERRUPTED INSULATION
- ALL EXHAUST FANS SEALED

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

PROJECT: **GARLING HOUSE**
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP 11899
FOR MR & MRS GARLING

DRAWING TITLE: **PLANS**
GROUND FLOOR

SCALE	DRAWN BY	PLOT DATE
1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-04	G



BASIX & NATHERS REQUIREMENTS

EXTERNAL WALLS
BASEMENT
- NATURAL ROCK (BARE)
- CONCRETE/NATURAL ROCK
- 200mm CONCRETE WITH SANDSTONE CLADDING + R1.5 INSULATION

GROUND FLOOR
- CONCRETE/NATURAL ROCK
- CONCRETE/AIR GAP (SEALED)/GLASS - CINEMA ROOM
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FIRST + SECOND FLOOR
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FLOORS
- CONCETE THROUGHOUT

ROOF
- KINGSPAN K-DEK (TOTAL R-VALUE=2.27) FOR AREAS MARKED ON PLANS
- ALL OTHER ROOF/DECK/TERRACE AREAS CONCRETE

CEILINGS
- ADJACENT TO CONCRETE ROOF TO INCLUDE R3.0 INSULATION

WINDOWS
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- ALUMINIUM GLAZED HINGED DOORS U=6.7 SHGC=0.57

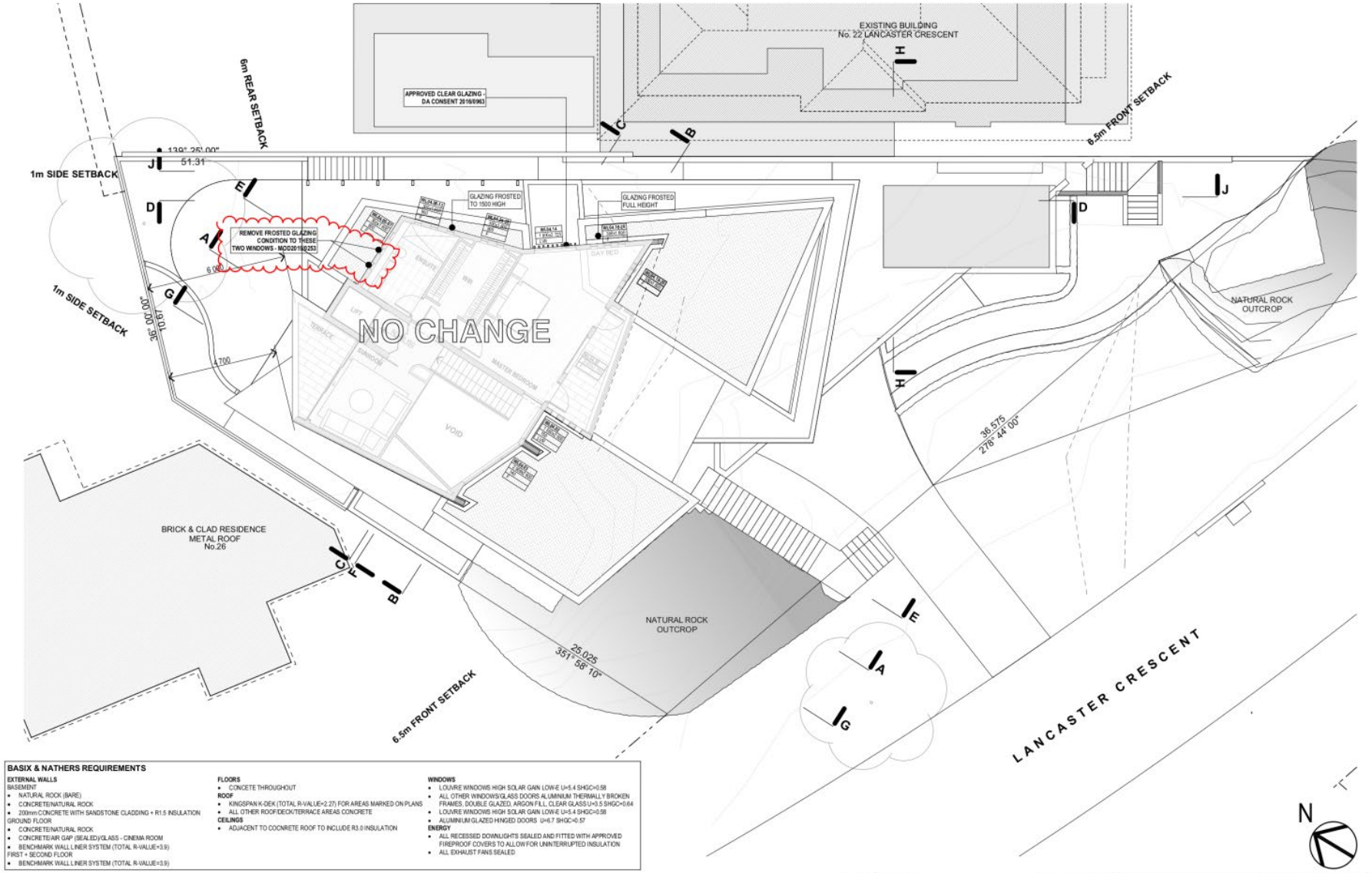
ENERGY
- ALL RECESSED DOWNLIGHTS SEALED AND FITTED WITH APPROVED FIREPROOF COVERS TO ALLOW FOR UNINTERRUPTED INSULATION
- ALL EXHAUST FANS SEALED

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

PROJECT: **GARLING HOUSE**
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP 11899
FOR MR & MRS GARLING

DRAWING TITLE: **PLANS**
FIRST FLOOR

SCALE	DRAWN BY	PLOT DATE
1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-05	G



BASIX & NATHERS REQUIREMENTS

EXTERNAL WALLS
BASEMENT
- NATURAL ROCK (BARE)
- CONCRETE/NATURAL ROCK
- 200mm CONCRETE WITH SANDSTONE CLADDING + R1.5 INSULATION

GROUND FLOOR
- CONCRETE/NATURAL ROCK
- CONCRETE/AIR GAP (SEALED)/GLASS - CINEMA ROOM
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FIRST + SECOND FLOOR
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FLOORS
- CONCETE THROUGHOUT

ROOF
- KINGSPAN K-DEK (TOTAL R-VALUE=2.27) FOR AREAS MARKED ON PLANS
- ALL OTHER ROOF/DECK/TERRACE AREAS CONCRETE

CEILINGS
- ADJACENT TO CONCRETE ROOF TO INCLUDE R3.0 INSULATION

WINDOWS
- LOUVRE WINDOWS HIGH SOLAR GAIN LOW-E U=5.4 SHGC=0.58
- ALL OTHER WINDOWS/GLASS DOORS ALUMINIUM THERMALLY BROKEN FRAMES, DOUBLE GLAZED, ARGON FILL, CLEAR GLASS U=3.5 SHGC=0.64
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- ALUMINIUM GLAZED HINGED DOORS U=6.7 SHGC=0.57

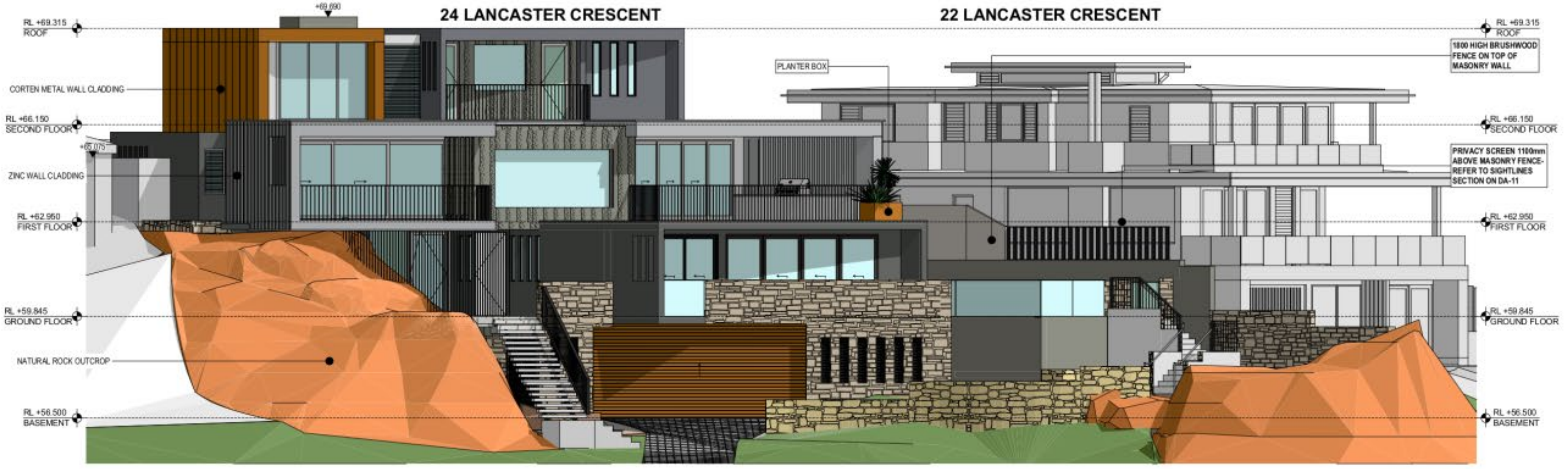
ENERGY
- ALL RECESSED DOWNLIGHTS SEALED AND FITTED WITH APPROVED FIREPROOF COVERS TO ALLOW FOR UNINTERRUPTED INSULATION
- ALL EXHAUST FANS SEALED

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

PROJECT: **GARLING HOUSE**
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP 11899
FOR MR & MRS GARLING

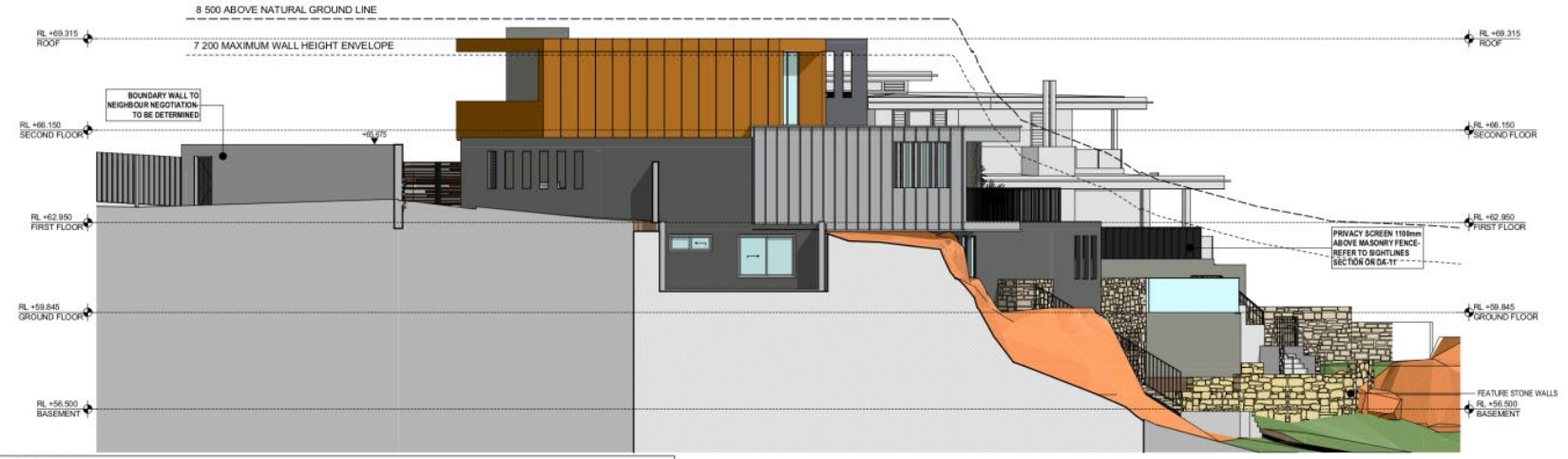
DRAWING TITLE: **PLANS**
SECOND FLOOR

SCALE	DRAWN BY	PLOT DATE
1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-06	G



SOUTH ELEVATION [LANCASTER CRES] 1:100

WEST ELEVATION [SIDE ELEVATION] 1:100



BASIX & NATHERS REQUIREMENTS

EXTERNAL WALLS
BASEMENT
- NATURAL ROCK (BARE)
- CONCRETE/NATURAL ROCK
- 200mm CONCRETE WITH SANDSTONE CLADDING + R1.5 INSULATION

GROUND FLOOR
- CONCRETE/NATURAL ROCK
- CONCRETE/AIR GAP (SEALED)/GLASS - CINEMA ROOM
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FIRST + SECOND FLOOR
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FLOORS
- CONCETE THROUGHOUT

ROOF
- KINGSPAN K-DEK (TOTAL R-VALUE=2.27) FOR AREAS MARKED ON PLANS
- ALL OTHER ROOF/DECK/TERRACE AREAS CONCRETE

CEILINGS
- ADJACENT TO CONCRETE ROOF TO INCLUDE R3.0 INSULATION

WINDOWS
- LOUVRE WINDOWS HIGH SOLAR GAIN LOW-E U=5.4 SHGC=0.58
- ALL OTHER WINDOWS/GLASS DOORS ALUMINIUM THERMALLY BROKEN FRAMES, DOUBLE GLAZED, ARGON FILL, CLEAR GLASS U=3.5 SHGC=0.64
- LOUVRE WINDOWS HIGH SOLAR GAIN LOW-E U=5.4 SHGC=0.58
- ALUMINIUM GLAZED HINGED DOORS U=6.7 SHGC=0.57

ENERGY
- ALL RECESSED DOWNLIGHTS SEALED AND FITTED WITH APPROVED FIREPROOF COVERS TO ALLOW FOR UNINTERRUPTED INSULATION
- ALL EXHAUST FANS SEALED

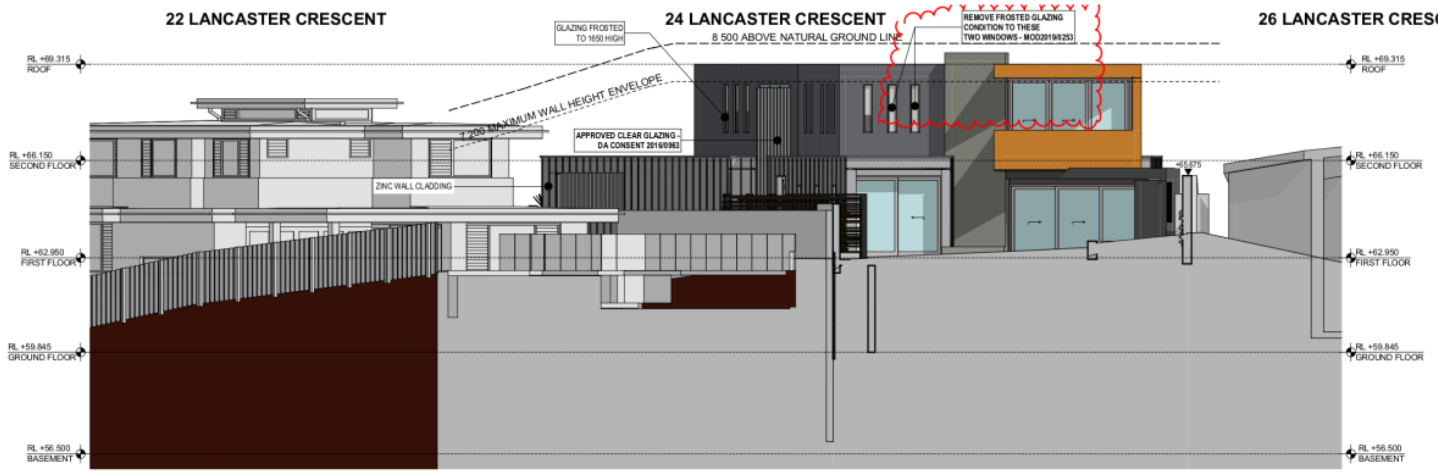
Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

GARLING HOUSE
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP 11899
FOR MR & MRS GARLING

ELEVATIONS
SOUTH + WEST

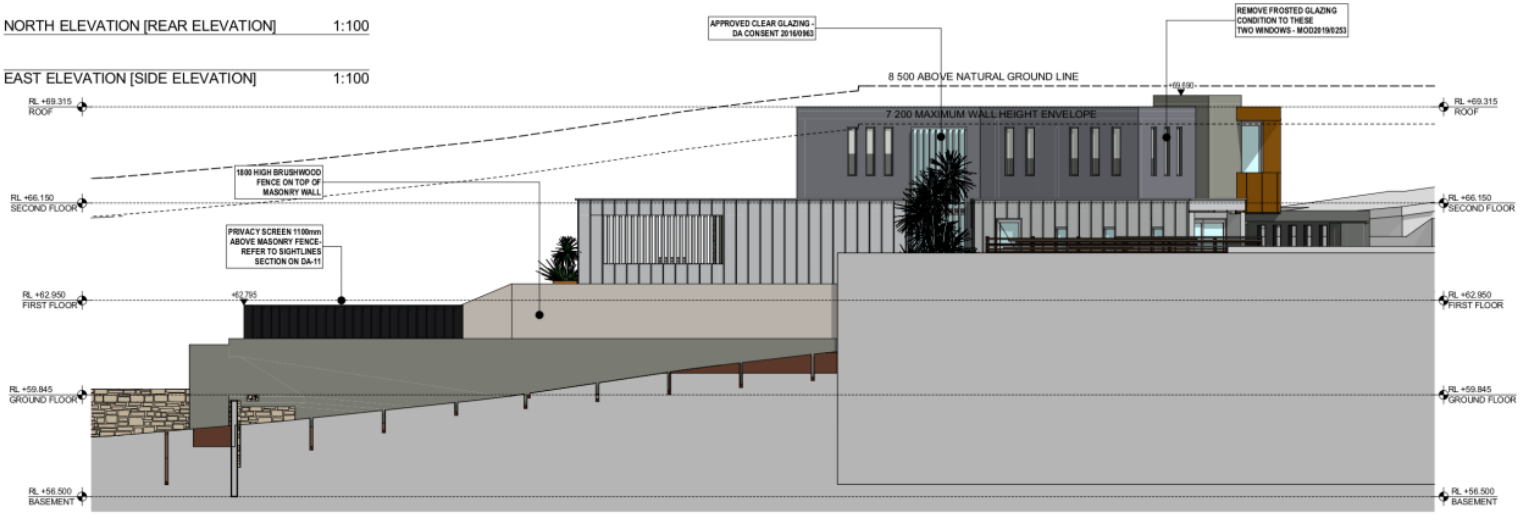
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1:100 @ A2	LT/DVI	28/04/2021

PROJECT NO.	DRAWING NO.	REVISION
1612	DA-08	G



NORTH ELEVATION [REAR ELEVATION] 1:100

EAST ELEVATION [SIDE ELEVATION] 1:100



BASIX & NATHERS REQUIREMENTS

EXTERNAL WALLS
BASEMENT
- NATURAL ROCK (BARE)
- CONCRETE/NATURAL ROCK
- 200mm CONCRETE WITH SANDSTONE CLADDING + R1.5 INSULATION

GROUND FLOOR
- CONCRETE/NATURAL ROCK
- CONCRETE/AIR GAP (SEALED)/GLASS - CINEMA ROOM
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FIRST + SECOND FLOOR
- BENCHMARK WALL LINER SYSTEM (TOTAL R-VALUE=3.9)

FLOORS
- CONCETE THROUGHOUT

ROOF
- KINGSPAN K-DEK (TOTAL R-VALUE=2.27) FOR AREAS MARKED ON PLANS
- ALL OTHER ROOF/DECK/TERRACE AREAS CONCRETE

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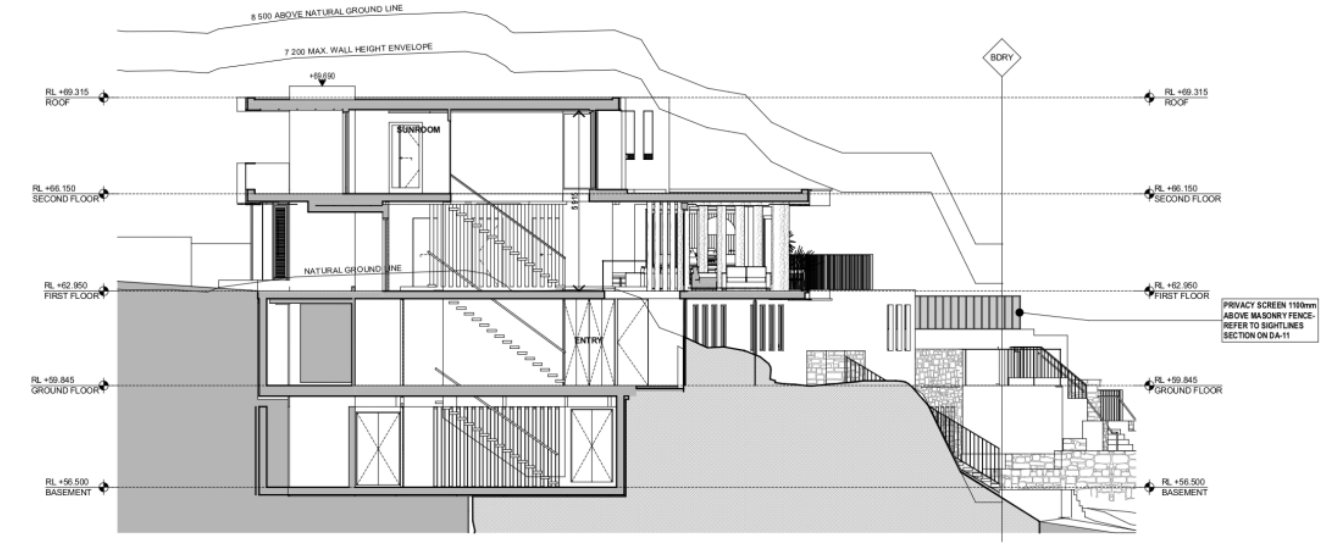
Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

PROJECT: **GARLING HOUSE**
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP 11899
FOR MR & MRS GARLING

DRAWING TITLE: **ELEVATIONS**
NORTH + EAST

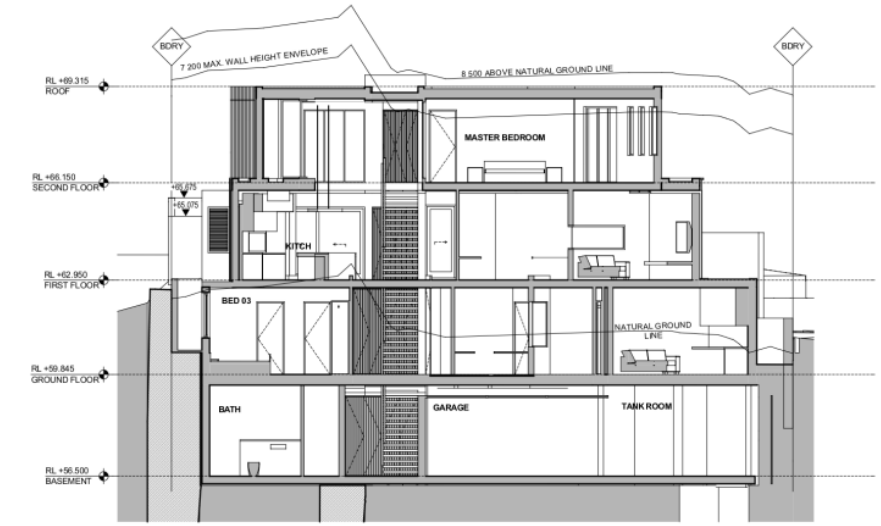
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1:100 @ A2	LT/DVI	28/04/2021

PROJECT NO.	DRAWING NO.	REVISION
1612	DA-09	G



SECTION A 1:100

SECTION B 1:100



SECTION C 1:100

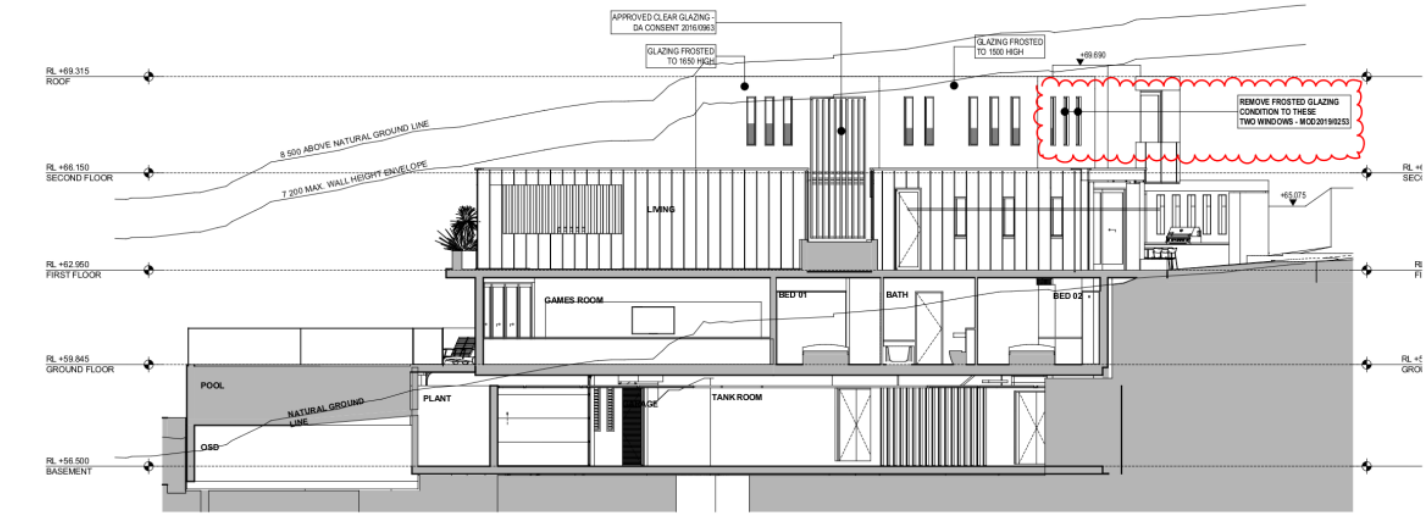


Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT
13/03/2017	C	SECTION 96 - LIGHTWELL	DVI	LT
24/05/2019	D	SECTION 96	DVI	LT
23/08/2019	E	SECTION 96 - FENCE LEVELS ADDED	DVI	LT
APRIL 2020	F	REVISED SECTION 96	DVI	LT

PROJECT
GARLING HOUSE
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP.11899
FOR MR & MRS GARLING

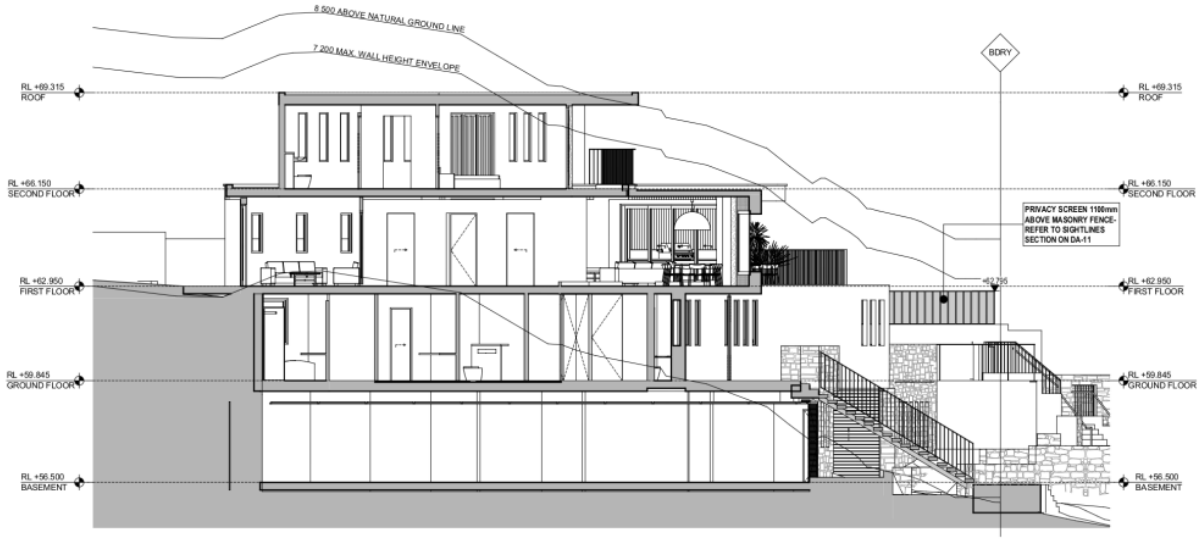
DRAWING TITLE
SECTIONS
SECTION A + B + C

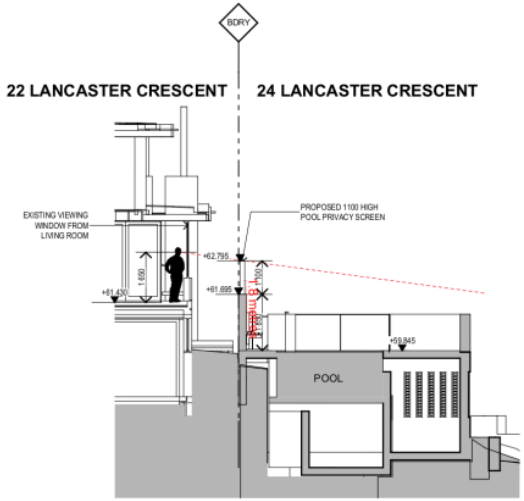
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1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-10	G



SECTION D 1:100

SECTION E 1:100





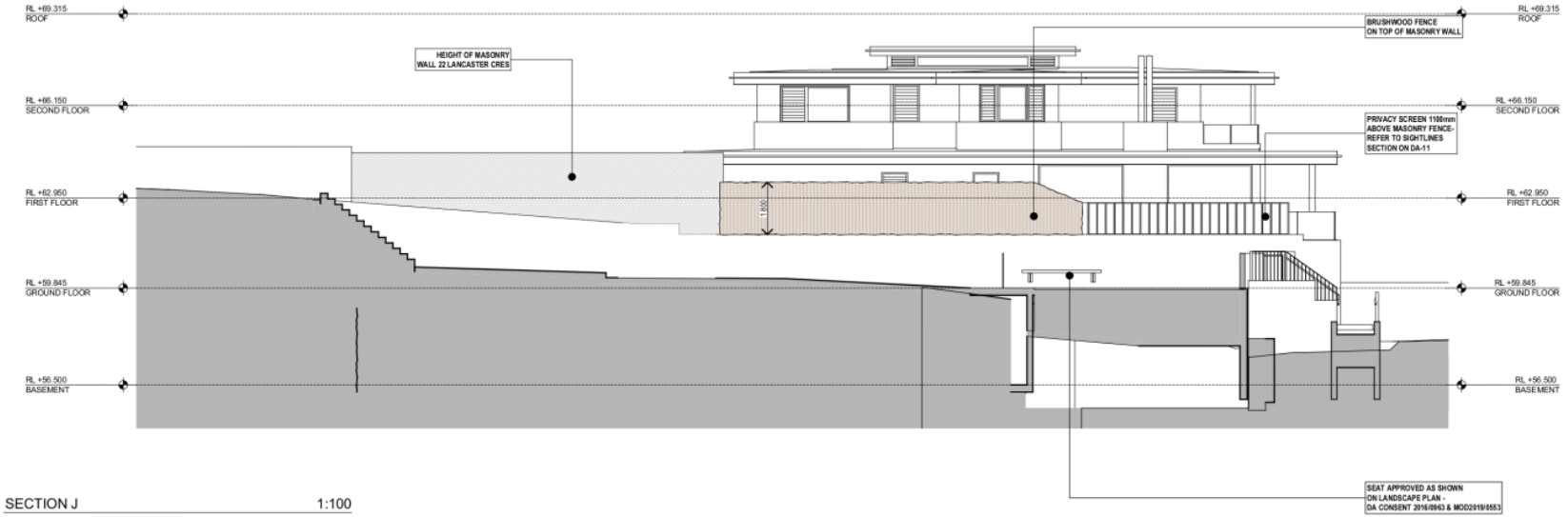
POOL PRIVACY SCREEN SECTION 1:100

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

GARLING HOUSE
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
LOT 3 DP.11899
FOR MR & MRS GARLING

SECTIONS
SECTION D + E

SCALE	DRAWN BY	PLOT DATE
1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-11	G



SECTION J 1:100

Issue Date	Rev	Description	Drawn	Checked
13/04/2021	G	SECTION 4.55 SUBMISISON 2021	DVI	LT

GARLING HOUSE
PROPOSED NEW RESIDENCE
24 LANCASTER CRESCENT, COLLAROY NSW
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FOR MR & MRS GARLING

SECTIONS
SECTION J

SCALE	DRAWN BY	PLOT DATE
1:100 @ A2	LT/DVI	28/04/2021
PROJECT NO.	DRAWING NO.	REVISION
1612	DA-16	G

ITEM 3.2	**DA2021/0457 - 44 NAREEN PARADE, NORTH NARRABEEN - CONSTRUCTION OF A SECONDARY DWELLING**
REPORTING MANAGER	**Lashta Haidari**
TRIM FILE REF	**2021/490553**
ATTACHMENTS	**1 Assessment Report**
	2 Working plans
	3 Clause 4.6 - Building Height

PURPOSE

To refer the attached application for determination due to directions provided by the Department of Planning & Environment in relation to applications with a clause 4.6 variation to the building height.

RECOMMENDATION OF DEVELOPMENT ASSESSMENT MANAGER

THAT Council, as the consent authority, **approves** Development Consent to DA2021/0457 for Construction of a secondary dwelling on land at Lot 36 DP 11356, 44 Nareen Parade, North Narrabeen, subject to the conditions outlined in the Assessment Report.

DEVELOPMENT APPLICATION ASSESSMENT REPORT

Application Number:	DA2021/0457

Responsible Officer:	Julie Edwards
Land to be developed (Address):	Lot 36 DP 11356, 44 Nareen Parade NORTH NARRABEEN NSW 2101
Proposed Development:	Construction of a secondary dwelling
Zoning:	E4 Environmental Living
Development Permissible:	Yes
Existing Use Rights:	No
Consent Authority:	Northern Beaches Council
Delegation Level:	DDP
Land and Environment Court Action:	No
Owner:	Carol Suzanne McCabe Martin Andrew McCabe
Applicant:	Martin Andrew McCabe

Application Lodged:	04/05/2021
Integrated Development:	No
Designated Development:	No
State Reporting Category:	Residential - New second occupancy
Notified:	10/05/2021 to 24/05/2021
Advertised:	Not Advertised
Submissions Received:	0
Clause 4.6 Variation:	4.3 Height of buildings: 23.6%
Recommendation:	Approval

Estimated Cost of Works:	$ 130,980.00

EXECUTIVE SUMMARY
The proposal is for the construction of a secondary dwelling at 44 Nareen Parade NORTH NARRABEEN. The works result in a variation to the Height of Buildings development standard of the Pittwater Local Environmental Plan 2014 (PLEP 2014) of 23.6%. However, a written request by the applicant has sufficiently justified varying the standard. The extent of the non-compliance can be attributed to the slope of the site and the retention of natural features such as vegetation. The siting and design of the secondary dwelling will not only ensure that the natural features are retained but also a feature of the proposal. Despite the numeric noncompliance, the proposal is not considered to result in unreasonable bulk, scale or amenity impacts as viewed from the adjoining or surrounding properties and minimises environmental impacts.

The proposal does not result in further variation to the built form controls of the Pittwater

21 Development Control Plan (P21 DCP). The proposed secondary dwelling does not result in adverse amenity impacts and is consistent with the objectives of the controls.

PROPOSED DEVELOPMENT IN DETAIL

The application is seeking approval for the construction of a split level secondary dwelling containing two bedrooms, living/dining, kitchen, bathroom/laundry and balcony.

ASSESSMENT INTRODUCTION

The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act 1979 and the associated Regulations. In this regard:

- An assessment report and recommendation has been prepared (the subject of this report) taking into account all relevant provisions of the Environmental Planning and Assessment Act 1979, and the associated regulations;
- A site inspection was conducted and consideration has been given to the impacts of the development upon the subject site and adjoining, surrounding and nearby properties;
- Notification to adjoining and surrounding properties, advertisement (where required) and referral to relevant internal and external bodies in accordance with the Act, Regulations and relevant Development Control Plan;
- A review and consideration of all submissions made by the public and community interest groups in relation to the application;
- A review and consideration of all documentation provided with the application (up to the time of determination);
- A review and consideration of all referral comments provided by the relevant Council Officers, State Government Authorities/Agencies and Federal Government Authorities/Agencies on the proposal.

SUMMARY OF ASSESSMENT ISSUES

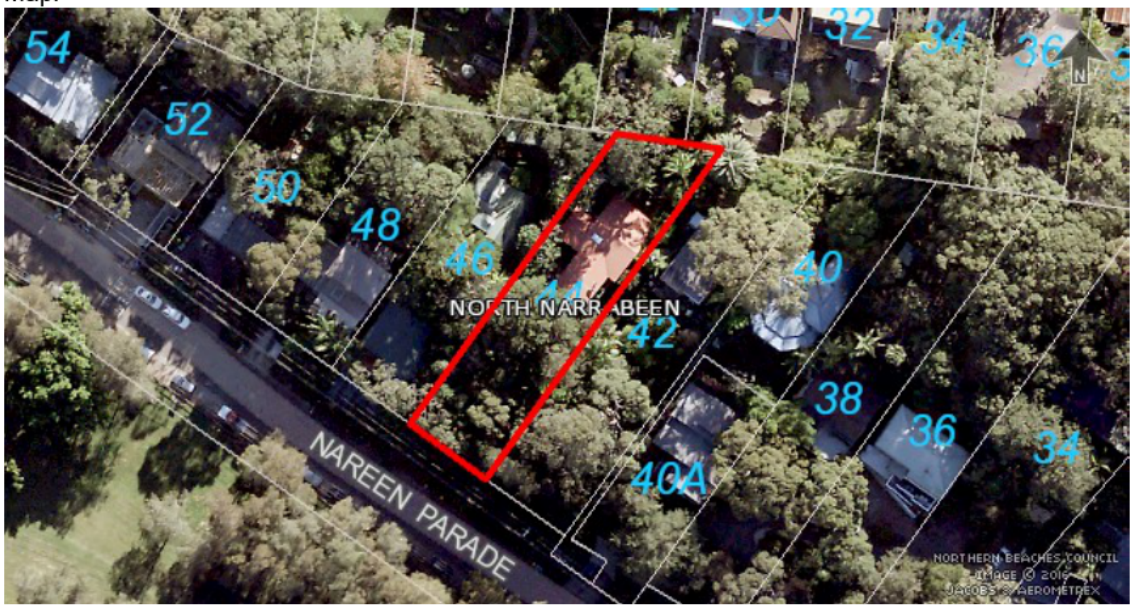
Pittwater Local Environmental Plan 2014 - 4.6 Exceptions to development standards
Pittwater Local Environmental Plan 2014 - 7.7 Geotechnical hazards
Pittwater 21 Development Control Plan - B6.3 Off-Street Vehicle Parking Requirements
Pittwater 21 Development Control Plan - D11.14 Construction, Retaining walls, terracing and undercroft areas

SITE DESCRIPTION

Property Description:	Lot 36 DP 11356 , 44 Nareen Parade NORTH NARRABEEN NSW 2101
Detailed Site Description:	The subject site consists of one allotment located on the northern side of Nareen Parade. The site is irregular in shape with a frontage of 15.24m along Nareen Parade and a depth of 65.24m. The site has a surveyed area of 935m². The site is located within the E4 Environmental Living zone and accommodates a single dwelling.

	The site slopes steeply from the rear northern boundary to the front southern boundary, with a fall of approximately 25m. The site is densly vegetated. There are no known threatened species on the site. **Detailed Description of Adjoining/Surrounding Development** Adjoining and surrounding development is characterised by one to two storey residential dwellings and detached secondary dwellings of varying architectural styles.

Map:



SITE HISTORY

A search of Council's records has revealed the following:

Application N0561/09
Alterations and additions to the existing dwelling
Determined 12/01/2010

The land has been used for residential purposes for an extended period of time.

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 (EPAA)

The relevant matters for consideration under the Environmental Planning and Assessment Act, 1979, are:

Section 4.15 Matters for Consideration'	Comments

Section 4.15 Matters for Consideration'	Comments
Section 4.15 (1) (a)(i) – Provisions of any environmental planning instrument	See discussion on "Environmental Planning Instruments" in this report.
Section 4.15 (1) (a)(ii) – Provisions of any draft environmental planning instrument	Draft State Environmental Planning Policy (Remediation of Land) seeks to replace the existing SEPP No. 55 (Remediation of Land). Public consultation on the draft policy was completed on 13 April 2018. The subject site has been used for residential purposes for an extended period of time. The proposed development retains the residential use of the site, and is not considered a contamination risk.
Section 4.15 (1) (a)(iii) – Provisions of any development control plan	Pittwater 21 Development Control Plan applies to this proposal.
Section 4.15 (1) (a)(iiia) – Provisions of any planning agreement	None applicable.
Section 4.15 (1) (a)(iv) – Provisions of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation 2000)	Division 8A of the EP&A Regulation 2000 requires the consent authority to consider "Prescribed conditions" of development consent. These matters have been addressed via a condition of consent. Clauses 54 and 109 of the EP&A Regulation 2000 allow Council to request additional information. Additional information was requested in relation to a Clause 4.6 for the non-compliance in building height. Clause 92 of the EP&A Regulation 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter has been addressed via a condition of consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider insurance requirements under the Home Building Act 1989. This matter has been addressed via a condition of consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider the provisions of the Building Code of Australia (BCA). This matter has been addressed via a condition of consent.
Section 4.15 (1) (b) – the likely impacts of the development, including environmental impacts on the natural and built environment and social and economic impacts in the locality	(i) **Environmental Impact** The environmental impacts of the proposed development on the natural and built environment are addressed under the Pittwater 21 Development Control Plan section in this report. (ii) **Social Impact** The proposed development will not have a detrimental social impact in the locality considering the character of the proposal. (iii) **Economic Impact**

Section 4.15 Matters for Consideration'	Comments
	The proposed development will not have a detrimental economic impact on the locality considering the nature of the existing and proposed land use.
Section 4.15 (1) (c) – the suitability of the site for the development	The site is considered suitable for the proposed development.
Section 4.15 (1) (d) – any submissions made in accordance with the EPA Act or EPA Regs	See discussion on "Notification & Submissions Received" in this report.
Section 4.15 (1) (e) – the public interest	No matters have arisen in this assessment that would justify the refusal of the application in the public interest.

EXISTING USE RIGHTS

Existing Use Rights are not applicable to this application.

BUSHFIRE PRONE LAND

The site is not classified as bush fire prone land.

NOTIFICATION & SUBMISSIONS RECEIVED

The subject development application has been publicly exhibited from 10/05/2021 to 24/05/2021 in accordance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000 and the Community Participation Plan.

As a result of the public exhibition of the application Council received no submissions.

REFERRALS

Internal Referral Body	Comments
Building Assessment - Fire and Disability upgrades	The application has been investigated with respects to aspects relevant to the Building Certification and Fire Safety Department. There are no objections to approval of the development subject to inclusion of the attached conditions of approval and consideration of the notes below. Note: The proposed development may not comply with some requirements of the BCA and the Premises Standards. Issues such as this however may be determined at Construction Certificate Stage.
Landscape Officer	The proposal is indicated to comprise construction of a secondary dwelling. Councils Landscape Referral section has considered the application against the Pittwater Local Environment Plan, and the following Pittwater 21 DCP controls: B4.22 Preservation of Trees and BushlandVegetation C1.1 Landscaping

Internal Referral Body	Comments
	D9.11 Landscaped Area - Environmentally Sensitive Land The Arborists Report submitted with the application is noted. The report indicates thirteen trees to be removed, eight being exempt species and the remainder of low retention value with the exception of one *Syncarpia glomulifera*, which is rated high retention value. The site contains numerous other trees to be retained. Subject to replanting of the Syncarpia and tree protection conditions, no objections are raised to approval.
NECC (Bushland and Biodiversity)	Council's Biodiversity referrals team have assessed the Development Application for compliance against the following applicable biodiversity related controls: • Pittwater LEP cl. 7.6 Biodiversity Protection • Pittwater 21 DCP cl. B4.4 Flora and Fauna Habitat Enhancement Category 2 and Wildlife Corridor • Coastal Management SEPP 2018 cl. 11 Development on land in proximity to coastal wetlands or littoral rainforest • Coastal Management SEPP 2018 cl. 13 Development on land within the coastal environment area The Development Application seeks consent for the construction of a secondary dwelling. The Arborist Report (Naturally Trees, March 2021) submitted with the Development Application, identifies that 14 trees require removal to facilitate the development. This includes 8 exempt species which can be removed without Council consent. The remaining trees proposed for removal are considered to be of low significance, with the exception of two (2) *Allocasuarina torulosa* which have a medium significance and one (1) *Syncarpia glomulifera* which has a high significance. These trees are to be replaced with suitable native replacements. There is an arboreal termite nest in the upper trunk of Tree #14. The termite nest did not appear to be occupied by fauna during the time of inspection by Council's biodiversity officer. One (1) small nest box is to be installed within a tree that is to be retained within the site, in order to provide suitable nesting habitat for native species. Subject to these conditions of consent, Council's biodiversity referrals team are satisfied that the proposed development complies with the above listed biodiversity related controls.
NECC (Coast and Catchments)	The application has been assessed in consideration of the *Coastal Management Act 2016,* State Environmental Planning Policy (Coastal Management) 2018 and has also been assessed against requirements of the Pittwater LEP 2014 and Pittwater 21 DCP. **Coastal Management Act 2016**

Internal Referral Body	Comments
	The subject site has been identified as being within the coastal zone and therefore *Coastal Management Act 2016* is applicable to the proposed development. The proposed development is in line with the objects, as set out under Clause 3 of the *Coastal Management Act 2016.* **State Environmental Planning Policy (Coastal Management) 2018** The subject land has been included on the 'Proximity to Coastal Wetlands Area' and 'Coastal Environment Area' maps under the State Environmental Planning Policy (Coastal Management) 2018 (CM SEPP). Hence, Clauses 11, 13 and 15 of the CM SEPP apply for this DA. Comment: On internal assessment, the DA satisfies requirements under clauses 11, 13 and 15 of the CM SEPP. As such, it is considered that the application does comply with the requirements of the State Environmental Planning Policy (Coastal Management) 2018. **Pittwater LEP 2014 and Pittwater 21 DCP** No other coastal related issues identified. As such, it is considered that the application does comply with the requirements of the coastal relevant clauses of the Pittwater LEP 2014 and Pittwater 21 DCP.
NECC (Riparian Lands and Creeks)	The lot is within the Nareen Wetland catchment. The reserve contains good habitat value and provides important connections for species inhabiting larger habitat areas to the north and south. The proposed development is a granny flat with an increase of impervious area of approximately 85 square meter. The development is low risk due to the installation of a rainwater tank and associated filters, therefore a sediment filter pit is not required on this occasion.

External Referral Body	Comments
Ausgrid: (SEPP Infra.)	The proposal was referred to Ausgrid who provided a response stating that the proposal is acceptable subject to compliance with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice. These recommendations will be included as a condition of consent.

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)*

All, Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the merit assessment of this application.

In this regard, whilst all provisions of each Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the assessment, many provisions contained within the document are not relevant or are enacting, definitions and operational provisions which the proposal is considered to be acceptable against.

As such, an assessment is provided against the controls relevant to the merit consideration of the application hereunder.

State Environmental Planning Policies (SEPPs) and State Regional Environmental Plans (SREPs)

SEPP 55 - Remediation of Land

Clause 7 (1) (a) of SEPP 55 requires the Consent Authority to consider whether land is contaminated. Council records indicate that the subject site has been used for residential purposes for a significant period of time with no prior land uses. In this regard it is considered that the site poses no risk of contamination and therefore, no further consideration is required under Clause 7 (1) (b) and (c) of SEPP 55 and the land is considered to be suitable for the residential land use.

SEPP (Building Sustainability Index: BASIX) 2004

A BASIX certificate has been submitted with the application (see Certificate No. 1172005S dated 29 January 2021). The BASIX Certificate is supported by an ABSA Assessor Certificate (see Certificate No. 0005632211 dated 29 January 2021).

The BASIX Certificate indicates that the development will achieve the following:

Commitment	Required Target	Proposed
Water	40	40
Thermal Comfort	Pass	Pass
Energy	50	50

A condition has been included in the recommendation of this report requiring compliance with the commitments indicated in the BASIX Certificate.

SEPP (Infrastructure) 2007

Ausgrid
Clause 45 of the SEPP requires the Consent Authority to consider any development application (or an application for modification of consent) for any development carried out:

- within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists).
- immediately adjacent to an electricity substation.

- within 5.0m of an overhead power line.
- includes installation of a swimming pool any part of which is: within 30m of a structure supporting an overhead electricity transmission line and/or within 5.0m of an overhead electricity power line.

Comment:
The proposal was referred to Ausgrid who provided a response stating that the proposal is acceptable subject to compliance with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice. These recommendations will be included as a condition of consent.

SEPP (Coastal Management) 2018

The site is subject to SEPP Coastal Management (2018). Accordingly, an assessment under the SEPP has been carried out as follows:

11 Development on land in proximity to coastal wetlands or littoral rainforest

(1) Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on:

(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or

(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

Comment:
This clause has been assessed against the subject site and the proposed development. No issues have been raised in relation to the proposed development and the land being proximity to coastal wetlands.

13 Development on land within the coastal environment area

(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:

(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,

(b) coastal environmental values and natural coastal processes,

(c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,

(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,

(e) 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,

(f) Aboriginal cultural heritage, practices and places,

(g) the use of the surf zone.

Comment:
This clause has been assessed against the subject site and the proposed development. No issues have been raised in relation to the proposed development and the land being within the coastal environment

area.

(2) *Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*

(a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comment:
This clause has been assessed against the subject site and the proposed development. No issues have been raised in relation to the proposed development and the land being within the coastal environment area.

As such, it is considered that the application does comply with the requirements of the State Environmental Planning Policy (Coastal Management) 2018.

15 Development in coastal zone generally—development not to increase risk of coastal hazards

Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land.

Comment:
The proposed development is contained wholly within the subject site and is considered to be minor alterations and additions to an existing dwelling house. The works are not likely to cause any increased risk of coastal hazards on that land or other land.

Pittwater Local Environmental Plan 2014

Is the development permissible?	Yes
After consideration of the merits of the proposal, is the development consistent with:	
aims of the LEP?	Yes
zone objectives of the LEP?	Yes

Principal Development Standards

Standard	Requirement	Proposed	% Variation	Complies
Height of Buildings:	Secondary Dwelling - 5.5m	6.8m	23.6%	No

Compliance Assessment

Clause	Compliance with Requirements
4.3 Height of buildings	No

Clause	Compliance with Requirements
4.6 Exceptions to development standards	Yes
5.4 Controls relating to miscellaneous permissible uses	Yes
5.10 Heritage conservation	Yes
7.1 Acid sulfate soils	Yes
7.2 Earthworks	Yes
7.6 Biodiversity protection	Yes
7.7 Geotechnical hazards	Yes
7.10 Essential services	Yes

Detailed Assessment

4.6 Exceptions to development standards

Description of non-compliance:

Development standard:	Height of buildings
Requirement:	5.5m
Proposed:	6.8m
Percentage variation to requirement:	23.6%

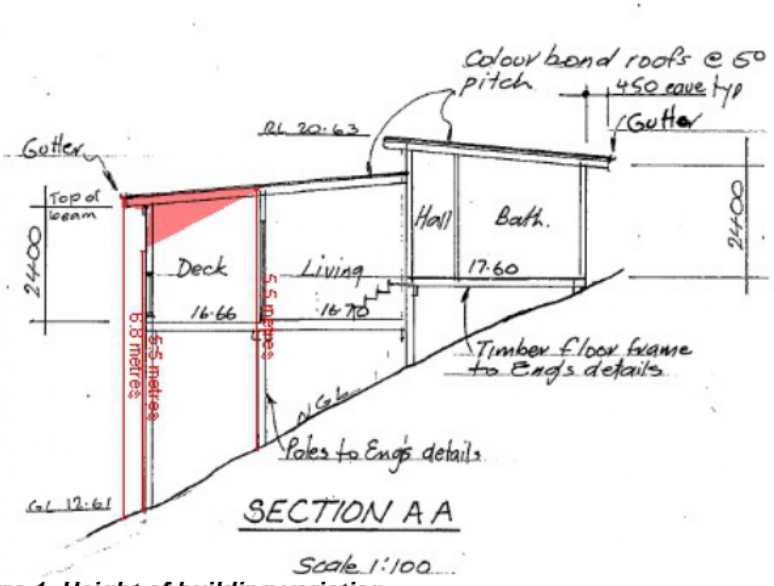


Figure 1: Height of building variation

Assessment of request to vary a development standard:
The following assessment of the variation to Clause 4.3 - Height of Buildings development standard, has taken into consideration the recent judgement contained within *Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Baron Corporation Pty Limited v Council of the City of Sydney [2019] NSWLEC 61,* and *RebelMH Neutral Bay Pty Limited v North Sydney Council [2019] NSWCA 130.*

Clause 4.6 Exceptions to development standards:
(1) The objectives of this clause are as follows:
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

Comment:
Clause 4.3 - Height of Buildings development standard is not expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:
(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

(4) Development consent must not be granted for development that contravenes a development standard unless:
(a) the consent authority is satisfied that:
(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and
(b) the concurrence of the Secretary has been obtained.

Clause 4.6 (4)(a)(i) (Justification) assessment:

Clause 4.6 (4)(a)(i) requires the consent authority to be satisfied that the applicant's written request, seeking to justify the contravention of the development standard, has adequately addressed the matters required to be demonstrated by cl 4.6(3). There are two separate matters for consideration contained within cl 4.6(3) and these are addressed as follows:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

Comment:
The Applicant's written request (attached to this report as an Appendix) has demonstrated that the objectives of the development standard are achieved, notwithstanding the non-compliance with the development standard.

In doing so, the Applicant's written request has adequately demonstrated that compliance with the development standard is unreasonable or unnecessary in the circumstances of this case as required by cl 4.6(3)(a).

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

Comment:
In the matter of Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Preston CJ provides the following guidance (para 23) to inform the consent authority's finding that the applicant's written request has adequately demonstrated that that there are sufficient environmental planning grounds to justify contravening the development standard:

'As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.'

s 1.3 of the EPA Act reads as follows:

1.3 Objects of Act(cf previous s 5)
The objects of this Act are as follows:
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,
(c) to promote the orderly and economic use and development of land,
(d) to promote the delivery and maintenance of affordable housing,
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),
(g) to promote good design and amenity of the built environment,
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,
(j) to provide increased opportunity for community participation in environmental planning and assessment.

The applicants written request argues, in part:

- *The non-compliance with the building height control arises as a result of the sloping topography of the site and location of existing development.*
- *The new works maintain a bulk and scale which is in keeping with the extent of surrounding development, with a consistent palette of materials and finishes which will provide for high quality development that will enhance and complement the locality.*
- *The new works will provide an attractive residential development that will add positively to the character and function of the local residential neighbourhood. It is noted that the proposal will maintain a consistent character with the built form of nearby properties, with the new roof form intended to complement the existing roofing by providing a low pitch skillion profile which assists with minimising the visual bulk of the development.*
- *The proposed new works will not see any unreasonable impacts on the existing views enjoyed by neighbouring properties, with view corridors over and past the roof extension to be maintained.*
- *The works are designed to ensure that there will not see any unreasonable adverse impacts on*

the solar access enjoyed by adjoining dwellings.
- *The surrounding area is predominantly characterised by development between one and three storeys.*

The proposed development maintains consistency with the height and scale of existing surrounding development. Whilst compliance with the height control is constrained by the sloping topography of the site and location of existing development, the development is considered appropriate and compatible within the locality and is therefore worthy of support'.

The applicant has satisfactorily demonstrated that the works are consistent with the objects of the EP&A Act, specifically the following objects of the EP&A Act:

- The development promotes the orderly and economic use and development of the land, in so far as the proposed development upgrades the useability of the dwelling and such building is an orderly response to the development of the site;
- The development promotes good design and amenity of the built environment, noting that the works will not contribute to any unreasonable impact on amenity considerations (i.e solar access, privacy and view loss) to neighbouring properties.
- The development promotes a suitable residential use appropriate for the zone.
- The development promotes the proper construction and maintenance of buildings, in so far as the bulk and scale of the proposed development is consistent with the streetscape, notwithstanding the non-compliance with the standard.

In this regard, the applicant's written request has demonstrated that the proposed development is an orderly and economic use and development of the land, and that the structure is of a good design that will reasonably protect and improve the amenity of the surrounding built environment, therefore satisfying cls 1.3 (c) and (g) of the EPA Act.

Therefore, the applicant's written request has adequately demonstrated that there are sufficient environmental planning grounds to justify contravening the development standard as required by cl 4.6 (3)(b).

Therefore, Council is satisfied that the applicant's written request has adequately addressed the matters required to be demonstrated by cl 4.6(3).

Clause 4.6 (4)(a)(ii) (Public Interest) assessment:
cl 4.6 (4)(a)(ii) requires the consent authority to be satisfied that:

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out

Comment:
In considering whether or not the proposed development will be in the public interest, consideration must be given to the underlying objectives of the Height of Buildings development standard and the objectives of the R2 Low Density Residential zone. An assessment against these objectives is provided below.

Objectives of development standard
The underlying objectives of the standard, pursuant to Clause 4.3 – 'Height of buildings' of the PLEP 2014 are:

(1) The objectives of this clause are as follows:

a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,

Comment:
The proposal involves a secondary dwelling that steps down with the topography of the site, and has a proposed top level that is well articulated and stepped back from the lower levels. This provides a situation in which the proposed building would be consistent with the desired character of the
locality.

b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,

Comment:
The surrounding and nearby development consists of two and three storey dwelling houses located on steep and vegetated sites. The proposed single storey secondary dwelling is therefore considered compatible with regard to the surrounding buildings with regard to height and scale.

c) to minimise any overshadowing of neighbouring properties,

Comment:
The secondary dwelling provides sufficient setbacks and ensures that the development complies with the requirements under C1.4 Solar Access of the Pittwater DCP.

d) to allow for the reasonable sharing of views,

Comment:
The proposal achieves a reasonable level of view sharing. The adjoining property to the rear would have the most vulnerable views however, due to the slope of the site and location of the proposal views remain unobstructed. The adjoining properties to the side do not gain views across the proposed location of the secondary dwelling.

e) to encourage buildings that are designed to respond sensitively to the natural topography,

Comment:
The proposal has been designed to step down with the slope of the land and the use of pier and footings minimises the need for extensive excavation. The proposal is also designed to retain the majority of significant vegetation onsite.It is considered that the proposal responds appropriately to the topography of the land.

f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items,

Comment:
The proposal complies with the relevant setback, building envelope, and landscaping requirements ensuring that the visual impact of the development is minimised. Additionally, a condition will be included in the consent requiring the development to be finished in colours and materials that are of dark and earthy tones or natural finishes which are sympathetic to the surrounding natural environment. The site is not identified as a heritage

item or located within the vicinity of a heritage item.

Zone objectives
The underlying objectives of the E4 Environmental Living zone are:

The underlying objectives of the E4 Environmental Living zone

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*

  Comment:
  The secondary dwelling has been positioned in a way that retains significant canopy trees and minimises visual impact from Nareen Parade. The secondary dwelling is a permissible form of development which comprises of two bedrooms, provided additional housing choice within a low density residential setting.

- *To ensure that residential development does not have an adverse effect on those values.*

  Comment:
  The proposed secondary dwelling has been considered against controls contained within the Pittwater LEP, in particular clause 7.6 Biodiversity. The proposal has been reviewed by Council's Biodiversity officer and found to be designed and sited in a way that avoids significant adverse impacts to natural environment, including vegetation.

- *To provide for residential development of a low density and scale integrated with the landform and landscape.*

  Comment:
  The scale of the building is not inconsistent with the surrounding development which consists of two and three storey dwelling houses. The projection of the roof form over the 5.5m maximum height requirement is in character for the area and does not result in a building that is considered excessive by virtue of its height and scale.

- *To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.*

  Comment:
  There will remain sufficient area within the site to accommodated new landscape plantings. Replacement planting of native vegetation and canopy trees has been conditioned as part of this proposal. The proposal will not have a detrimental impact to wildlife corridors.

Conclusion:
For the reasons detailed above, the proposal is considered to be consistent with the objectives of the E4 Environmental Living zone.

Clause 4.6 (4)(b) (Concurrence of the Secretary) assessment:
cl. 4.6(4)(b) requires the concurrence of the Secretary to be obtained in order for development consent to be granted.

Planning Circular PS 18-003 dated 21 February 2018, as issued by the NSW Department of Planning, advises that the concurrence of the Secretary may be assumed for exceptions to development standards under environmental planning instruments that adopt Clause 4.6 of the Standard Instrument.

In this regard, given the consistency of the variation to the objectives of the zone, and in accordance with correspondence from the Deputy Secretary on 24 May 2019, Council staff under the delegation of the Development Determination Panel, may assume the concurrence of the Secretary for variations to the Height of building Development Standard associated with a single dwelling house (Class 1 building).

7.7 Geotechnical hazards

Under Clause 7.7 Geotechnical Hazards, before determining a development application for development on land to which this clause applies, the consent authority must consider the following matters to decide whether or not the development takes into account all geotechnical risks:

(a) site layout, including access,
(b) the development's design and construction methods,
(c) the amount of cut and fill that will be required for the development,
(d) waste water management, stormwater and drainage across the land,
(e) the geotechnical constraints of the site,
(f) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

Comment:
The proposed development is supported by a geotechnical risk assessment, architectural plans, and stormwater management plans that demonstrate all geotechnical risks have been taken into account.

Development consent must not be granted to development on land to which this clause applies unless:
(a) the consent authority is satisfied that the development will appropriately manage waste water, stormwater and drainage across the land so as not to affect the rate, volume and quality of water leaving the land, and

Comment:
The proposed development is supported by a geotechnical risk assessment and stormwater management plans that demonstrate waste water, stormwater and drainage are suitable managed on site.

(b) the consent authority is satisfied that:
(i) the development is designed, sited, and will be managed to avoid any geotechnical risk and significant adverse impact on the development and the land surrounding the development, or
(ii) if that risk or impact cannot be reasonably avoided - the development is designed, sited and will be managed to minimise that risk or impact, or
(iii) if that risk or impact cannot be minimised - the development will be managed to mitigate that risk or impact.

Comment:
A geotechncial risk assessment was submitted. Council can be satisfied that the proposed development has been designed, sited, and will be managed to avoid any geotechnical risk and significant adverse impact on the development and the land surrounding the development.

Pittwater 21 Development Control Plan

Built Form Controls

Built Form Control	Requirement	Proposed	Complies
Front building line	6.5m	9.5m	Yes

Rear building line	6.5m	40.4m	Yes
Side building line	West - 2.5m	3.1m	Yes
	East- 1m	2.4m	Yes
Building envelope	West - 3.5m	Within envelope	Yes
	East - 3.5m	Within envelope	Yes
Landscaped area	60%	64.2%	Yes

Compliance Assessment

Clause	Compliance with Requirements	Consistency Aims/Objectives
A1.7 Considerations before consent is granted	Yes	Yes
A4.11 North Narrabeen Locality	Yes	Yes
B1.3 Heritage Conservation - General	Yes	Yes
B1.4 Aboriginal Heritage Significance	Yes	Yes
B3.1 Landslip Hazard	Yes	Yes
B3.6 Contaminated Land and Potentially Contaminated Land	Yes	Yes
B4.4 Flora and Fauna Habitat Enhancement Category 2 and Wildlife Corridor	Yes	Yes
B4.22 Preservation of Trees and Bushland Vegetation	Yes	Yes
B5.15 Stormwater	Yes	Yes
B6.3 Off-Street Vehicle Parking Requirements	No	Yes
B8.3 Construction and Demolition - Waste Minimisation	Yes	Yes
B8.4 Construction and Demolition - Site Fencing and Security	Yes	Yes
B8.6 Construction and Demolition - Traffic Management Plan	Yes	Yes
C1.1 Landscaping	Yes	Yes
C1.2 Safety and Security	Yes	Yes
C1.3 View Sharing	Yes	Yes
C1.4 Solar Access	Yes	Yes
C1.5 Visual Privacy	Yes	Yes
C1.6 Acoustic Privacy	Yes	Yes
C1.7 Private Open Space	Yes	Yes
C1.11 Secondary Dwellings and Rural Worker's Dwellings	Yes	Yes
C1.12 Waste and Recycling Facilities	Yes	Yes
C1.13 Pollution Control	Yes	Yes
C1.23 Eaves	Yes	Yes
D11.1 Character as viewed from a public place	Yes	Yes
D11.3 Building colours and materials	Yes	Yes
D11.6 Front building line	Yes	Yes
D11.7 Side and rear building line	Yes	Yes
D11.9 Building envelope	Yes	Yes

Clause	Compliance with Requirements	Consistency Aims/Objectives
D11.11 Landscaped Area - Environmentally Sensitive Land	Yes	Yes
D11.14 Construction, Retaining walls, terracing and undercroft areas	No	Yes
D11.15 Scenic Protection Category One Areas	Yes	Yes

Detailed Assessment

B6.3 Off-Street Vehicle Parking Requirements

Description of non-compliance
One additional off-street parking space has not been provided for the secondary dwelling which does not comply with the requirement for a total of three spaces to be provided on site.

Merit consideration:
With regard to the consideration for a variation, the development is considered against the underlying Objectives of the Control as follows:

- *An adequate number of parking and service spaces that meets the demands generated by the development.*
  Comment
  The proposal maintains two off street parking spaces onsite. The site is located within a residential area where on-street parking available for the future residents of the secondary dwelling. Sufficient off street parking space has been provided that will meet the demand generated by the development.

- *Functional parking that minimises rainwater runoff and adverse visual or environmental impacts while maximising pedestrian and vehicle safety. Safe and convenient parking.*
  Comment
  To facilitate an additional parking space a substantial increase in hardsurfaced area and excavation would be required as well as removal of significant trees. The proposal provides for safe and convenient parking arrangement which will not have a detrimental effect upon pedestrian and vehicle safety.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant objectives of P21 DCP and the objectives specified in s1.3 of the Environmental Planning and Assessment Act, 1979. Accordingly, this assessment finds that the proposal is supported,
in this particular circumstance.

D11.14 Construction, Retaining walls, terracing and undercroft areas

Description of non-compliance
The proposed development has a undercroft of a maximum height of 4.5m. The control requires undercroft areas shall be limited to a maximum height of 3.5 metres. Adequate landscaping shall be provided to screen undercroft areas.

Merit consideration
The development has been considered against the underlying Outcomes within D11.14 Construction,

Retaining walls, terracing and undercroft areas of Pittwater DCP as outlined below:

- *To achieve the desired future character of the Locality*
  Comment:
  The proposed development achieves the desired future character of the North Narrabeen Locality in that the building will maintain a predominant two storey dwelling form when viewed from Nareen Parade. The development has been designed to step down the slope to ensure it is integrated with the natural landform and landscape and is consistent with the siting, bulk and scale of dwellings located along the northern side of Nareem Parade.

- *To protect and minimise disturbance to natural landforms*
  Comment:
  The undercroft area does not result in excavation (apart from footings) to provide for the development. The proposed construction method has lesser impact upon the natural landform than a design that would require excavation and will protect and minimise disturbance to natural lands forms.

- *To encourage building design to respond sensitively to natural topography*
  Comment:
  The development has been designed to step down with the natural topography of the site. The development complies with the side setbacks and maintains the general appearance of a two storey dwelling when viewed from Nareem Parade. The proposed seconadry dwelling is consistent with surrounding developments that are located on similar steeply sloping sites and has been designed to ensure the bulk and scale will not dominate the natural topography of the site.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant objectives of P21 DCP and the objectives specified in s1.3 of the Environmental Planning and Assessment Act, 1979. Accordingly, this assessment finds that the proposal is supported,
in this particular circumstance.

THREATENED SPECIES, POPULATIONS OR ECOLOGICAL COMMUNITIES

The proposal will not significantly affect threatened species, populations or ecological communities, or their habitats.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposal is consistent with the principles of Crime Prevention Through Environmental Design.

POLICY CONTROLS

Northern Beaches Section 7.12 Contributions Plan 2019

The proposal is subject to the application of Northern Beaches Section 7.12 Contributions Plan 2019.

A monetary contribution of $ 655 is required for the provision of new and augmented public infrastructure. The contribution is calculated as 0.5% of the total development cost of $ 130,980.

CONCLUSION

The site has been inspected and the application assessed having regard to all documentation submitted by the applicant and the provisions of:

- Environmental Planning and Assessment Act 1979;
- Environmental Planning and Assessment Regulation 2000;
- All relevant and draft Environmental Planning Instruments;
- Pittwater Local Environment Plan;
- Pittwater Development Control Plan; and
- Codes and Policies of Council.

This assessment has taken into consideration the submitted plans, Statement of Environmental Effects, all other documentation supporting the application and public submissions, and does not result in any unreasonable impacts on surrounding, adjoining, adjacent and nearby properties subject to the conditions contained within the recommendation.

In consideration of the proposal and the merit consideration of the development, the proposal is considered to be:

- Consistent with the objectives of the DCP
- Consistent with the zone objectives of the LEP
- Consistent with the aims of the LEP
- Consistent with the objectives of the relevant EPIs
- Consistent with the objects of the Environmental Planning and Assessment Act 1979

Council is satisfied that:

1) The Applicant's written request under Clause 4.6 of the Pittwater Local Environmental Plan 2014 seeking to justify a contravention of Clause 4.3 Height of Buildings has adequately addressed and demonstrated that:

a) Compliance with the standard is unreasonable or unnecessary in the circumstances of the case; and
b) There are sufficient environmental planning grounds to justify the contravention.

2) The proposed development will be in the public interest because it is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

In summary, as addressed within this assessment report, the proposed development does not comply with clause 4.3 Height of Buildings under PLEP 2014 and the formal request via clause 4.6 Exception to development standard has been assessed and considered acceptable in this instance.

The proposal does not give rise to any unreasonable amenity impact or visual impact, and is consistent with the objectives of the PLEP 2014 and P21 DCP. It is considered that the proposed development satisfies the appropriate controls and that all processes and assessments have been satisfactorily addressed. Therefore, the application is recommended for approval.

It is considered that the proposed development satisfies the appropriate controls and that all processes

and assessments have been satisfactorily addressed.
It is considered that the proposed development satisfies the appropriate controls and that all processes and assessments have been satisfactorily addressed.

RECOMMENDATION

That Northern Beaches Council as the consent authority vary clause 4.3 Height of Building development standard pursuant to clause 4.6 of the PLEP 2014 as the applicant's written request has adequately addressed the merits required to be demonstrated by subclause (3) and the proposed development will be in the public interest and is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

Accordingly Council as the consent authority grant Development Consent to DA2021/0457 for Construction of a secondary dwelling on land at Lot 36 DP 11356, 44 Nareen Parade, NORTH NARRABEEN, subject to the conditions printed below:

DEVELOPMENT CONSENT OPERATIONAL CONDITIONS

1. **Approved Plans and Supporting Documentation**
The development must be carried out in compliance (except as amended by any other condition of consent) with the following:

a) Approved Plans

Architectural Plans - Endorsed with Council's stamp		
Drawing No.	**Dated**	**Prepared By**
Plans & Elevations	11.1.21	R. Conway
Section A.A, Notes & Specification	11.1.21	R. Conway
Site Analysis Plan Site, Landscape, Sediment & Drainage	11.1.21	R. Conway

Reports / Documentation – All recommendations and requirements contained within:		
Report No. / Page No. / Section No.	**Dated**	**Pr**
BASIX Certificate Certificate number: 1172005S_02	2 February 2021	Eff
Nationwide House Energy Rating Scheme NatHERS Certificate No. 0005632211	29 Jan 2021	Eff
Arboricultural Impact Appraisal and Method Statement	27 March 2021	Na
Geotechnical Investigation: New Granny Flat at 44 Nareen Parade, North Narrabeen J3271	10th March, 2021	Wł

b) Any plans and / or documentation submitted to satisfy the Deferred Commencement Conditions of this consent as approved in writing by Council.

c) Any plans and / or documentation submitted to satisfy the Conditions of this consent.

d) The development is to be undertaken generally in accordance with the following:

Waste Management Plan		
Drawing No/Title.	**Dated**	**Prepared By**
Waste Management Plan At 44 Nareen Parade North Narrabeen	27/04/2021	Rick's Drafting Pty. Ltd. Building Designers

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent will prevail.

Reason: To ensure the work is carried out in accordance with the determination of Council and approved plans.

2. **Prescribed Conditions**

(a) All building works must be carried out in accordance with the requirements of the Building Code of Australia (BCA).

(b) BASIX affected development must comply with the schedule of BASIX commitments specified within the submitted BASIX Certificate (demonstrated compliance upon plans/specifications is required prior to the issue of the Construction Certificate);

(c) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(i) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(ii) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(iii) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

(d) Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the following information:

(i) in the case of work for which a principal contractor is required to be appointed:

A. the name and licence number of the principal contractor, and

B. the name of the insurer by which the work is insured under Part 6 of that Act,

(ii) in the case of work to be done by an owner-builder:

A. the name of the owner-builder, and

B. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under becomes out of date, further work must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the updated information.

(e) Development that involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

(i) protect and support the adjoining premises from possible damage from the excavation, and

(ii) where necessary, underpin the adjoining premises to prevent any such damage.

(iii) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

(iv) the owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

In this clause, allotment of land includes a public road and any other public place.

Reason: Legislative requirement.

3. **General Requirements**

(a) Unless authorised by Council:
Building construction and delivery of material hours are restricted to:

- 7.00 am to 5.00 pm inclusive Monday to Friday,
- 8.00 am to 1.00 pm inclusive on Saturday,
- No work on Sundays and Public Holidays.

Demolition and excavation works are restricted to:

- 8.00 am to 5.00 pm Monday to Friday only.

(Excavation work includes the use of any excavation machinery and the use of jackhammers, rock breakers, excavators, loaders and the like, regardless of whether the activities disturb or alter the natural state of the existing ground stratum or are breaking up/removing materials from the site).

(b) Should any asbestos be uncovered on site, its demolition and removal must be carried out in accordance with WorkCover requirements and the relevant Australian Standards.

(c) At all times after the submission the Notice of Commencement to Council, a copy of the Development Consent and Construction Certificate is to remain onsite at all times until the issue of a final Occupation Certificate. The consent shall be available for perusal of any Authorised Officer.

(d) Where demolition works have been completed and new construction works have not commenced within 4 weeks of the completion of the demolition works that area affected by the demolition works shall be fully stabilised and the site must be maintained in a safe and clean state until such time as new construction works commence.

(e) Onsite toilet facilities (being either connected to the sewer or an accredited sewer management facility) for workers are to be provided for construction sites at a rate of 1 per 20 persons.

(f) Prior to the release of the Construction Certificate, payment of the Long Service Levy is required. This payment can be made at Council or to the Long Services Payments Corporation. Payment is not required where the value of the works is less than $25,000. The Long Service Levy is calculated on 0.35% of the building and construction work. The levy rate and level in which it applies is subject to legislative change. The applicable fee at the time of payment of the Long Service Levy will apply.

(g) The applicant shall bear the cost of all works associated with the development that occurs on Council's property.

(h) No skip bins, building materials, demolition or excavation waste of any nature, and no hoist, plant or machinery (crane, concrete pump or lift) shall be placed on Council's footpaths, roadways, parks or grass verges without Council Approval.

(i) Demolition materials and builders' wastes are to be removed to approved waste/recycling centres.

(j) No trees or native shrubs or understorey vegetation on public property (footpaths, roads, reserves, etc.) or on the land to be developed shall be removed or damaged during construction unless specifically approved in this consent including for the erection of any fences, hoardings or other temporary works.

(k) Prior to the commencement of any development onsite for:

i) Building/s that are to be erected

ii) Building/s that are situated in the immediate vicinity of a public place and is dangerous to persons or property on or in the public place

iii) Building/s that are to be demolished

iv) For any work/s that is to be carried out

v) For any work/s that is to be demolished

The person responsible for the development site is to erect or install on or around the development area such temporary structures or appliances (wholly within the development site) as are necessary to protect persons or property and to prevent unauthorised access to the site in order for the land or premises to be maintained in a safe or healthy condition. Upon completion of the development, such temporary structures or appliances are to be removed within 7 days.

(l) A "Road Opening Permit" must be obtained from Council, and all appropriate charges paid, prior to commencement of any work on Council property. The owner/applicant shall be responsible for all public utilities and services in the area of the work, shall notify all relevant Authorities, and bear all costs associated with any repairs and/or adjustments as those Authorities may deem necessary.

(m) The works must comply with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice.

(n) Requirements for new swimming pools/spas or existing swimming pools/spas affected by building works.

(1) Child resistant fencing is to be provided to any swimming pool or lockable cover to any spa containing water and is to be consistent with the following;

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 2018

(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.

(2) A 'KEEP WATCH' pool safety and aquatic based emergency sign, issued by Royal Life Saving is to be displayed in a prominent position within the pool/spa area.

(3) Filter backwash waters shall be conveyed to the Sydney Water sewerage system in sewered areas or managed on-site in unsewered areas in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system.

(4) Swimming pools and spas must be registered with the Division of Local Government.

Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community.

FEES / CHARGES / CONTRIBUTIONS

4. **Policy Controls**
Northern Beaches 7.12 Contributions Plan 2019

A monetary contribution of $654.90 is payable to Northern Beaches Council for the provision of local infrastructure and services pursuant to section 7.12 of the Environmental Planning & Assessment Act 1979 and the Northern Beaches Section 7.12 Contributions Plan 2019. The monetary contribution is based on a development cost of $130,980.00.

The monetary contribution is to be paid prior to the issue of the first Construction Certificate or Subdivision Certificate whichever occurs first, or prior to the issue of the Subdivision Certificate where no Construction Certificate is required. If the monetary contribution (total or in part) remains unpaid after the financial quarter that the development consent is issued, the amount unpaid (whether it be the full cash contribution or part thereof) will be adjusted on a quarterly basis in accordance with the applicable Consumer Price Index. If this situation applies, the cash contribution payable for this development will be the total unpaid monetary contribution as adjusted.

The proponent shall provide to the Certifying Authority written evidence (receipt/s) from Council that the total monetary contribution has been paid.

The Northern Beaches Section 7.12 Contributions Plan 2019 may be inspected at 725 Pittwater Rd, Dee Why and at Council's Customer Service Centres or alternatively, on Council's website at www.northernbeaches.nsw.gov.au

This fee must be paid prior to the issue of the Construction Certificate. Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To provide for contributions in accordance with the Contribution Plan to fund the provision of new or augmented local infrastructure and services.

5. **Security Bond**

A bond (determined from cost of works) of $1,500 and an inspection fee in accordance with Council's Fees and Charges paid as security are required to ensure the rectification of any damage that may occur to the Council infrastructure contained within the road reserve adjoining the site as a result of construction or the transportation of materials and equipment to and from the development site.

An inspection fee in accordance with Council adopted fees and charges (at the time of payment) is payable for each kerb inspection as determined by Council (minimum (1) one inspection).

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, and details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

To process the inspection fee and bond payment a Bond Lodgement Form must be completed with the payments (a copy of the form is attached to this consent and alternatively a copy is located on Council's website at www.northernbeaches.nsw.gov.au).

Reason: To ensure adequate protection of Council's infrastructure.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

6. **Installation of Nest Boxes**
At least 1 nest box suitable for native bird species (Kookaburra or Kingfisher) is to be installed in a retained tree within the site.

The nest box must be attached in accordance with industry best practice (e.g. expandable tree sensitive methods).

Written certification of compliance is to be prepared and submitted to the Certifying Authority prior to issue of the Construction Certificate.

Reason: To maintain wildlife habitat.

7. **Stormwater Drainage Disposal**
The stormwater drainage systems for the development are to be designed, installed and maintained in accordance with Council's Water Management for Development Policy.

All stormwater drainage systems must comply with the requirements of Council's Water Management for Development Policy. Any recommendations identified within a Geotechnical Report relevant to the development are to be incorporated into the design of the stormwater drainage system. Details demonstrating compliance from a qualified and practising Civil Engineer and where relevant a Geotechnical Engineer must be submitted to and approved by the Certifying Authority prior to the issue of a Construction Certificate.

When the proposed discharge point for the development in this consent cannot strictly comply with the Water Management for Development Policy, the Applicant must apply to verify the proposed discharge point by gaining Council approval via a Stormwater Drainage Application. Council approval must be provided to the Certifying Authority prior to the issue of a Construction Certificate when a Stormwater Drainage Application is required. The Stormwater Drainage Application form can be found on Council's website.

Compliance with this condition must not result in variations to the approved development or

additional tree removal.

Reason: To ensure satisfactory management of stormwater.

8. **Facilities**
The new building that is proposed to be constructed as a secondary dwelling is required to comply with Part 3.8.3 of the Building Code of Australia –'Facilities'. Details demonstrating compliance are to be provided to the Certifying Authority prior to the issue of the Construction Certificate.
Reason: To ensure adequate provision is made for building occupant health and amenity.

9. **Compliance with Standards**
The development is required to be carried out in accordance with all relevant Australian Standards.

Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure the development is constructed in accordance with appropriate standards.

10. **External Finishes to Roof**
The external finish to the roof shall have a medium to dark range (BCA classification M and D) in order to minimise solar reflections to neighbouring properties. Any roof with a metallic steel finish is not permitted.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure that excessive glare or reflectivity nuisance does not occur as a result of the development. (DACPLC03)

11. **Sydney Water "Tap In"**
The approved plans must be submitted to the Sydney Water Tap in service, prior to works commencing, to determine whether the development will affect any Sydney Water assets and/or easements. The appropriately stamped plans must then be submitted to the Certifying Authority demonstrating the works are in compliance with Sydney Water requirements.

Please refer to the website www.sydneywater.com.au for:
- "Tap in" details - see http://www.sydneywater.com.au/tapin
- Guidelines for Building Over/Adjacent to Sydney Water Assets.

Or telephone 13 000 TAP IN (1300 082 746).

Reason: To ensure compliance with the statutory requirements of Sydney Water.

12. **Waste Management Plan**
A Waste Management Plan must be prepared for this development. The Plan must be in accordance with the Development Control Plan.

Details demonstrating compliance must be provided to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure that any demolition and construction waste, including excavated material, is reused, recycled or disposed of in an environmentally friendly manner.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

13. **Project Arborist**
A Project Arborist, with minimum AQF Level 5 in arboriculture, shall be engaged to provide tree protection measures in accordance with the Arboricultural Impact Appraisal and Method Statement dated 27 March prepared by Naturally Trees and Australian Standard 4970-2009 Protection of Trees on Development Sites. The Project Arborist is to specify and oversee all tree protection measures such as tree protection fencing, trunk and branch protection and ground protection.

The Project Arborist is to supervise all demolition, excavation and construction works near all trees to be retained including construction methods near the existing trees to protect tree roots, trunks, branches and canopy. Where required, manual excavation is to occur ensuring no tree root at or >25mm (Ø) is damaged by works unless approved by the Project Arborist.

Existing ground levels shall be maintained within the tree protection zone of trees to be retained unless authorised by the Project Arborist.

All tree protection measures specified must:

a) be in place before work commences on the site, and

b) be maintained in good condition during the construction period, and

c) remain in place for the duration of the construction works.

The Project Arborist shall provide certification to the Certifying Authority that all recommendations listed for the protection of the existing tree(s) have been carried out satisfactorily to ensure no impact to the health of the tree(s). Photographic documentation of the condition of all trees to be retained shall be recorded including at commencement, during the works and at completion.

Note: i) A separate permit or development consent may be required if the branches or roots of a protected tree on the site or on an adjoining site are required to be pruned or removed.

ii) Any potential impact to trees as assessed by the Project Arborist will require redesign of any approved component to ensure existing trees upon the subject site and adjoining properties are preserved and shall be the subject of a modification application where applicable.

Reason: Tree protection.

14. **Tree Removal Within the Property**
This consent approves the removal of the 13 trees within the property as recommended in the Arboricultural Impact Appraisal and Method Statement dated 27 March prepared by Naturally Trees

Note: Exempt Species as listed in the Development Control Plan or the Arboricultural Impact

Assessment do not require Council consent for removal.

Reason: To enable authorised building works.

15. **Dead or Injured Wildlife**
If construction activity associated with this development results in injury or death of a native mammal, bird, reptile or amphibian, a registered wildlife rescue and rehabilitation organisation must be contacted for advice.

Reason: To protect native wildlife.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

16. **Protection of Landscape Features and Sites of Significance**
All natural landscape features including natural rock outcrops, natural vegetation, soil and watercourses are to remain undisturbed during demolition, excavation and construction works except where affected by works detailed on approved plans.

Should any Aboriginal Cultural Heritage items be uncovered during earthworks, works should cease in the area and the Aboriginal Heritage Office contacted to assess the finds.

Under Section 89a of the NPW Act should the objects be found to be Aboriginal, NSW Biodiversity and Conservation Division, Heritage NSW and the Metropolitan Local Aboriginal Land Council (MLALC) should be contacted.

Reason: Preservation of significant environmental features.

17. **Tree and Vegetation Protection**

a) Existing trees and vegetation shall be retained and protected including:
   i) all trees and vegetation within the site not approved for removal, excluding exempt trees and vegetation under the relevant planning instruments of legislation,
   ii) all trees and vegetation located on adjoining properties,
   iii) all road reserve trees and vegetation.

b) Tree protection shall be undertaken as follows:
   i) tree protection shall be in accordance with the Arboricultural Impact Appraisal and Method Statement dated 27 March prepared by Naturally Trees and Australian Standard 4970-2009 Protection of Trees on Development Sites including the provision of temporary fencing to protect existing trees within 5 metres of development,
   ii) existing ground levels shall be maintained within the tree protection zone of trees to be retained unless authorised by the Project Arborist,
   iii) removal of existing tree roots at or >25mm (Ø) diameter is not permitted without consultation with the Project Arborist,
   iv) no excavated material, building material storage, site facilities, nor landscape materials are to be placed within the canopy dripline of trees and other vegetation required to be retained,
   v) structures are to bridge tree roots at or >25mm (Ø) diameter unless directed by the Project Arborist on site,

vi) excavation for stormwater lines and all other utility services is not permitted within the tree protection zone without consultation with the Project Arborist including advice on root protection measures,

vii) should either or all of v), vi) and vii) occur during site establishment and construction works, an Arborist with minimum AQF Level 5 in arboriculture shall provide recommendations for tree protection measures. Details including photographic evidence of works undertaken shall be submitted by the Arborist to the Certifying Authority,

viii) any temporary access to or location of scaffolding within the tree protection zone of a protected tree or any other tree to be retained during the construction works is to be undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of Australian Standard 4970-2009 Protection of Trees on Development Sites,

ix) the activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites shall not occur within the tree protection zone of any tree on the lot or any tree on an adjoining site,

x) tree pruning from within the site to enable approved works shall not exceed 10% of any tree canopy and shall be in accordance with Australian Standard 4373-2007 Pruning of Amenity Trees,

xi) the tree protection measures specified in this clause must:
i) be in place before work commences on the site, and
ii) be maintained in good condition during the construction period, and
iii) remain in place for the duration of the construction works.

The Certifying Authority must ensure that:

c) The activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites do not occur within the tree protection zone of any tree and any temporary access to or location of scaffolding within the tree protection zone of a protected tree or any other tree to be retained on the site during the construction is undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of that standard.

Note: All street trees within the road verge and trees within private property are protected under Northern Beaches Council development control plans except where Council's written consent for removal has been obtained. The felling, lopping, topping, ringbarking or removal of any tree(s) is prohibited.

Reason: Tree and vegetation protection.

18. **Installation and Maintenance of Sediment and Erosion Controls**
Council proactively regulates construction sites for sediment management.

Sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) and the Erosion and Sediment Control Plan prepared by R. Conway prior to commencement of any other works on site.

Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and vegetation cover has been re-established across 70 percent

of the site, and the remaining areas have been stabilised with ongoing measures such as jute mesh or matting.

Reason: Protection of the receiving environment.

19. **Waste Management During Development**
The reuse, recycling or disposal of waste during works must be done generally in accordance with the Waste Management Plan for this development.

Details demonstrating compliance must be submitted to the Principal Certifying Authority.

Reason: To ensure demolition and construction waste is recycled or reused and to limit landfill.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

20. **Required Tree Planting**
a) Trees shall be planted in accordance with the following:

i) 1x *Syncarpia glomulifera;* within the grounds of the property; minimum pot size 200mm

b) Tree planting shall be located within a 9m² deep soil area wholly within the site and be located a minimum of 3 metres from existing and proposed buildings and other trees.

c) Tree planting shall be located to minimise significant impacts on neighbours in terms of blocking winter sunlight or where the proposed tree location may impact upon significant views.

d) Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate.

Reason: To maintain environmental amenity.

21. **Condition of Retained Vegetation - Project Arborist**
Prior to the issue of any Occupation Certificate a report prepared by the project arborist shall be submitted to the Certifying Authority assessing the health and impact on all existing trees required to be retained including the following information:

a) compliance to any Arborist recommendations for tree protection generally and during excavation works,
b) extent of damage sustained by vegetation as a result of the construction works,
c) any subsequent remedial works required to ensure the long term retention of the vegetation.

Reason: Tree protection.

22. **Replacement of Canopy Trees**
At least 3 locally native canopy trees are to be planted on site to replace protected trees approved for removal. Species are to have a minimum mature height of 8.5m and be consistent with species removed from site (1 x *Eucalyptus* sp. and 2 x *Allocasuarina torulosa*).

Tree plantings are to be retained for the life of the development and/or for their safe natural life. Trees that die or are removed must be replaced with another locally native canopy tree.

Replacement plantings are to be certified as being completed in accordance with these conditions of consent by a qualified landscape architect, and details submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To establish appropriate native landscaping.

23. **No Weeds Imported On To The Site**

No Priority or environmental weeds (as specified on the NSW WeedWise website) are to be imported on to the site prior to or during construction works.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To reduce the risk of site works contributing to spread of Priority and environmental weeds.

24. **Waste Management Confirmation**
Prior to the issue of a Final Occupation Certificate, evidence / documentation must be submitted to the Principal Certifying Authority that all waste material from the development site arising from demolition and/or construction works has been appropriately recycled, reused or disposed of generally in accordance with the approved Waste Management Plan.

Reason: To ensure demolition and construction waste is recycled or reused and to limit landfill.

25. **External Building Colours and Materials**
The external building colours and materials of the secondary dwelling shall be of dark and earthy tones.

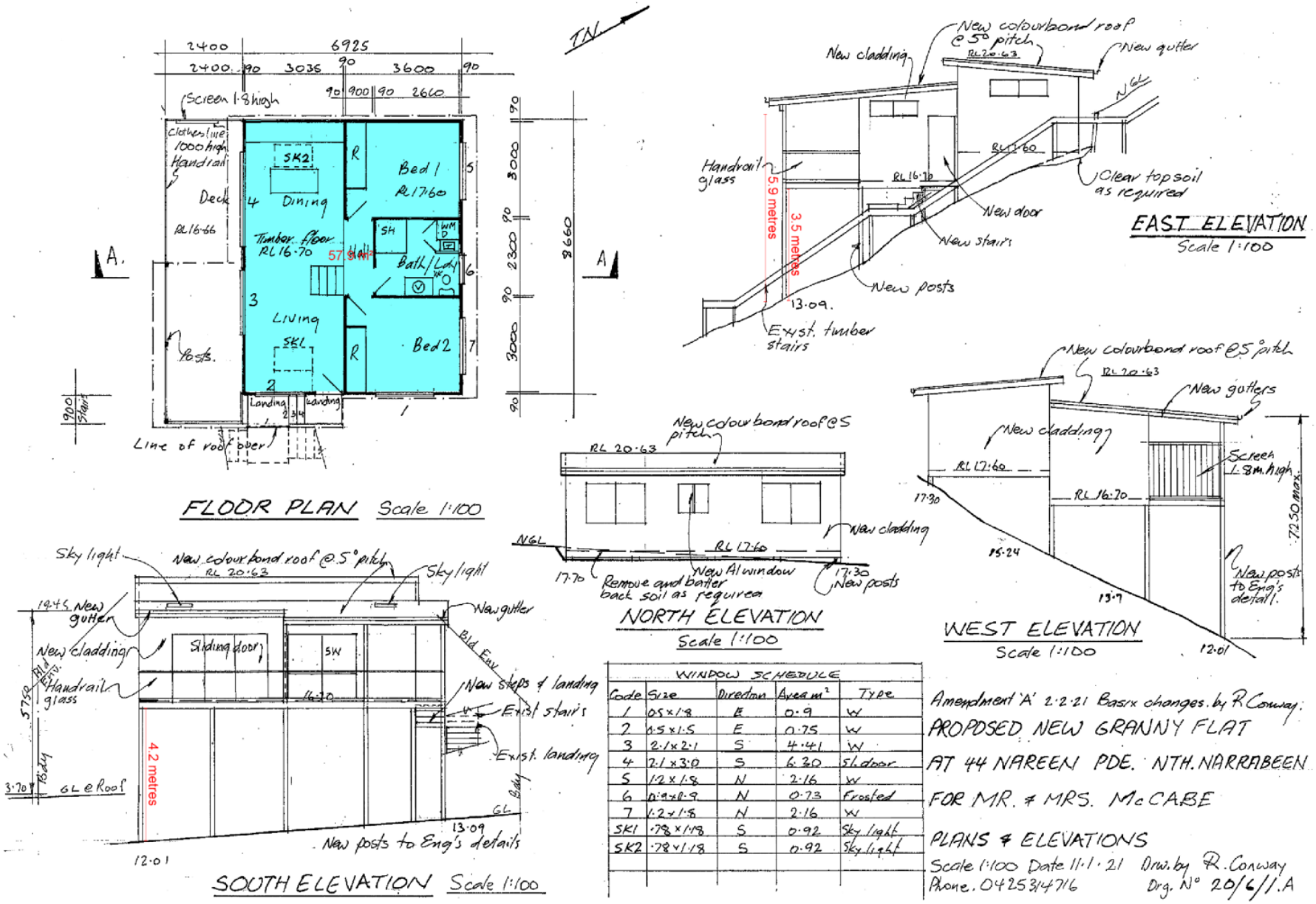
Details demonstrating compliance are to be submitted to the certifying authority prior to the issue of the final Occupation Certificate.

Reason: To minimise visual glare and ensure the development compliments the natural environment.

26. **Removal of All Temporary Structures/Material and Construction Rubbish**
Once construction has been completed all silt and sediment fences, silt, rubbish, building debris, straw bales and temporary fences are to be removed from the site.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure bushland management.



WINDOW SCHEDULE

Code	Size	Direction	Area m²	Type
1	0.5 x 1.8	E	0.9	W
2	0.5 x 1.5	E	0.75	W
3	2.1 x 2.1	S	4.41	W
4	2.1 x 3.0	S	6.30	SL door
5	1.2 x 1.8	N	2.16	W
6	0.9 x 0.9	N	0.73	Frosted
7	1.2 x 1.8	N	2.16	W
SK1	.78 x 1.18	S	0.92	Sky light
SK2	.78 x 1.18	S	0.92	Sky light

Amendment 'A' 2.2.21 Basix changes by R Conway.

PROPOSED NEW GRANNY FLAT

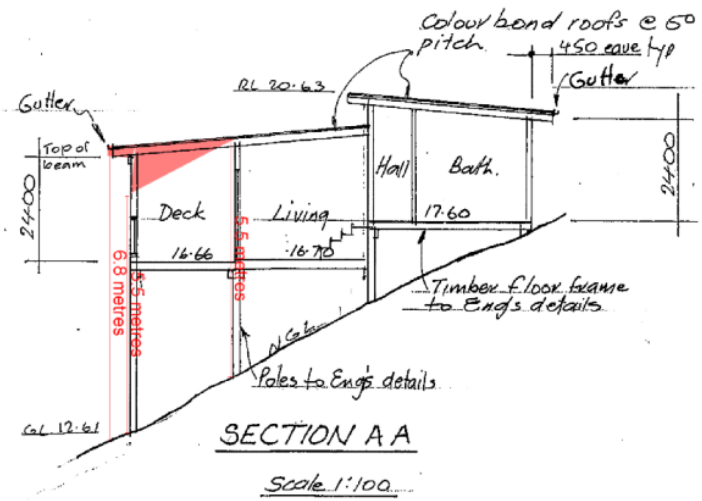
AT 44 NAREEN PDE. NTH. NARRABEEN

FOR MR. & MRS. McCABE

PLANS & ELEVATIONS

Scale 1:100 Date 11.1.21 Drw. by R. Conway

Phone. 0425 314 716 Drg. N° 20/6/1.A



SECTION A A

Scale 1:100

NOTES & SPECIFICATION

1. All dimensions shall be checked on site prior to ordering materials
2. All materials and workmanship shall comply with S.A.A. code BCA and Basix report.
3. New roof shall be colourbond – medium colour @ 5° pitch
4. New floor framing shall be treated timber to Eng's details
5. New columns shall be to Eng's details
6. Internal linings shall be gyprock and villa board in wet areas
7. Wet areas shall be waterproofed
8. New deck shall be timber
9. New hand rails shall be glass. 1000 high
10. New external stairs and landings shall be treated timber or hardwood.
11. Internal stairs shall be timber
12. New deck posts shall be as per Eng's details
13. New foundations shall be concrete
14. New kitchen and bath/Ldy shall be connected into the Board's sewer system.
15. All roof water shall be collected and piped to tanks under the house with the overflow going to Councils kerb and gutter
16. S/W tanks shall be determined as per Basix Report.
17. Provide insulation as per Basix Report
18. New cladding shall be weathertex or similar F/C material
19. Windows and doors shall be improved aluminium
20. Fascia, gutter and down pipes shall be colourbond
21. Roof windows shall be Velux or similar
22. Excavate north easter corner under house, minor only
23. Tiling in kitchen & bath/ldy as per owners request.
24. The Western wall and the first 500mm of the North & South walls shall be sound proof treated as they are near the inclinator

PROPOSED NEW GRANNY FLAT

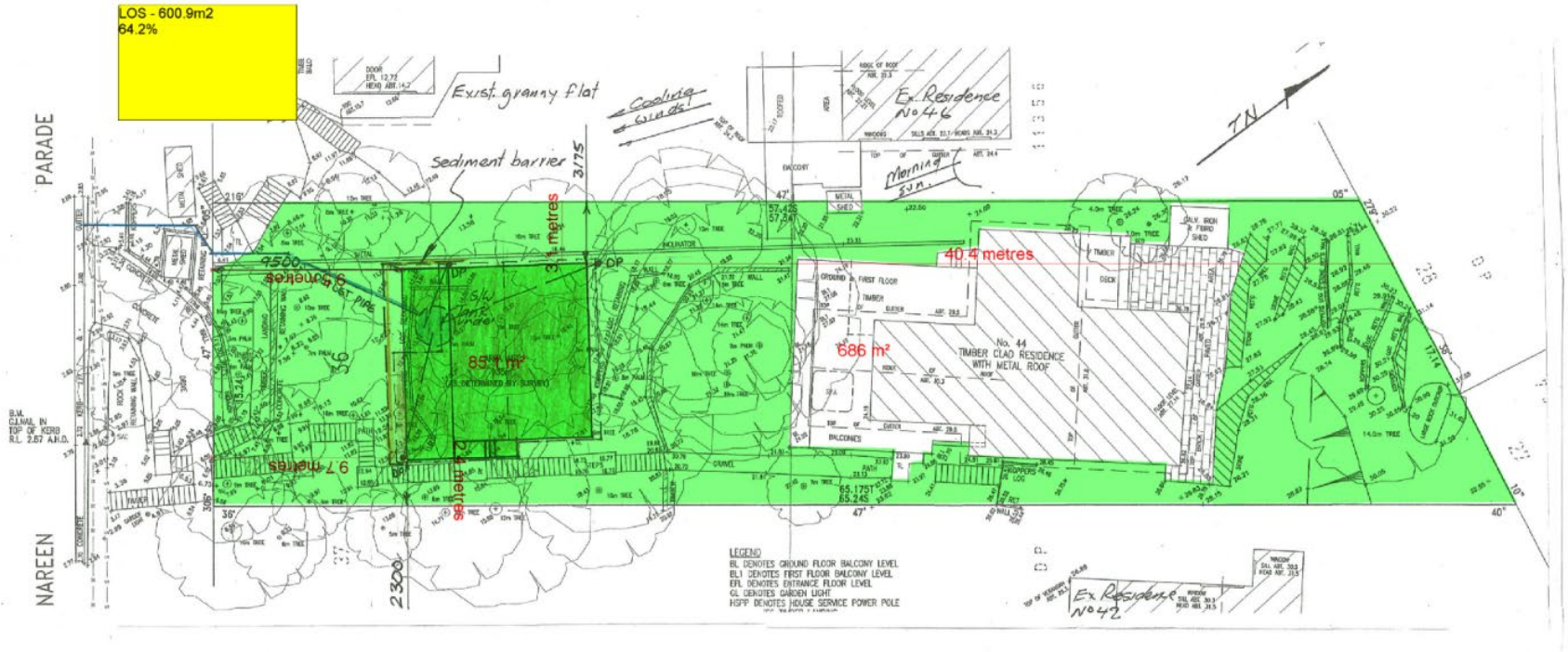
AT 44 NAREEN PDE. NTH. NARRABEEN

FOR MR. & MRS. Mc CABE

SECTION A·A, NOTES & SPECIFICATION

Scale 1:100 Date 11·1·21 Drw. by R. Conway

Phone 0425 344716 20/6/12



SITE ANALYSIS, SITE, LANDSCAPE, STORMWATER & SEDIMENT CONTROL PLAN Scale 1:200

DRAINAGE

All drainage shall discharge into Councils kerb & gutter after being piped to s/w tanks under the proposed building

WASTE MANAGEMENT

All waste shall be taken to Kimbriki or similar depot and recycled where possible. The Contractor shall be Stumpy's dumpies. Rubbish shall be covered at all times

SEDIMENT CONTROL

A sediment cloth design shall be used to control sediment entering Councils s/w system or neighbours ps. see plan for location.

DEMOLITION

There is no demolition for this project.

GEOTECHNICAL

A geotechnical report has been included in the application

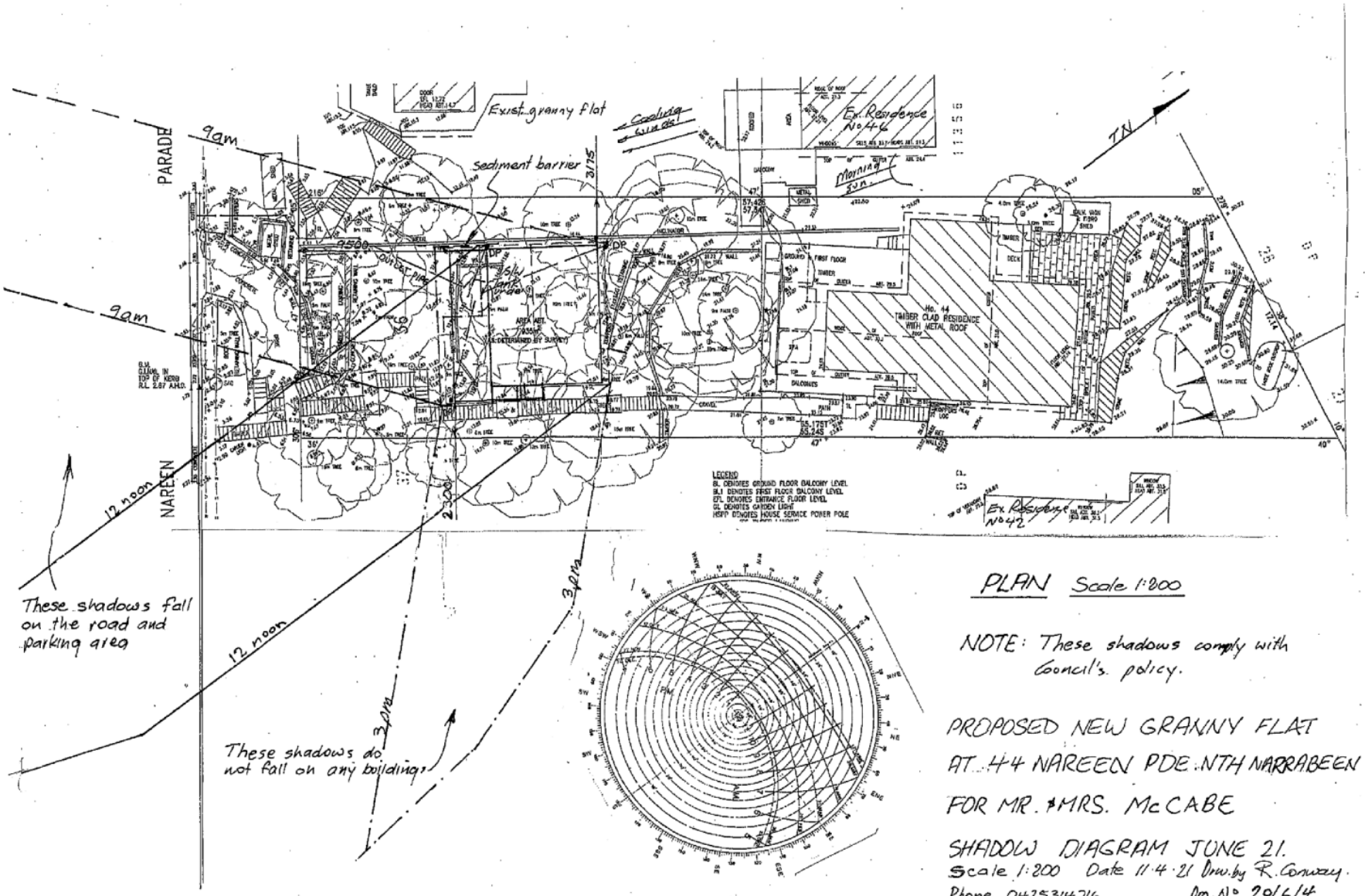
EXTERNAL FINISHES

Roof & gutters - Colorbond - Medium colour Monument.
Walls - F/C sheeting
Windows - Aluminium. Antique White
Decks - Timber - tallow wood.
Supports - Treated timber or as per Engineer

PROPOSED NEW GRANNY FLAT

AT 44 NAREEN PDE. NTH. NARRABEEN

FOR MR & MRS McCABE
SITE ANALYSIS PLAN
SITE, LANDSCAPE, SEDIMENT & DRAINAGE
Scale 1:100 Date 11.1.21 Drw. by R. Conway
Phone 0425314716 Drg. N° 20/6/3



PLAN Scale 1:200

NOTE: These shadows comply with Council's policy.

PROPOSED NEW GRANNY FLAT
AT 44 NAREEN PDE. NTH NARRABEEN
FOR MR. & MRS. McCABE

SHADOW DIAGRAM JUNE 21.
Scale 1:200 Date 11.4.21 Drw. by R. Conway.
Phone 0425314716 Drg. No 20/6/4

WRITTEN REQUEST PURSUANT TO CLAUSE 4.6 OF PITTWATER LOCAL ENVIRONMENTAL PLAN 2014

44 NAREEN PARADE, NORTH NARRABEEN FOR THE PROPOSED CONSTRUCTION OF A DETACHED SECONDARY DWELLING

VARIATION OF A DEVELOPMENT STANDARD REGARDING THE WORKS WHICH EXCEED COUNCIL'S MAXIMUM BUILDING HEIGHT AS DETAILED IN CLAUSE 4.3(2FA) OF THE PITTWATER LOCAL ENVIRONMENTAL PLAN 2014

For:	Proposed construction of a detached secondary dwelling
At:	44 Nareen Parade, North Narrabeen
Owner:	Mr & Mrs McCabe
Applicant:	Mr & Mrs McCabe C/- R. Conway

1.0 Introduction

This written request is made pursuant to the provisions of Clause 4.6 of Pittwater Local Environmental Plan 2014. In this regard it is requested Council support a variation with respect to compliance with the maximum building height as described in Clause 4.3 of the Pittwater Local Environmental Plan 2014 (PLEP 2014).

2.0 Background

Clause 4.3 restricts the height of secondary dwellings within this area of the North Narrabeen locality and refers to the maximum height noted within the "*Height of Buildings Map*."

The relevant building height for a secondary dwelling which is separate to the principal dwelling in this locality in within land zoned E4 Environmental Living is 5.5m and is considered to be a development standard as defined by Section 4 of the Environmental Planning and Assessment Act.

Due to the sloping topography of the site and the proposed south-east facing skillion roof form provided to allow solar access and light, a portion of the new roof will be up to approximately 6.8m in height or exceed Council's maximum height control by 1.3m or 23.6%.

The substantial majority of the secondary dwelling is comfortably under Council's maximum height control of 5.5m above natural ground level.

The proposal is considered acceptable and there are sufficient environmental planning grounds to justify contravening the development standard.

The controls of Clause 4.3 are considered to be a development standard as defined in the Environmental Planning and Assessment Act, 1979.

Is Clause 4.3 of the LEP a development standard?

(a) The definition of "development standard" in clause 1.4 of the EP&A Act means standards fixed in respect of an aspect of a development and includes:

"(c) the character, location, siting, bulk, scale, shape, size, height, density, design or external appearance of a building or work,."

(b) Clause 4.3(2FA) relates to the maximum height of a building. Accordingly, Clause 4.3(2FA) is a development standard.

3.0 Purpose of Clause 4.6

The Pittwater Local Environmental Plan 2014 contains its own variations clause (Clause 4.6) to allow a departure from a development standard. Clause 4.6 of the LEP is similar in tenor to the former State Environmental Planning Policy No. 1, however the variations clause contains considerations which are different to those in SEPP 1. The language of Clause 4.6(3)(a)(b) suggests a similar approach to SEPP 1 may be taken in part.

There is recent judicial guidance on how variations under Clause 4.6 of the Standard Instrument should be assessed. These cases are taken into consideration in this request for variation.

In particular, the principles identified by Preston CJ in *Initial Action Pty Ltd vs Woollahra Municipal Council* [2018] NSWLEC 118 have been relied on in this request for a variation to the development standard.

4.0 Objectives of Clause 4.6

The objectives of Clause 4.6 are as follows:

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development, and
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The decision of Chief Justice Preston in Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118 ("Initial Action") provides guidance in respect of the operation of clause 4.6 subject to the clarification by the NSW Court of Appeal in ***RebelMH Neutral Bay Pty Limited v North Sydney Council [2019] NSWCA 130 at [1], [4] & [51]*** where the Court confirmed that properly construed, a consent authority has to be satisfied that an applicant's written request has in fact demonstrated the matters required to be demonstrated by cl 4.6(3).

Initial Action involved an appeal pursuant to s56A of the Land & Environment Court Act 1979 against the decision of a Commissioner.

At [90] of *Initial Action* the Court held that:

"In any event, cl 4.6 does not give substantive effect to the objectives of the clause in cl 4.6(1)(a) or (b). There is no provision that requires compliance with the objectives of the clause. In particular, neither cl 4.6(3) nor (4) expressly or impliedly requires that development that contravenes a development standard "achieve better outcomes for and from development". If objective (b) was the source of the Commissioner's test that non-compliant development should achieve a better environmental planning outcome for the site relative to a compliant development, the Commissioner was mistaken. Clause 4.6 does not impose that test."

The legal consequence of the decision in *Initial Action* is that clause 4.6(1) is not an operational provision and that the remaining clauses of clause 4.6 constitute the operational provisions.

Clause 4.6(2) of the LEP provides:

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

Clause 4.3(2FA) (the Maximum Building Height Control for secondary dwellings which are separate from the principal dwelling in zone E4 Environmental Living) is not excluded from the operation of clause 4.6 by clause 4.6(8) or any other clause of the LEP.

Clause 4.6(3) of the LEP provides:

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

The proposed development does not comply with the maximum building height development standard pursuant to Clause 4.3(2FA) of PLEP which specifies a maximum building height of 5.5m for secondary dwellings which are separate to the principal dwelling within Zone E4 Environmental Living. The proposed secondary dwelling results in a portion of the new roof form being up to 6.8m in height above the ground levels of the land in its natural state and exceeds the building height standard by 1.3m or 23.4%.

Strict compliance is considered to be unreasonable or unnecessary in the circumstances of this case and there are considered to be sufficient environmental planning grounds to justify contravening the development standard. The relevant arguments are set out later in this written request.

Clause 4.6(4) of PLEP provides:

(4) Development consent must not be granted for development that contravenes a development standard unless:
(a) the consent authority is satisfied that:
(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and
(b) the concurrence of the Planning Secretary has been obtained.

In *Initial Action* the Court found that clause 4.6(4) required the satisfaction of two preconditions ([14] & [28]). The first precondition is found in clause 4.6(4)(a). That precondition requires the formation of two positive opinions of satisfaction by the consent authority. The first positive opinion of satisfaction (cl 4.6(4)(a)(i)) is that the applicant's written request has adequately addressed the matters required to be demonstrated by clause 4.6(3)(a)(i) (*Initial Action* at [25]). The second positive opinion of satisfaction (cl 4.6(4)(a)(ii)) is that the proposed development will be in the public interest ***because*** it is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out (*Initial Action* at [27]). The second precondition is found in clause 4.6(4)(b). The second precondition requires the consent authority to be satisfied that that the concurrence of the Planning Secretary (of the Department of Planning and the Environment) has been obtained (*Initial Action* at [28]).

Under cl 64 of the *Environmental Planning and Assessment Regulation* 2000, the Secretary has given written notice dated 21 February 2018, attached to the Planning Circular PS 18-003 issued on 21 February 2018, to each consent authority, that it may assume the Secretary's concurrence for exceptions to development standards in respect of applications made under cl 4.6, subject to the conditions in the table in the notice.

Clause 4.6(5) of the LEP provides:

(5) In deciding whether to grant concurrence, the Secretary must consider:

(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and

(b) the public benefit of maintaining the development standard, and

(c) any other matters required to be taken into consideration by the Secretary before granting concurrence.

Council has the power under cl 4.6(2) to grant development consent for development that contravenes a development standard, if it is satisfied of the matters in cl 4.6(4)(a), and should consider the matters in cl 4.6(5) when exercising the power to grant development consent for development that

contravenes a development standard: *Fast Buck$ v Byron Shire Council* (1999) 103 LGERA 94 at 100; *Wehbe v Pittwater Council* at [41] (*Initial Action* at [29]).

Clause 4.6(6) relates to subdivision and is not relevant to the development. Clause 4.6(7) is administrative and requires the consent authority to keep a record of its assessment of the clause 4.6 variation. Clause 4.6(8) is only relevant so as to note that it does not exclude Clause 4.3 of the LEP from the operation of clause 4.6.

The specific objectives of Clause 4.6 are as follows:

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development, and
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The development will achieve a better outcome in this instance as the site will provide for the construction of a new detached secondary dwelling, which is consistent with the stated Objectives of the E4 Environmental Living Zone, which are noted as:

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*
- *To provide for residential development of a low density and scale integrated with the landform and landscape.*
- *To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.*

The non-compliance with the building height control arises as a result of the sloping topography of the site and location of existing development.

The new works maintain a bulk and scale which is in keeping with the extent of surrounding development, with a consistent palette of materials and finishes which will provide for high quality development that will enhance and complement the locality.

Notwithstanding the non-compliance with the maximum building height control, the new works will provide an attractive residential development that will add positively to the character and function of the local residential neighbourhood. It is noted that the proposal will maintain a consistent character with the built form of nearby properties, with the new roof form intended to complement the existing roofing by providing a low pitch skillion profile which assists with minimising the visual bulk of the development.

The proposed new works will not see any unreasonable impacts on the existing views enjoyed by neighbouring properties, with view corridors over and past the roof extension to be maintained.

The works are designed to ensure that there will not see any unreasonable adverse impacts on the solar access enjoyed by adjoining dwellings.

5.0 The Nature and Extent of the Variation

5.1 This request seeks a variation to the maximum building height standard contained in Clause 4.3(2FA) of PLEP.

5.2 Clause 4.3(2FA) of PLEP specifies a maximum building height of 5.5m for secondary dwellings which are separate to the principal dwelling in zone E4 Environmental Living.

5.3 The proposed new detached secondary dwelling will have a building height of 6.8m when measured above the ground level of the land in its undeveloped state and exceeds the building height control by 1.3m or 23.4% at the southern extremity of the proposed roof form.

6.0 Relevant Caselaw

6.1 In *Initial Action* the Court summarised the legal requirements of clause 4.6 and confirmed the continuing relevance of previous case law at [13] to [29]. In particular, the Court confirmed that the five common ways of establishing that compliance with a development standard might be unreasonable and unnecessary as identified in *Wehbe v Pittwater Council (2007) 156 LGERA 446; [2007] NSWLEC 827* continue to apply as follows:

> *17. The first and most commonly invoked way is to establish that compliance with the development standard is unreasonable or unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard: Wehbe v Pittwater Council at [42] and [43].*
>
> *18. A second way is to establish that the underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary: Wehbe v Pittwater Council at [45].*
>
> *19. A third way is to establish that the underlying objective or purpose would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable: Wehbe v Pittwater Council at [46].*
>
> *20. A fourth way is to establish that the development standard has been virtually abandoned or destroyed by the Council's own decisions in granting development consents that depart from the standard and hence compliance with the standard is unnecessary and unreasonable: Wehbe v Pittwater Council at [47].*
>
> *21. A fifth way is to establish that the zoning of the particular land on which the development is proposed to be carried out was unreasonable or inappropriate so that the development standard, which was appropriate for that zoning, was also unreasonable or unnecessary as it applied to that land and that compliance with the standard in the circumstances of the case would also be unreasonable or unnecessary: Wehbe v Pittwater Council at [48]. However,*

this fifth way of establishing that compliance with the development standard is unreasonable or unnecessary is limited, as explained in Wehbe v Pittwater Council at [49]-[51]. The power under cl 4.6 to dispense with compliance with the development standard is not a general planning power to determine the appropriateness of the development standard for the zoning or to effect general planning changes as an alternative to the strategic planning powers in Part 3 of the EPA Act.

22. These five ways are not exhaustive of the ways in which an applicant might demonstrate that compliance with a development standard is unreasonable or unnecessary; they are merely the most commonly invoked ways. An applicant does not need to establish all of the ways. It may be sufficient to establish only one way, although if more ways are applicable, an applicant can demonstrate that compliance is unreasonable or unnecessary in more than one way.

6.2 The relevant steps identified in *Initial Action* (and the case law referred to in *Initial Action*) can be summarised as follows:

1. Is Clause 4.3 of PLEP a development standard?

2. Is the consent authority satisfied that this written request adequately addresses the matters required by clause 4.6(3) by demonstrating that:

   (a) compliance is unreasonable or unnecessary; and

   (b) there are sufficient environmental planning grounds to justify contravening the development standard

3. Is the consent authority satisfied that the proposed development will be in the public interest because it is consistent with the objectives of Clause 4.3(2FA) and the objectives for development for in the E4 zone?

4. Has the concurrence of the Secretary of the Department of Planning and Environment been obtained?

5. Where the consent authority is the Court, has the Court considered the matters in clause 4.6(5) when exercising the power to grant development consent for the development that contravenes Clause 4.3(2FA) of PLEP?

7.0. Request for Variation

7.1 Is compliance with Clause 4.3 unreasonable or unnecessary?

(a) This request relies upon the 1st way identified by Preston CJ in Wehbe.

(b) The first way in Wehbe is to establish that the objectives of the standard are achieved.

(c) Each objective of the maximum building height standard, as outlined under Clause 4.3, and reasoning why compliance is unreasonable or unnecessary, is set out below:

(a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,

The surrounding area is predominantly characterised by development between one and three storeys.

The proposal provides for a development which follows the siting of existing dwelling and maintains a compatible building form, which is in keeping with the desired future character of the locality. The dwelling is in keeping with the extent of newer development in the locality.

(b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,

The proposed development maintains consistency with the height and scale of existing surrounding development.

Whilst compliance with the height control is constrained by the sloping topography of the site and location of existing development, the development is considered appropriate and compatible within the locality and is therefore worthy of support.

(c) to minimise any overshadowing of neighbouring properties,

The proposal is accompanied by shadow diagrams which demonstrate that the proposal will not result in a substantial reduction in the solar access currently received by the internal and external living areas of the adjoining neighbour to the south. As noted within the shadow diagrams, the considered design assists with minimising the overshadowing of the development.

The adjoining properties will maintain suitable solar access throughout the day in accordance with Council's provisions, the majority of the new shadows cast by the development to be over the front yards and roadway area.

(d) to allow for the reasonable sharing of views,

The subject and adjoining properties enjoy views to the east towards Bilgola Beach. The proposal will provide a new flat roof form over the first floor level.

The proposed modest extent of the new works assists with minimising the impact on neighbouring properties. The proposal is therefore considered to maintain the view opportunities for the surrounding properties.

The proposal will not result in any loss of views from nearby public land.

(e) to encourage buildings that are designed to respond sensitively to the natural topography,

The external form of the dwelling has been stepped to follow the sloping topography of the site, which assists with minimising the visual impact of the development.

(f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items.

The proposed development maintains a bulk, scale and character which is in keeping with that of existing surrounding development. The external finishes of the new works comprise earthy tones, which will effectively integrate with the landscaped character of the locality and will not be visually prominent. The proposal will not require the removal of any significant vegetation.

The proposal is not considered to detract from the significance of the nearby heritage items, and will not adversely impact the natural environment within the locality.

7.2 Are there sufficient environmental planning grounds to justify contravening the development standard?

In Initial Action the Court found at [23]-[24] that:

> *23. As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.*
>
> *24. The environmental planning grounds relied on in the written request under cl 4.6 must be "sufficient". There are two respects in which the written request needs to be "sufficient". First, the environmental planning grounds advanced in the written request must be sufficient "to justify contravening the development standard". The focus of cl 4.6(3)(b) is on the aspect or element of the development that contravenes the development standard, not on the development as a whole, and why that*

> *contravention is justified on environmental planning grounds. The environmental planning grounds advanced in the written request must justify the contravention of the development standard, not simply promote the benefits of carrying out the development as a whole: see* Four2Five Pty Ltd v Ashfield Council *[2015] NSWCA 248 at [15]. Second, the written request must demonstrate that there are sufficient environmental planning grounds to justify contravening the development standard so as to enable the consent authority to be satisfied under cl 4.6(4)(a)(i) that the written request has adequately addressed this matter: see* Four2Five Pty Ltd v Ashfield Council *[2015] NSWLEC 90 at [31].*

There are sufficient environmental planning grounds to justify contravening the development standard.

The proposed development achieves the objects in Section 1.3 of the EPA Act, specifically:

- The proposed development will maintain the general bulk and scale of the existing surrounding development and maintains architectural consistency with the prevailing development pattern which promotes the orderly & economic use of the land (cl 1.3(c)).

- Similarly, the proposed development will provide for improved amenity within a built form which is compatible with the streetscape of Nareen Parade the which also promotes the orderly and economic use of the land (cl 1.3(c)).

- The proposed new development is considered to promote good design and enhance the residential amenity of the buildings' occupants and the immediate area, which is consistent with the Objective 1.3 (g).

- The proposed development improves the amenity of the occupants and respects surrounding properties by locating the development where it will not unreasonably obstruct views across the site and will maintain the views from the site (1.3(g)).

The above environmental planning grounds are not general propositions. They are unique circumstances to the proposed development, particularly the provision of a building that provides sufficient floor area for future occupants and manages the bulk and scale and maintains views over and past the building from the public and private domain. These are not simply benefits of the development as a whole, but are benefits emanating from breach of the maximum building height control.

It is noted that in *Initial Action,* the Court clarified what items a Clause 4.6 does and does not need to satisfy. Importantly, there does not need to be a "better" planning outcome:

87. The second matter was in cl 4.6(3)(b). I find that the Commissioner applied the wrong test in considering this matter by requiring that the development, which contravened the height development standard, result in a "better environmental planning outcome for the site" relative to a development that complies with the height development standard (in [141] and [142] of the judgment). Clause 4.6 does not directly or indirectly establish this test. The

requirement in cl 4.6(3)(b) is that there are sufficient environmental planning grounds to justify contravening the development standard, not that the development that contravenes the development standard have a better environmental planning outcome than a development that complies with the development standard.

As outlined above, it is considered that in many respects, the proposal will provide for a better planning outcome than a strictly compliant development. At the very least, there are sufficient environmental planning grounds to justify contravening the development standard.

7.3 Is the proposed development in the public interest because it is consistent with the objectives of Clause 4.3 and the objectives of the E4 Environmental Living Zone?

(a) Section 4.2 of this written request suggests the 1st test in Wehbe is made good by the development.

(b) Each of the objectives of the E4 Environmental Living Zone and the reasons why the proposed development is consistent with each objective is set out below.

I have had regard for the principles established by Preston CJ in *Nessdee Pty Limited v Orange City Council [2017] NSWLEC 158* where it was found at paragraph 18 that the first objective of the zone established the range of principal values to be considered in the zone.

Preston CJ also found that "*The second objective is declaratory: the limited range of development that is permitted without or with consent in the Land Use Table is taken to be development that does not have an adverse effect on the values, including the aesthetic values, of the area. That is to say, the limited range of development specified is not inherently incompatible with the objectives of the zone".*

In response to *Nessdee,* I have provided the following review of the zone objectives:

It is considered that notwithstanding the variation of to the building height control, the proposal which involves the construction of a detached secondary dwelling, will be consistent with the individual Objectives of the E4 Environmental Living Zone for the following reasons:

- ***To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.***

The proposed dwelling maintains consistency with the single dwelling character of the locality. The proposal will not require the removal of any significant vegetation, and maintains a suitable area of soft landscaping.

- ***To ensure that residential development does not have an adverse effect on those values.***

  The proposed development will not detract from the ecological or aesthetic values within the locality.

- ***To provide for residential development of a low density and scale integrated with the landform and landscape.***

  The built form of the development is stepped to follow the sloping topography of the site, and is therefore effectively integrated into the landform. The bulk and scale of the dwelling is in keeping with that of newer development in the locality.

  The proposal will not require the removal of any significant vegetation, and will maintain a generous area of soft landscaping.

- ***To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.***

  The site is not within the immediate vicinity of riparian land or wildlife corridors.

7.4 Has council obtained the concurrence of the Director-General?

The Council can assume the concurrence of the Director-General with regards to this clause 4.6 variation.

7.5 Has the Council considered the matters in clause 4.6(5) of PLEP?

(a) The proposed non-compliance does not raise any matter of significance for State or regional environmental planning as it is peculiar to the design of the proposed minor alterations and additions to the dwelling house for the particular site and this design is not readily transferrable to any other site in the immediate locality, wider region of the State and the scale or nature of the proposed development does not trigger requirements for a higher level of assessment.

(b) As the proposed development is in the public interest because it complies with the objectives of the development standard and the objectives of the zone there is no significant public benefit in maintaining the development standard.

(c) there are no other matters required to be taken into account by the secretary before granting concurrence.

8.0 Conclusion

This development proposes a departure from the maximum building height development standard, with the proposed new roof form of the detached secondary dwelling which is separate to the principal dwelling to provide a maximum building height of 6.8m to the southern extremity of the building when measured above the natural ground level.

This variation occurs as a result of the sloping topography of the site.

The extent of the variation to the building height control is minimised by the low profile roof form, and the area of non-compliance does not result in any significant impact for the views and outlook for the neighbouring properties.

This written request to vary to the maximum building height standard specified in Clause 4.3(2FA) of the Pittwater LEP 2014 adequately demonstrates that that the objectives of the standard will be met.

The bulk and scale of the proposed development is appropriate for the site and locality.

Strict compliance with the maximum building height control would be unreasonable and unnecessary in the circumstances of this case.



VAUGHAN MILLIGAN
Town Planner

ITEM 3.3	**DA2021/0268 - 346 WHALE BEACH ROAD, PALM BEACH - DEMOLITION WORKS, LOT CONSOLIDATION AND CONSTRUCTION OF A DWELLING HOUSE INCLUDING SWIMMING POOL.**
REPORTING MANAGER	**Lashta Haidari**
TRIM FILE REF	**2021/490607**
ATTACHMENTS	**1 Assessment Report** **2 Working Plans** **3 Report - Clause 4.6**

PURPOSE

To refer the attached application for determination due to directions provided by the Department of Planning & Environment in relation to applications with a clause 4.6 variation to the building height.

RECOMMENDATION OF DEVELOPMENT ASSESSMENT MANAGER

THAT Council, as the consent authority, **approves** Development Consent to DA2021/0268 for Demolition works, lot consolidation and construction of a dwelling house including swimming pool on land at Lot 327 DP 16362 & Lot 328 DP 16362 & Lot 329 DP 16362 & Lot 330 DP 16362, 346 Whale Beach Road, Palm Beach, subject to the conditions outlined in the Assessment Report.

DEVELOPMENT APPLICATION ASSESSMENT REPORT

Application Number:	DA2021/0268

Responsible Officer:	Adam Mitchell
Land to be developed (Address):	Lot 328 DP 16362, 348 Whale Beach Road PALM BEACH NSW 2108 Lot 330 DP 16362, 352 Whale Beach Road PALM BEACH NSW 2108 Lot 329 DP 16362, 350 Whale Beach Road PALM BEACH NSW 2108 Lot 327 DP 16362, 346 Whale Beach Road PALM BEACH NSW 2108
Proposed Development:	Demolition works, lot consolidation and construction of a dwelling house including swimming pool
Zoning:	E4 Environmental Living
Development Permissible:	Yes
Existing Use Rights:	No
Consent Authority:	Northern Beaches Council
Delegation Level:	DDP
Land and Environment Court Action:	No
Owner:	David Barrett Wade Jennifer Ruth Wade
Applicant:	Harry Seidler & Associates

Application Lodged:	09/04/2021
Integrated Development:	No
Designated Development:	No
State Reporting Category:	Residential - Single new detached dwelling
Notified:	20/04/2021 to 04/05/2021
Advertised:	Not Advertised
Submissions Received:	0
Clause 4.6 Variation:	4.3 Height of buildings: 30.35%
Recommendation:	Approval

Estimated Cost of Works:	$ 12,693,563.00

Executive Summary

This proposal seeks consent for demolition works, lot consolidation and the construction of one new dwelling house.

The application is being reported to the Development Determination Panel as the proposed building height varies the requirement of Clause 4.3 of the Pittwater Local Environmental Plan 2014 by more than 10%. The building height reaches a maximum of 11.08m resulting in a 30.35% variation to the control requirements.

A previous Development Consent was issued on 14 June 2019 (DA2019/0231) for demolition works, lot consolidation and the construction of a dwelling house which granted a variation to Clause 4.3 of 36.4%, some 0.52m higher than the proposed. That consent has not been activated and shall be surrendered, should this application be approved. The previous approval has a similar height, footprint and extent of excavation as the current proposal.

This assessment has found that the proposed development is an appropriately designed dwelling house which retains a significant proportion of natural features including mature trees and rock outcrops. The application is supported by all internal and external stakeholders, subject to conditions.

The variation sought to Clause 4.3 is justified by the unusual topography and layout of the site, combined with the negligible impacts which that variation has upon the environment or amenity of neighbouring land, and the fact that it is a lesser breach than what has already been approved on the site.

The application has been assessed against the Environmental Planning and Assessment Act 1979 (EP&A Act 1979), Environmental Planning and Assessment Regulations 2000 (EP&A Regulations 2000), relevant Environmental Planning Instruments (EPIs) and Council policies. The outcome of this assessment is detailed within this report.

Accordingly, based on the detailed assessment contained in this report, it is recommended that the application be approved subject to conditions attached to this report.

PROPOSED DEVELOPMENT IN DETAIL

Development Application No. 2021/0268 seeks Development Consent for demolition works, ground works and the construction of a detached dwelling house across the land known as 346-352 Whale Beach Road, Palm Beach.

The application seeks to demolish the existing dwelling house and consolidate Lots 328, 329 and 330, otherwise known as 348-352 Whale Beach Road. The remaining Lot 327 (346 Whale Beach Road) to the south is to be partially managed as an inner protection area.

Specifically the application encompasses the following:

- Demolition of the existing three storey dwelling house;
- Removal of 29 trees and other shrubbery;
- Excavation of approximately 3,104m^3 of rock;
- Construction of a new vehicle access and driveway into the site from Whale Beach Road;
- Construction of a split-level six storey house with roof terrace and swimming pool spread across three primary pavilions, linked by floating bridges; and
- Associated landscaping works.

The works will result in one large (1,103.77m^2) dwelling house comprising of the following:

Level 0-1 (RL46.98 - 47.20)

- Four car lock-up garage;
- Entry foyer;
- Bin store;
- Stairwell and lift.

Level 0-2 (RL50.24 - 51.50)

- Plantroom;
- Storage;
- Wine cellar;
- Stairwell and lift.

Level 0-3 (RL53.00 - 55.00)

- Storage;
- Tank Room;
- Stairwell and lift.

Level 0-4 (RL55.00 - 57.00)

- Plantroom;
- Access courtyard to underside of swimming pool;
- Stairwell and lift.

Level 1 (RL60.00)

- Entry terrace;
- Three bedrooms;
- Three bathrooms;
- Storage;
- Pool plantroom;
- Family / TV room with bar / kitchenette;
- Stairwell and lift.

Level 2 (RL63.00)

- Two master suites inclusive of bedroom, walk-in-robe, ensuite and study space;
- Family / TV room;
- Kitchen and scullery;
- Living room;
- Dining room;
- Retreat;
- Bathroom;
- Bridge;
- Swimming pool with waterfall edge;
- Stairwell and lift.

Roof (RL66.425 - 66.90)

- Roof terrace;
- Solar panels;
- Glass roof skylights;
- Stairwell and lift.

ASSESSMENT INTRODUCTION

The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act 1979 and the associated Regulations. In this regard:

- An assessment report and recommendation has been prepared (the subject of this report) taking into account all relevant provisions of the Environmental Planning and Assessment Act 1979, and the associated regulations;
- A site inspection was conducted and consideration has been given to the impacts of the development upon the subject site and adjoining, surrounding and nearby properties;
- Notification to adjoining and surrounding properties, advertisement (where required) and referral to relevant internal and external bodies in accordance with the Act, Regulations and relevant Development Control Plan;
- A review and consideration of all submissions made by the public and community interest groups in relation to the application;
- A review and consideration of all documentation provided with the application (up to the time of determination);
- A review and consideration of all referral comments provided by the relevant Council Officers, State Government Authorities/Agencies and Federal Government Authorities/Agencies on the proposal.

SUMMARY OF ASSESSMENT ISSUES

Pittwater Local Environmental Plan 2014 - 4.6 Exceptions to development standards
Pittwater 21 Development Control Plan - A4.12 Palm Beach Locality
Pittwater 21 Development Control Plan - C1.3 View Sharing
Pittwater 21 Development Control Plan - D12.1 Character as viewed from a public place
Pittwater 21 Development Control Plan - D12.5 Front building line
Pittwater 21 Development Control Plan - D12.6 Side and rear building line
Pittwater 21 Development Control Plan - D12.8 Building envelope
Pittwater 21 Development Control Plan - D12.10 Landscaped Area - Environmentally Sensitive Land

SITE DESCRIPTION

Property Description:	Lot 328 DP 16362 , 348 Whale Beach Road PALM BEACH NSW 2108 Lot 330 DP 16362 , 352 Whale Beach Road PALM BEACH NSW 2108 Lot 329 DP 16362 , 350 Whale Beach Road PALM BEACH NSW 2108 Lot 327 DP 16362 , 346 Whale Beach Road PALM BEACH NSW 2108

Detailed Site Description:	The subject development site consists of four Lots known as 346 - 352 Whale Beach Road, Palm Beach. In ascending order from no. 346 - 352 Whale Beach Road, these Lots are known as Lot 327, 328, 329 and 330 in Deposited Plan 16362. The four Lots are surveyed to have areas of 604.6m^2 (Lot 327), 554.2m^2 (Lot 328), 526.2m^2 (Lot 329) and 584.6m^2 (Lot 330) resulting in a cumulative surveyed area of 2,269.6m^2. Of these four Lots, Lot 329 accommodates a part one / part two storey detached dwelling house with a series of timber and concrete decks and terraces which sprawl out across the adjoining Lots 328 and 330. Lot 327 is vacant and appears to never have been built upon. The site has one car parking space on Whale Beach Road and an access staircase on Lot 329. Pursuant to the *Pittwater Local Environmental Plan 2014* (PLEP) the site is zoned E4 Environmental Living. Herein this description, these four Lots are referred to as **the site**. The site has a 79.385m wide frontage to the south-western side of Whale Beach Road and has an average depth of 29.776m. The site experiences a steep slope of approximately 40 - 60 degrees in a north-easterly direction down towards Whale Beach Road. The slope is made up of rocky contours and significant rock formations and boulders scattered throughout the site. There are no known Aboriginal items on the land, however the northern portion of the site is attributed as having a high probability of heritage items, and the land across Whale Beach Road is recognised as having an extremely high likelihood. Within or immediately adjacent to the site there are a surveyed 74 trees of varying significance and retention value. The vegetation within the site consists of coastal scrub and health with predominantly locally-indigenous species. Clearances around the dwelling also contain a variety of non-local native and exotic species. The trees generally range between 3m to 18m in height. The site is not within a Heritage Conservation Area under Schedule 5, Part 2 of the PLEP, but is in proximity to a property at no. 336 Whale Beach Road, listed as Heritage Item No. 2270014 under the PLEP. This property accommodates a dwelling known as 'Cox House' (or 'Chanen Palm Beach House') which is considered to be a

	good example of contemporary Australian residential architecture. <u>Surrounding Development</u> The general Palm Beach locale is characterised as accommodating large residential properties within a landscaped setting, the majority of which enjoy views of either the Pacific Ocean to the east or Pittwater to the west, or both. Immediately adjoining the site to the south is a narrow strip of Council-owned land (Lot 356 DP 16362) known as 344A Whale Beach Road, zoned for RE1 Public Recreation purposes. This strip of land does not serve any evident or immediate purpose. Further southeast of that land sits a dwelling house at 344 Whale Beach Road which is zoned E4. To the north of the site sits part one / part two storey dwelling know at 354 Whale Beach Road. Adjoining the rear of the site (west) are five Lots each containing dwelling houses known as 2 and 4 Rock Bath Road and 31, 33 and 35 Pacific Road, Palm Beach. Also to the rear and northwards of these five properties lies the Annie Wyatt Reserve (known as 4A Rock Bath Road) which is largely bushland and zoned RE1. To the east of the site and across Whale Beach Road lies dense bush and scrub across 17 Lots zoned RE1. This bushland is inaccessible and drops steeply to the Pacific Ocean below.

Map:



SITE HISTORY

The land has been used for residential purposes for an extended period of time. A search of Council's records has revealed the following relevant history:

- **Development Application No. 2019/0231** for demolition works, construction of a dwelling house including swimming pool and consolidation of 346, 348, 350 and 352 Whale Beach Road, Palm Beach, approved by Council on 14 June 2019.

The works approved in that application are similar to the proposed development in that it sought to amalgamate several lots and construct one large dwelling house across those lots. The dwelling house approved is roughly of the same footprint and height and requires the same level of excavation to that of the proposed dwelling. The works approved under DA2019/0231 have not been commenced at the time of writing, and it is understood that should this current DA be approved, that those works planned under DA2019/0268 would be abandoned.

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 (EPAA)

The relevant matters for consideration under the Environmental Planning and Assessment Act, 1979, are:

Section 4.15 Matters for Consideration'	Comments
Section 4.15 (1) (a)(i) – Provisions of any environmental planning instrument	See discussion on "Environmental Planning Instruments" in this report.
Section 4.15 (1) (a)(ii) – Provisions of any draft environmental planning instrument	Draft State Environmental Planning Policy (Remediation of Land) seeks to replace the existing SEPP No. 55 (Remediation of Land). Public consultation on the draft policy was completed on 13 April 2018. The subject site has been used for residential purposes for an extended period of time. The proposed development retains the residential use of the site, and is not considered a contamination risk.
Section 4.15 (1) (a)(iii) – Provisions of any development control plan	Pittwater 21 Development Control Plan 2014 applies to this proposal.
Section 4.15 (1) (a)(iiia) – Provisions of any planning agreement	None applicable.
Section 4.15 (1) (a)(iv) – Provisions of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation 2000)	Division 8A of the EP&A Regulation 2000 requires the consent authority to consider "Prescribed conditions" of development consent. These matters have been addressed via a condition of consent. Clauses 54 and 109 of the EP&A Regulation 2000 allow Council to request additional information. No additional information was requested in this case. Clause 92 of the EP&A Regulation 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter has been addressed via a condition of

Section 4.15 Matters for Consideration'	Comments
	consent. Clauses 93 and/or 94 of the EP&A Regulation 2000 requires the consent authority to consider the upgrading of a building (including fire safety upgrade of development). This clause is not relevant to this application. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider insurance requirements under the Home Building Act 1989. This matter has been addressed via a condition of consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider the provisions of the Building Code of Australia (BCA). This matter has been addressed via a condition of consent.
Section 4.15 (1) (b) – the likely impacts of the development, including environmental impacts on the natural and built environment and social and economic impacts in the locality	(i) **Environmental Impact** The environmental impacts of the proposed development on the natural and built environment are addressed under the Pittwater 21 Development Control Plan 2014 section in this report. (ii) **Social Impact** The proposed development will not have a detrimental social impact in the locality considering the character of the proposal. (iii) **Economic Impact** The proposed development will not have a detrimental economic impact on the locality considering the nature of the existing and proposed land use.
Section 4.15 (1) (c) – the suitability of the site for the development	The site is considered suitable for the proposed development.
Section 4.15 (1) (d) – any submissions made in accordance with the EPA Act or EPA Regs	See discussion on “Notification & Submissions Received” in this report.
Section 4.15 (1) (e) – the public interest	No matters have arisen in this assessment that would justify the refusal of the application in the public interest.

EXISTING USE RIGHTS

Existing Use Rights are not applicable to this application.

BUSHFIRE PRONE LAND

The site is classified as bush fire prone land. Section 4.14 of the Environmental Planning and Assessment Act 1979 requires Council to be satisfied that the development conforms to the specifications and requirements of the version (as prescribed by the regulations) of the document entitled Planning for Bush Fire Protection.

A Bush Fire Report was submitted with the application that included a certificate (prepared by Abel Ecology Pty Ltd, dated 03 March 2021) stating that the development conforms to the relevant specifications and requirements within Planning for Bush Fire Protection. The recommendations of the Bush Fire Report have been included as conditions of consent.

NOTIFICATION & SUBMISSIONS RECEIVED

The subject development application has been publicly exhibited from 20/04/2021 to 04/05/2021 in accordance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000 and the Community Participation Plan.

As a result of the public exhibition of the application Council received no submissions.

REFERRALS

Internal Referral Body	Comments
Landscape Officer	**Supported, with conditions** The development application is for the demolition of existing structures and the construction of a new dwelling house and associated works. Council's Landscape Referral is assessed against the Pittwater Local Environment Plan clause E4 zone Environmental Living, and the following Pittwater 21 DCP Controls: • B4.22 Preservation of Trees and Bushland Vegetation, • C1.1 Landscaping, • D12 Palm Beach Locality. The site is located in the E4 Environmental Living zone, requiring development to achieve a scale integrated with the landform and landscape, and to minimise impact on the natural environment, including the retention of natural landscape features and existing trees. Landscape Plans and a Arboricultural Impact Assessment is provided with the application in accordance with Council's DA Lodgement Requirements. The Landscape Plans provide a landscape scheme that satisfies the landscape outcome intent of LEP clause E4 and DCP clause C1.1 Landscaping, including the provision of additional native trees and other planting to enhance the landscape setting. The Arboricultural Impact Assessment provides an assessment of existing trees required to be removed to accommodate the proposed development footprint, and additionally provides tree protection measures for existing trees to be retained and protected. Eleven (11) native trees are recommended for retention, including four (4) of moderate to high retention value. A total of twenty-six (26) existing trees within the site are impacted by the development proposal and recommended for removal should this application be approved. Nineteen (19) are native trees, seven (7) are Exempt Species by species or by height and do not require Council

Internal Referral Body	Comments
	consent for removal. Of the nineteen (19) native trees, eleven (11) are assesses as trees with a moderate to high retention value. Three (3) trees within the road verge are also proposed for removal to accommodate the new crossover and driveway. Landscape Plans and a Arboricultural Impact Assessment are provided with the application, and the recommendations are supported. The Landscape Plans include tree replacement of twenty (20) native trees within the site, as well as additional landscape enhancement treatments that satisfy the landscape outcomes of the LEP clause E4 zone, and the DCP control C1.1. Landscape Referral raise no objection to the application, subject to the completion of landscape works and the protection of trees and vegetation.
NECC (Bushland and Biodiversity)	**Supported, with conditions** Council's Natural Environment Unit - Biodiversity referral team have reviewed the application for consistency against the relevant environmental legislation and controls, including: **Biodiversity Conservation Act 2016 (BC Act)** **Pittwater Local Environmental Plan (PLEP)** • 7.6 Biodiversity Protection **Pittwater Development Control Plan (PDCP)** • B4.3 Flora and Fauna Habitat Enhancement Category 2 • B4.17 Littoral Rainforest - Endangered Ecological Community The application seeks to demolish existing structures on-site and construct a new dwelling house on 348- 352 Whale Beach Road. Impacts associated with the proposal are the proposed removal of 26 trees (19 Prescribed, and 7 Exempt), as well as the establishment of an Asset Protection Zone (APZ) in areas surrounding the dwelling. The Arborist Report (Earthscape 2021) specifies that of the 19 Prescribed trees, 11 are of moderate to high value to be replaced elsewhere within the site in accordance with the submitted Landscape Plan (Dangar Barin Smith 2021) where bushfire landscaping provisions allow. Council's Biodiversity Officer inspected the site, and found vegetation within the proposed APZ to be largely weed infested, and expect that APZ standards can be achieved with the removal of exotic, exempt and non-locally native species only. The submitted 'Prescribed Ecological Actions Report' (Abel Ecology 2021) does not address Council's Littoral Rainforest mapping in the south of the site, however the development and APZ has been located outside of this area, and is therefore compliant with B4.17 of the PDCP.

Internal Referral Body	Comments
	Subject to conditions the Bushland and Biodiversity referral team find the application to be consistent against relevant environmental controls.
NECC (Coast and Catchments)	***Supported, with conditions*** The application has been assessed in consideration of the *Coastal Management Act 2016,* State Environmental Planning Policy (Coastal Management) 2018 and has also been assessed against requirements of the Pittwater LEP 2014 and Pittwater 21 DCP. **Coastal Management Act 2016** The subject site has been identified as being within the coastal zone and therefore *Coastal Management Act 2016* is applicable to the proposed development. The proposed development is in line with the objects, as set out under Clause 3 of the *Coastal Management Act 2016.* **State Environmental Planning Policy (Coastal Management) 2018** The subject land has been included on the 'Coastal Use Area' map and not included on 'Coastal Vulnerability Area' maps under the State Environmental Planning Policy (Coastal Management) 2018 (CM SEPP). Hence, Clauses 13,14 and 15 of the CM SEPP apply for this DA. Comment: On internal assessment and as assessed in the submitted Statement of Environmental Effects (SEE) report prepared by Olivia Page (City Plan Strategy & Development) dated 21/03/21 the DA satisfies requirements under clauses 13,14 and 15 of the CM SEPP. As such, it is considered that the application does comply with the requirements of the State Environmental Planning Policy (Coastal Management) 2018. **Pittwater LEP 2014 and Pittwater 21 DCP** No other coastal related issues identified. As such, it is considered that the application does comply with the requirements of the coastal relevant clauses of the Pittwater LEP 2014 and Pittwater 21 DCP.
NECC (Development	**Supported, with conditions**

Internal Referral Body	Comments
Engineering)	The reviewed the OSD/stormwater plans for the development and the OSD tank sizing is acceptable however the method of disposal is not. A level spreader at the top of the Whale Beach Road reserve cliff is not acceptable. It is not a geotechnically sound approach to saturate a unstable rock face above Council's road carriageway. The stormwater disposal is best directed to have 2 pipe outlets fixed to the rock face with an appropriate separation. The stormwater can then discharge to the table drain and which flows to councils piped culvert system beneath Whale Beach Road. A Section 138 Roads act condition will be required to ensure Council's stormwater disposal to Whale Beach road is suitable. No objections are raised to the development subject to conditions.
NECC (Stormwater and Floodplain Engineering – Flood risk)	**Supported, without conditions** The property at 346 Whale Beach Rd is affected by the 1% AEP flood along the south-eastern side. However the properties at 348, 350 and 352 Whale Beach Rd, where the development is proposed, are not flood affected. No flood related objections.
NECC (Water Management)	**Supported, with conditions** A dewatering permit will be required if water collects in an excavation and needs removal by pump. Stormwater quality conditions apply.
Strategic and Place Planning (Heritage Officer)	**Supported, with conditions** HERITAGE COMMENTS Discussion of reason for referral The proposal has been referred to Heritage as the site is within the proximity of a heritage item, listed in Pittwater LEP 2014: **Item 2270014 - Cox House** - 356 Whale Beach Road Details of heritage items affected Details of the item as contained within the Northern Beaches heritage inventory is as follows: <u>Statement of significance:</u> It has aesthetic significance as a good example of Australian contemporary residential architecture, exploiting the spectacular views from the site and nestling closely into the cliff face below the Annie Wyatt Reserve. The house won the Sydney Morning Herald Popular House Award in 1990.

<table>
<tr><th>Internal Referral Body</th><th>Comments</th></tr>
<tr><td></td><td>
<u>Physical description:</u>
"...The house consists of three narrow stacked floors, the uppermost being a roof terrace with a small entry mezzanine and study to the west. The terrace facilitates retained ocean views from the reserve such that the arrival experience is one of minimal change to the setting. The mezzanine study space provides volume to the main living level above to which adjustable louvres allow penetration of light.
The planning aligns services spaces of bathroom, stairs and kitchen and a library along the cliff edge to enable living, dining and bedroom spaces, which are located at the middle level, to occupy the ocean frontage. Propping of the timber-framed structure off a narrow ledge at the base of the house allowed retention of mature trees close to the house, enhancing its priority upon minimal environmental impact"

Other relevant heritage listings
<table>
<tr><td>Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005</td><td>No</td><td></td></tr>
<tr><td>Australian Heritage Register</td><td>No</td><td></td></tr>
<tr><td>NSW State Heritage Register</td><td>No</td><td></td></tr>
<tr><td>National Trust of Aust (NSW) Register</td><td>No</td><td></td></tr>
<tr><td>RAIA Register of 20th Century Buildings of Significance</td><td>No</td><td></td></tr>
<tr><td>Other</td><td>N/A</td><td></td></tr>
</table>
Consideration of Application
The proposal seeks consent for the demolition of the existing building and the construction of a new residence, associated lot consolidation and landscaping. The heritage item is located to the north of the subject property across number 354 Whale Beach Road.

Given the physical separation afforded by the property in between, the proposal is considered to not impact upon the heritage item or its significance.

Therefore, no objections are raised on heritage grounds and no conditions required.

<u>Consider against the provisions of CL5.10 of PLEP 2014.</u>
</td></tr>
</table>

Internal Referral Body	Comments
	Is a Conservation Management Plan (CMP) Required? No Has a CMP been provided? No Is a Heritage Impact Statement required? No Has a Heritage Impact Statement been provided? No

External Referral Body	Comments
Ausgrid: (SEPP Infra.)	The proposal was referred to Ausgrid who raised no objections and recommended no conditions.
Aboriginal Heritage Office	**Supported, with Conditions** No sites are recorded in the current development area and the area of works has been subject to previous disturbance reducing the likelihood of surviving unrecorded Aboriginal sites. Whilst the area of works does not contain Aboriginal sites or Aboriginal heritage sensitivity, other portions of the DA area do. There is a large sandstone overhang on the property. According to the Due Diligence Code of Practice, any land within 20m of or in a rock shelter is considered to have Aboriginal heritage sensitivity and the potential to contain Aboriginal sites. Given the presence of these landscape features in the proposal area there is potential that the works may harm unrecorded Aboriginal sites which are protected under the NPW Act 1974. Harm to these landscape features should therefore be avoided during the construction phase of the works. Inadvertent impacts is considered harm under the NPW Act (1974). Storing materials, parking vehicles on an Aboriginal site or area likely to contain Aboriginal sites is considered harm. During construction all workers and contractors should be made aware of their obligations to avoid harm to Aboriginal sites and areas of Aboriginal sensitivity. Should any Aboriginal Cultural Heritage items be uncovered during earthworks, works should cease in the area and the Aboriginal Heritage Office assess the finds. Under Section 89a of the NPW Act should the objects be found to be Aboriginal, Heritage NSW and the Metropolitan Local Aboriginal Land Council (MLALC) should be contacted.

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)*

All, Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the merit assessment of this application.

In this regard, whilst all provisions of each Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the assessment,

many provisions contained within the document are not relevant or are enacting, definitions and operational provisions which the proposal is considered to be acceptable against.

As such, an assessment is provided against the controls relevant to the merit consideration of the application hereunder.

State Environmental Planning Policies (SEPPs) and State Regional Environmental Plans (SREPs)

SEPP 55 - Remediation of Land

Clause 7 (1) (a) of SEPP 55 requires the Consent Authority to consider whether land is contaminated. Council records indicate that the subject site has been used for residential purposes for a significant period of time with no prior land uses. In this regard it is considered that the site poses no risk of contamination and therefore, no further consideration is required under Clause 7 (1) (b) and (c) of SEPP 55 and the land is considered to be suitable for the residential land use.

SEPP (Building Sustainability Index: BASIX) 2004

A BASIX certificate has been submitted with the application (see Certificate No. 1176584S dated 10 March 2021). The BASIX Certificate is supported by an ABSA Assessor Certificate (see Certificate No. SC678SSLDI dated 10 March 2021).

The BASIX Certificate indicates that the development will achieve the following:

Commitment	Required Target	Proposed
Water	40	43
Thermal Comfort	Pass	Pass
Energy	50	50

A condition has been included in the recommendation of this report requiring compliance with the commitments indicated in the BASIX Certificate.

SEPP (Infrastructure) 2007

Ausgrid
Clause 45 of the SEPP requires the Consent Authority to consider any development application (or an application for modification of consent) for any development carried out:

- within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists).
- immediately adjacent to an electricity substation.
- within 5.0m of an overhead power line.
- includes installation of a swimming pool any part of which is: within 30m of a structure supporting an overhead electricity transmission line and/or within 5.0m of an overhead electricity power line.

Comment:
The proposal was referred to Ausgrid who raised no objections and recommended no conditions.

SEPP (Coastal Management) 2018

The site is subject to SEPP Coastal Management (2018). Accordingly, an assessment under the SEPP has been carried out as follows:

13 Development on land within the coastal environment area

(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:

- *(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,*
- *(b) coastal environmental values and natural coastal processes,*
- *(c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,*
- *(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,*
- *(e) 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,*
- *(f) Aboriginal cultural heritage, practices and places,*
- *(g) the use of the surf zone.*

Comment:
The development is not considered likely to cause an adverse impact on any of the criterion stipulated in Clause 13(1)(a) to (g) of the SEPP Coastal Management (2018).

(2) *Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*

- *(a)* the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or
- *(b)* if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
- *(c)* if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comment:
The development has been reasonably designed to avoid the likelihood of impact to the coastal environment.

14 Development on land within the coastal use area

(1)

- *(a)* has considered whether the proposed development is likely to cause an adverse impact on the following:
  (i) existing, safe access to and along the foreshore, beach, headland or rock platform

for members of the public, including persons with a disability,
(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,
(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
(iv) Aboriginal cultural heritage, practices and places,
(v) cultural and built environment heritage, and

(b) is satisfied that:
(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or
(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

Comment:
The development is limited to works on private land that sites adjacent to public land which also falls within the coastal use area, albeit noting that that public land is inaccessible. The development is considered to have taken into account and achieved (where relevant) the requirements of Clause 14.

As such, it is considered that the application does comply with the requirements of the State Environmental Planning Policy (Coastal Management) 2018.

Pittwater Local Environmental Plan 2014

Is the development permissible?	Yes
After consideration of the merits of the proposal, is the development consistent with:	
aims of the LEP?	Yes
zone objectives of the LEP?	Yes

Principal Development Standards

Standard	Requirement	Proposed	% Variation	Complies
Height of Buildings:	8.5m	11.08m	30.35% (2.58m)	No

Compliance Assessment

Clause	Compliance with Requirements
1.9A Suspension of covenants, agreements and instruments	Yes
2.7 Demolition requires development consent	Yes
4.3 Height of buildings	No
4.6 Exceptions to development standards	Yes
5.10 Heritage conservation	Yes
7.1 Acid sulfate soils	Yes
7.2 Earthworks	Yes

Clause	Compliance with Requirements
7.3 Flood planning	Yes
7.6 Biodiversity protection	Yes
7.7 Geotechnical hazards	Yes
7.10 Essential services	Yes

Detailed Assessment

4.6 Exceptions to development standards

Description of non-compliance:

Development standard:	Height of Buildings
Requirement:	8.5m
Proposed:	Maximum of 11.08m
Percentage variation to requirement:	Maximum of 30.35% (or 2.58m)

Assessment of request to vary a development standard:

The following assessment of the variation to Clause 4.3 - Height of Buildings development standard, has taken into consideration the recent judgement contained within *Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Baron Corporation Pty Limited v Council of the City of Sydney [2019] NSWLEC 61,* and *RebelMH Neutral Bay Pty Limited v North Sydney Council [2019] NSWCA 130*.

Clause 4.6 Exceptions to development standards:

(1) The objectives of this clause are as follows:
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

Comment:

Clause 4.3 - Height of Buildings development standard is not expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:
(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

(4) Development consent must not be granted for development that contravenes a development standard unless:
(a) the consent authority is satisfied that:
(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and
(b) the concurrence of the Secretary has been obtained.

Clause 4.6 (4)(a)(i) (Justification) assessment:

Clause 4.6 (4)(a)(i) requires the consent authority to be satisfied that the applicant's written request, seeking to justify the contravention of the development standard, has adequately addressed the matters required to be demonstrated by cl 4.6(3). There are two separate matters for consideration contained within cl 4.6(3) and these are addressed as follows:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

Comment:

The Applicant's written request (attached to this report as an Appendix) has demonstrated that the objectives of the development standard are achieved, notwithstanding the non-compliance with the development standard.

In doing so, the Applicant's written request has adequately demonstrated that compliance with the development standard is unreasonable or unnecessary in the circumstances of this case as required by cl 4.6(3)(a).

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

Comment:

In the matter of Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Preston CJ provides the following guidance (para 23) to inform the consent authority's finding that the applicant's written request has adequately demonstrated that that there are sufficient environmental planning grounds to justify contravening the development standard:

'As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.'

s 1.3 of the EPA Act reads as follows:

1.3 Objects of Act(cf previous s 5)
The objects of this Act are as follows:
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

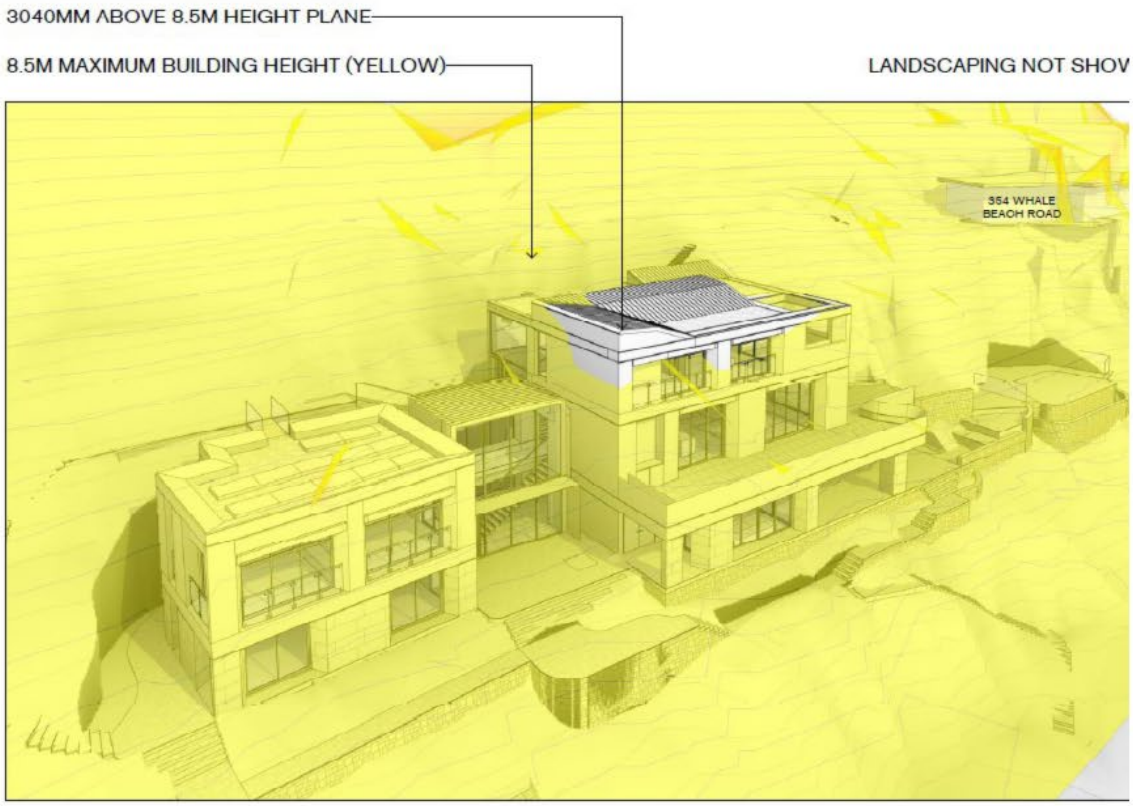
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,
(c) to promote the orderly and economic use and development of land,
(d) to promote the delivery and maintenance of affordable housing,
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),
(g) to promote good design and amenity of the built environment,
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,
(j) to provide increased opportunity for community participation in environmental planning and assessment.

The applicants written request argues, in part:

Specific environmental planning grounds that focus on the aspect or element of the development that contravenes the standard are summarised below:

- The site is steeply sloping;
- The extent of the variation is lesser than the current approval (DA2019/0231);
- The built form is minimised across three lots;
- The proposal is of good design and amenity and is compatible with the bushland environment;
- The proposal is consistent with the existing and desired future character of the area;
- Maintains the orderly and economic use of the land;
- The building height helps to minimise the building footprint and excavation;
- The proposal causes minimal impacts on the amenity of adjoining and nearby land;
- The proposal retains a significant proportion of the sites dense vegetation.

The applicants environmental planning grounds refer to the building approved under DA2019/0231. For reference, an extract of the 8.5m building height plane diagram of that approval is below:



An extract of the current proposals 8.5m building height plane diagram is below:



The proposed dwelling house is well designed and articulated both vertically and horizontally in attempt to maintain as much vegetation and natural landform as possible. The development has been found to have a minimal impact on the living conditions of neighbouring land by virtue of overshadowing, overlooking and view loss. Commensurate to the development potential of the land afforded by the prevailing development controls (four individual houses) the design represents an appropriately proportioned building notwithstanding the numerical variation. Commensurate to the current Development Consent the proposal represents a lesser overall building height and a lesser contravention to the standard, thus providing a superior environmental outcome.

In this regard, the applicant's written request has demonstrated that the proposed development is an orderly and economic use and development of the land, and that the structure is of a good design that will reasonably protect and improve the amenity of the surrounding built environment, therefore satisfying cls 1.3 (c) and (g) of the EPA Act.

Therefore, the applicant's written request has adequately demonstrated that there are sufficient environmental planning grounds to justify contravening the development standard as required by cl 4.6 (3)(b).

Therefore, Council is satisfied that the applicant's written request has adequately addressed the matters required to be demonstrated by cl 4.6(3).

Clause 4.6 (4)(a)(ii) (Public Interest) assessment:

cl 4.6 (4)(a)(ii) requires the consent authority to be satisfied that:

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out

Comment:

In considering whether or not the proposed development will be in the public interest, consideration must be given to the underlying objectives of the Height of Buildings development standard and the objectives of the E4 Environmental Living zone. An assessment against these objectives is provided below.

Objectives of development standard

The underlying objectives of the standard, pursuant to Clause 4.3 – 'Height of buildings' of the PLEP 2014 are:

(1) The objectives of this clause are as follows:

a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,

Comment:

The applicants submitted Maximum Building Height 8.5m Height Plane Diagram (DWG 108 Issue C) by Harry Seidler and Associates) details that there are nine portions of the building which encroach beyond the prescribed height plane. Those portions are generally limited to roof overhangs and the corner of parapet walls. Whilst the proposal is undoubtedly larger than a traditional dwelling house at some 1,103.77m^2 in floor area across six storeys, the bulk and scale of the structure has been significantly minimised by its undulating setbacks to all boundaries, varying heights and finish materials used throughout the build, and by the retention of as much landscaping and natural features as possible. To that extent, the proposal is considered to be consistent with the desired character of the Palm Beach locality.

Further to that, it is noteworthy that the proposal is significantly lesser in scale commensurate to the development potential of the land afforded by the prevailing planning controls - being that applications could have been made to construct a single dwelling house on each lot which would inevitably have a significant impact on the bushland character of the area and thus the desired character of the Palm Beach Locality.

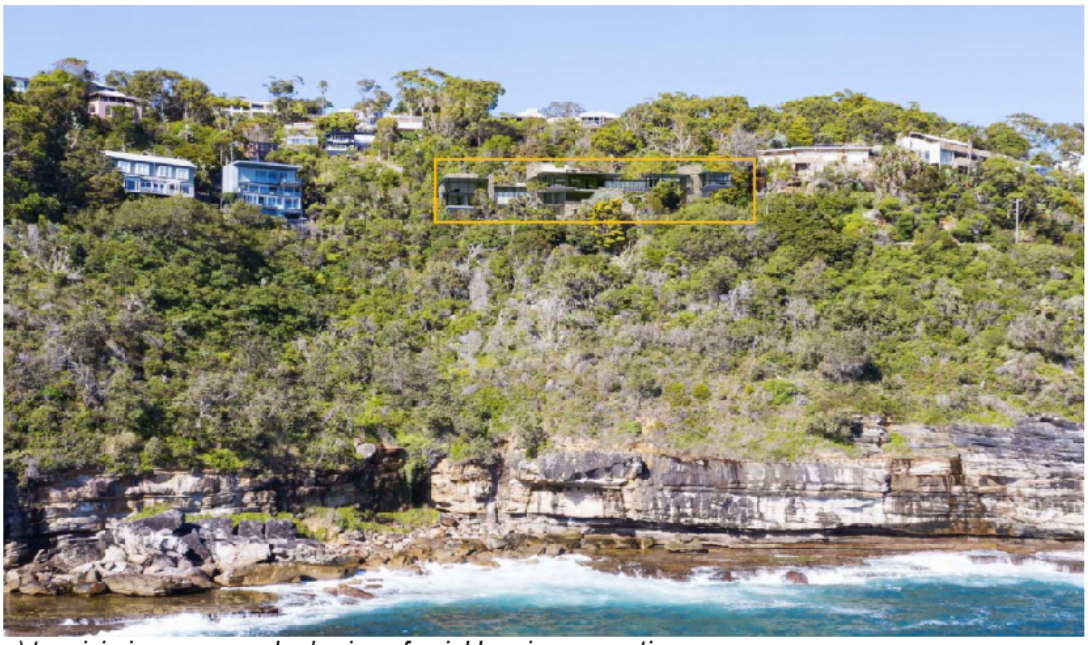
b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,

Comment:
The proposed development achieves a maximum datum height of RL 70.67 at the stone parapet accommodating a staircase to the roof terrace. The survey accompanying the application details that surrounding dwellings to the north and south achieve similar heights to this, if not greater, and that properties to the rear along Rock Bath Road and Pacific Road are much higher due to the significant slope in the land. To that extent, the height of the proposal is consistent with nearby development.

The scale of the house is larger than most surrounding properties, however the size of the subject lot is also greater than those lots. The proposal achieves a landscaped ratio higher than a

number of surrounding sites, and leaves an entire lot untouched. To that extent, the scale of the proposal is consistent with nearby development.

The applicant has provided several photomontages which demonstrate the proportions of the proposal commensurate to neighbouring development, as shown below. Note that the scale and hence comparison of the proposal to existing buildings is indicative only and is not used in any technical assessment.



c) to minimise any overshadowing of neighbouring properties,

Comment:

The proposed development results in overshadowing to no. 344 Whale Beach Road to the south. Those shadows are considered minimal and not materially harmful to the amenity of the property. The degree of overshadowing is compliant with the provisions of the P 21 DCP. It should be noted that the degree of shadowing considered and shown in the submitted Shadow Diagrams only contemplates the built form itself and does not demonstrate shadows cast by existing and proposed vegetation. It is considered that the degree of overshadowing caused by the building would be non-discernible commensurate to the shadowing caused by trees. On balance it is found that the building is appropriately designed to minimise overshadowing of neighbouring properties.

d) to allow for the reasonable sharing of views,

Comment:

The proposal allows for a reasonable sharing of views between adjoining and neighbouring dwellings. In determining the extent of potential view loss to adjoining and nearby properties, the four planning principles outlined in the Land and Environment Court case of *Tenacity Consulting v Warringah Council* (2004) NSWLEC 140 were applied.

Whilst no objections regarding view loss were received, the above considerations have regard to

all surrounding properties.

It is noted that there may be a minor impingement on the existing provision of northerly views enjoyed from no. 344 Whale Beach Road, however that impact has been deemed as acceptable against the outcomes of C1.3 of the P 21 DCP and would be at a very oblique angle, likely to be already obscured by mature vegetation.

e) to encourage buildings that are designed to respond sensitively to the natural topography,

Comment:

Notwithstanding the fact that the development requires significant excavation, the general design has made significant attempts to follow the natural topography of the site and build on existing ledges whilst retaining significant rock outcrops and features. Excavation into the site is required to provide car parking and equitable access to the house. The portion of site to be excavated is somewhat limited to a 10mx10m core that is to be re-naturalised with rocks and landscaping. On balance the building appropriately responds to the topographical constraints posed by the land.

f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items,

Comment:

As is described throughout this report, the proposed dwelling house is well designed and highly articulated both horizontally and vertically and to that extent, the building itself is deemed to have an acceptable visual impact when viewed from the public domain. From local heritage items is it not envisioned that the house would be seen, however in the event that it were to be seen, that outlook would not be one which would have an adverse visual impact on the heritage item. The proposal does removal portions of vegetation from the land, but retains the majority of plantings along Whale Beach Road (as described later in this report). Therefore on balance the proposal is considered to minimise adverse visual impact.

Zone objectives

The underlying objectives of the E4 Environmental Living zone are:

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*

  Comment:

  Ecological impacts caused by the development to the subject site have been assessed by Council's experts and have been deemed acceptable, subject to conditions as included within the recommendations of this report. As described throughout this report, the siting and architecture of the proposal is such that it appropriately blends in with the bushland environment of the land and the selected material palette reduce any perceived visual dominance of the built form. Overall the works are found to be appropriately low-impact residential development.

- *To ensure that residential development does not have an adverse effect on those values.*

  Comment:

  The proposal is not considered to have an adverse impact on any special ecological, scientific

or aesthetic values.

- *To provide for the continuance of a limited range of existing small-scale water-related business and leisure uses.*

  Comment:

  N/A the use of the site for residential purposes does not prejudice any existing water-related business or leisure uses.

- *To ensure that development, by way of its character, design, location and materials of construction, is integrated into the site and natural surroundings, complements and enhances the natural environment and has minimal visual impact.*

  Comment:

  The proposed dwelling house is modulated and articulated both horizontally and vertically to create visual interest and to protect natural features of the site including large rock outcrops. The material palette selected is generally stone which, over time, will integrate with the vegetation and site lessen any perceivable visual impact.

  The character, design and location of the proposed building is considered complementary and enhancing to the natural environment and has a minimal visual impact.

- *To protect and enhance the natural landscape by conserving remnant bushland and rock outcrops and by encouraging the spread of an indigenous tree canopy.*

  Comment:

  The works conserve two large rock outcrops and conditions are imposed to ensure they are not damaged during construction. The development requires the removal of some vegetation, however compensatory plantings and significant upgrades (weed removal and replacement with native plantings) are proposed across the site.

Conclusion:

For the reasons detailed above, the proposal is considered to be consistent with the objectives of the E4 Environmental Living zone.

Clause 4.6 (4)(b) (Concurrence of the Secretary) assessment:

cl. 4.6(4)(b) requires the concurrence of the Secretary to be obtained in order for development consent to be granted.

Planning Circular PS 18-003 dated 21 February 2018, as issued by the NSW Department of Planning, advises that the concurrence of the Secretary may be assumed for exceptions to development standards under environmental planning instruments that adopt Clause 4.6 of the Standard Instrument. In this regard, given the consistency of the variation to the objectives of the zone, and in accordance with correspondence from the Deputy Secretary on 24 May 2019, Council staff under the delegation of the Development Determination Panel, may assume the concurrence of the Secretary for variations to the Height of Building Development Standard associated with a single dwelling house (Class 1 building).

Pittwater 21 Development Control Plan

Built Form Controls

Built Form Control	Requirement	Proposed	% Variation*	Complies
Front building line	6.5m	Minimum - 1.543m	76%	No
Rear building line	6.5m	6.479 - 12.559m	0.4%	No
Side building line	(northwest) 2.5m	1.488 - 2.031m	40.5%	No
	(southeast) 1.0m	1.0 - 2.4m	-	Yes
Building envelope	(northwest) 3.5m	One encroachment at a height of 1.8m and for a length of 1.8m	51.4%	No
	(southeast) 3.5m	Two encroachments at heights of 1.6m and 2m and for lengths of 4.2m and 4.5m	57%	No
Landscaped area	60% of Lots 328, 329 and 330 (999.06m^2) Including Lot 327 (1,361.76m^2)	65.27% (1,086.81m^2) Inc. Lot 327: 74.52% (1,691.41m^2)	-	Yes

Compliance Assessment

Clause	Compliance with Requirements	Consistency Aims/Objectives
A1.7 Considerations before consent is granted	Yes	Yes
A4.12 Palm Beach Locality	Yes	Yes
B1.2 Heritage Conservation - Development in the vicinity of heritage items, heritage conservation areas, archaeological sites or potential archaeological sites	Yes	Yes
B1.3 Heritage Conservation - General	Yes	Yes
B1.4 Aboriginal Heritage Significance	Yes	Yes
B3.1 Landslip Hazard	Yes	Yes
B3.6 Contaminated Land and Potentially Contaminated Land	Yes	Yes
B3.11 Flood Prone Land	Yes	Yes
B4.3 Flora and Fauna Habitat Enhancement Category 2 Land	Yes	Yes
B4.17 Littoral Rainforest - Endangered Ecological Community	Yes	Yes
B4.22 Preservation of Trees and Bushland Vegetation	Yes	Yes
B5.15 Stormwater	Yes	Yes
B6.1 Access driveways and Works on the Public Road Reserve	Yes	Yes
B6.2 Internal Driveways	Yes	Yes
B6.3 Off-Street Vehicle Parking Requirements	Yes	Yes
B8.1 Construction and Demolition - Excavation and Landfill	Yes	Yes
B8.3 Construction and Demolition - Waste Minimisation	Yes	Yes

Clause	Compliance with Requirements	Consistency Aims/Objectives
B8.4 Construction and Demolition - Site Fencing and Security	Yes	Yes
B8.5 Construction and Demolition - Works in the Public Domain	Yes	Yes
B8.6 Construction and Demolition - Traffic Management Plan	Yes	Yes
C1.1 Landscaping	Yes	Yes
C1.2 Safety and Security	Yes	Yes
C1.3 View Sharing	Yes	Yes
C1.4 Solar Access	Yes	Yes
C1.5 Visual Privacy	Yes	Yes
C1.6 Acoustic Privacy	Yes	Yes
C1.7 Private Open Space	Yes	Yes
C1.9 Adaptable Housing and Accessibility	Yes	Yes
C1.12 Waste and Recycling Facilities	Yes	Yes
C1.13 Pollution Control	Yes	Yes
C1.17 Swimming Pool Safety	Yes	Yes
C1.23 Eaves	Yes	Yes
C1.24 Public Road Reserve - Landscaping and Infrastructure	Yes	Yes
C1.25 Plant, Equipment Boxes and Lift Over-Run	Yes	Yes
D12.1 Character as viewed from a public place	Yes	Yes
D12.3 Building colours and materials	Yes	Yes
D12.5 Front building line	No	Yes
D12.6 Side and rear building line	No	Yes
D12.8 Building envelope	No	Yes
D12.10 Landscaped Area - Environmentally Sensitive Land	Yes	Yes
D12.12 Fences - Flora and Fauna Conservation Areas	Yes	Yes
D12.13 Construction, Retaining walls, terracing and undercroft areas	Yes	Yes
D12.14 Scenic Protection Category One Areas	Yes	Yes

Detailed Assessment

A4.12 Palm Beach Locality

The Palm Beach locality will remain primarily a low-density residential area with dwelling houses in maximum of two storeys in any one place in a landscaped setting, integrated with the landform and landscape. Secondary dwellings can be established in conjunction with another dwelling to encourage additional opportunities for more compact and affordable housing with minimal environmental impact in appropriate locations. Any dual occupancy dwellings will be located on the lowlands and lower slopes that have less tree canopy coverage, species and habitat diversity and fewer other constraints to development. Any medium density housing will be located within and around commercial centres, public transport and community facilities. Retail, community and recreational facilities will serve the community.

Comment:
The bulk of the dwelling house is limited to two storeys in height with only the central core exceeding two storeys. This central core accommodates services and access from the garage to the house. To mitigate potential visual impacts caused by the central core, and in efforts to achieve compliance with the desired character of the Palm Beach Locality, natural landform and plantings are to be reinstated in front of the core, thus significantly reducing its appearance from the road. The development achieves a compliant landscaped area ratio and retains the majority of vegetation on site, thus ensuring the house is situated within a landscaped setting.

Future development is to be located so as to be supported by adequate infrastructure, including roads, water and sewerage facilities, and public transport.

Comment:
The site is adequately serviced by appropriate infrastructure.

Future development will maintain a building height limit below the tree canopy and minimise bulk and scale whilst ensuring that future development respects the horizontal massing of the existing built form. Existing and new native vegetation, including canopy trees, will be integrated with the development. Contemporary buildings will utilise facade modulation and/or incorporate shade elements, such as pergolas, verandahs and the like. Building colours and materials will harmonise with the natural environment. Development on slopes will be stepped down or along the slope to integrate with the landform and landscape, and minimise site disturbance. Development will be designed to be safe from hazards.

Comment:
Generally the building achieves a height lesser than mature tree canopies and significant horizontal and vertical articulation has been employed in the architecture to ensure that the built form does not come across as a dominant building and remains subordinate to natural features. The facade is well modulated and appropriately screens the total scale of the development. The design includes appropriate materials to help the built form blend in with the natural environment and, over time, these materials will weather appropriately as the landscape matures to further disguise the house when viewed from the street.

The design, scale and treatment of future development within the commercial centres will reflect a 'seaside-village' character through building design, signage and landscaping, and will reflect principles of good urban design. Landscaping will be incorporated into building design. Outdoor cafe seating will be encouraged.

Comment:
This outcome is not relevant to the subject site.

A balance will be achieved between maintaining the landforms, landscapes and other features of the natural environment, and the development of land. As far as possible, the locally native tree canopy and vegetation will be retained and enhanced to assist development blending into the natural environment, to provide feed trees and undergrowth for koalas and other animals, and to enhance wildlife corridors.

Comment:
The majority of the works sought are located on existing cleared platforms of the site where the current house sits. Whilst the proposal does necessitate excavation and tree removal, the extent of those works are not found to be detrimental to the buildings ability to blend in with the natural bushland character of the site.

Heritage items and conservation areas indicative of the Guringai Aboriginal people and of early

settlement in the locality will be conserved.

Comment:
Heritage and Aboriginal Heritage has been considered in the assessment of the application and is conditioned where appropriate.

Vehicular, pedestrian and cycle access within and through the locality will be maintained and upgraded. The design and construction of roads will manage local traffic needs, minimise harm to people and fauna, and facilitate co-location of services and utilities.

Comment:
Vehicular, pedestrian and cycle access within and throughout the Palm Beach Locality will be maintained.

Palm Beach will remain an important link to the offshore communities.

Comment:
The proposal shall not impact on any existing links to offshore communities.

The development is found to be consistent with the desired character of the Palm Beach Locality.

C1.3 View Sharing

The proposed development has been found to result in no unreasonable view loss from any adjoining residential properties or from the wider public domain including Whale Beach Road and the Annie Wyatt Reserve.

D12.1 Character as viewed from a public place

Clause D12.1 of the P 21 DCP describes the following outcomes pertaining to character as viewed from a public place:

- To achieve the desired future character of the Locality.
- To ensure new development responds to, reinforces and sensitively relates to the spatial characteristics of the existing built and natural environment.
- To enhance the existing streetscapes and promote a scale and density that is in scale with the height of the natural environment.
- The visual impact of the built form is secondary to landscaping and vegetation, or in commercial areas and the like, is softened by landscaping and vegetation.
- High quality buildings designed and built for the natural context and any natural hazards.
- Buildings do not dominate the streetscape and are at 'human scale'. Within residential areas, buildings give the appearance of being two-storey maximum.
- To preserve and enhance district and local views which reinforce and protect the Pittwater's natural context.
- To enhance the bushland vista of Pittwater as the predominant feature of the landscape with built form, including parking structures, being a secondary component.
- To ensure that development adjacent to public domain elements such as waterways, streets, parks, bushland reserves and other public open spaces, compliments the landscape character, public use and enjoyment of that land.

Comment: The proposed development is found to be a well considered and contextually appropriate form of architecture to be perched on the hillside of Whale Beach Road, visible from both there and the

Pacific Ocean. Notwithstanding the fact that the building is large, varies a number of development controls and requires extensive excavation, the form of the building has been broken down into modernist pavilion forms interspersed within courtyards and landscaping.

The development seeks to cover its extensive basement area through the reintroduction of natural ground level and landscaping atop / in-front of it whilst allowing a narrow window slot to let natural light into the stairwell. The overall height of the development is lesser than that of trees on the site and, the roof level of the house sits beneath the natural ridge level to the rear of the site. Such design considerations results in the development not being particularly visible when viewed from neighbouring houses.

The material palette selected comprises of natural stacked stone and darker-toned materials which shall assist in blending the building in with its natural environment. The design retains and protects the two large rock shelters / outcrops present on the site, and has gone to lengths to minimise the loss of trees, albeit noting that any development necessitates some tree removal.

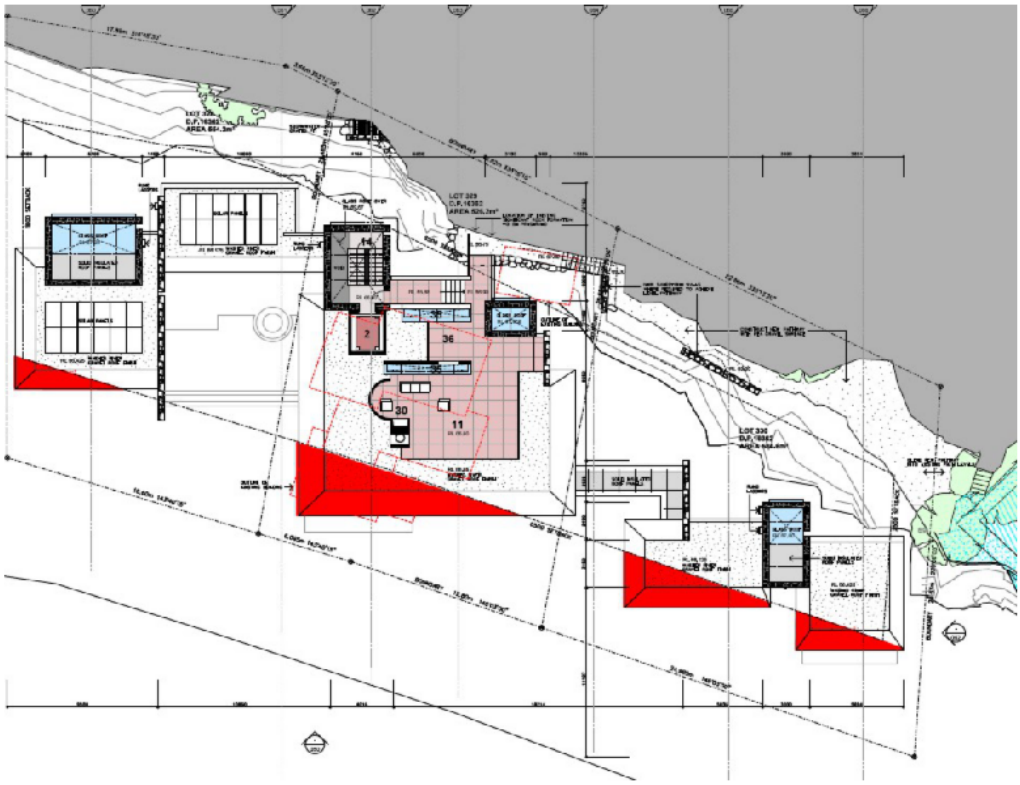
On balance the proposed dwelling is considered to be an exceptional design that shall benefit the wider Whale Beach Road streetscape and be of a suitable character to ensure its appearance remains subservient to the natural environment.

D12.5 Front building line

Description of Non-Compliance
Clause D12.5 *Front building line* of the Pittwater 21 Development Control Plan 2014 (**P 21 DCP**) requires that buildings are setback a minimum of 6.5m from the front boundary facing the road. In this instance the development encroaches the front setback area (**FSBA**) in a number of locations and over a number of levels.

The most significant portion of encroachment is the garage which attains a minimum setback from the boundary of 1.543m, representing a 76% variation to the control.

The encroachments proposed are best displayed on the below site plan diagram, with the areas of encroachment highlighted in red:



Merit Assessment:
An assessment of the variation sought against the underlying objectives of the control follows:

- *Achieve the desired future character of the Locality.*
  Comment: Notwithstanding the encroachment into the front setback area it has been found that the developments achieves the desired future character of the Palm Beach Locality.

- *Equitable preservation of views and vistas to and/or from public/private places.*
  Comment: The development is not found to result in the unreasonable obstruction of any existing views or vistas enjoyed from surrounding private properties or the public domain. Where an obstruction may occur, such impact is considered to provide an equitable preservation of views and vistas. The provision of view sharing is discussed in greater detail elsewhere in this report.

- *The amenity of residential development adjoining a main road is maintained.*
  Comment: N/A Whale Beach Road is not a main road.

- *Vegetation is retained and enhanced to visually reduce the built form.*
  Comment: The development seeks to clear an approximate 12m wide patch of vegetation along the Whale Beach Road frontage to accommodate the driveway and garage. That 12m patch equates to approximate 15% of the site's frontage. Above the garage level in that clearing the land is to be naturally reformed and planted in such a manner that the garage door appears as a tunnel into the cliffside, rather than revealing the extent of excavation beyond it.

  To either side of the clearing it is found that clear views of the dwelling would be minimal given both the topography of the land and the elevation of the proposal. The scheme retains the existing vegetation along approximately 85% of the sites frontage and significantly enhances it

by removing weeds and establishing more native plants. Beyond that vegetation is the stone-faced retaining and undercroft walls of the house which will blend into the natural environment increasingly as they weather.

On balance the works retain a significant (the majority) of vegetation on the site, particularly along the street frontage. Where clearances are made to vegetation aspects of the design will help to ensure that the built form is subservient to the landscape.

- *Vehicle manoeuvring in a forward direction is facilitated.*
  Comment: Turning circles have not been provided to demonstrate that vehicles can access and egress the site in a forward direction, but it can be reasonably assumed that whilst turning may be possible, it would likely not have an area sufficient enough to be considered a formal turning area. Notwithstanding that, Whale Beach Road, whilst reasonably busy, it not a main road and it is not considered essential for cars to exit in a forward direction. The volume of traffic associated with the development is considered to be low and is consistent with the volume and access/egress arrangements on surrounding properties.

- *To enhance the existing streetscapes and promote a scale and density that is in keeping with the height of the natural environment.*
  Comment: The design of the building progressively steps back from the street boundary as it increases in height which minimises the perceivable height of the development. The overall height of the building increases consistent with the increasing height of trees on the site. It is considered that requiring compliance with the control would require significantly more excavation into the site which would be contrary to the outcomes of the P 21 DCP, particularly on uniquely constrained sites such as this one. On that basis, it is considered that the proposal is of an appropriate scale and density that is in keeping with the height of the natural environment.

- *To encourage attractive street frontages and improve pedestrian amenity.*
  Comment: There is no footpath to the front of the site and thus the development does not impact on pedestrian amenity. The development will enhance the existing streetscape by adding an interesting building and replacing a number of noxious weed species with native plantings along Whale Beach Road.

- *To ensure new development responds to, reinforces and sensitively relates to the spatial characteristics of the existing urban environment*
  Comment: Whilst the proposal is a larger than usual house, the site is also larger than usual, and therefore commensurate to a regular sized lot the house is appropriately proportioned.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant outcomes of the P 21 DCP 2014 and the objectives specified in s1.3 of the Environmental Planning and Assessment Act 1979. Accordingly, this assessment finds that the proposal is supported, in this particular circumstance.

D12.6 Side and rear building line

Description of Non-Compliance

Clause D12.6 Side and rear building lines of the Pittwater 21 Development Control Plan 2014 prescribe a minimum rear building line of 6.5m and side setbacks of 1m to one side and 2.5m to the other side.

The proposal fails to achieve compliance with the rear building line by 0.4% and with the northwestern side building line by 40.5%.

Merit Assessment:
The request for a variation to the underlying outcomes of the control is assessed below:

- *To achieve the desired future character of the Locality.*
  Comment: Notwithstanding the variation to the side and rear building setback requirements, the proposal is found to achieve compliance with the desired future character of the Palm Beach Locality.

- *The bulk and scale of the built form is minimised.*
  Comment: The encroachment within the rear setback area is deemed to be minor (0.4%) and is not visible from any surrounding properties or the public domain given the topography of the site. The rear setback area is to be densely landscaped which further screens the encroaching element. The northwestern side encroachment is limited to the cantilevered master bedroom suite which sits atop of rocks and plantings. Being cantilevered (albeit with two recessed supports) results in the form appearing to sit within the landscape, rather than a form which has conventional footings to the ground. The works are therefore of an appropriate bulk and scale.

- *Equitable preservation of views and vistas to and/or from public/private places.*
  Comment: The encroachments proposed into the side and rear setback area have not been found to result in any unreasonable loss of views from neighbouring properties or the public domain.

- *To encourage view sharing through complimentary siting of buildings, responsive design and well-positioned landscaping.*
  Comment: As above.

- *To ensure a reasonable level of privacy, amenity and solar access is provided within the development site and maintained to residential properties.*
  Comment: The encroachments into the side and rear setback area are not found to unreasonably impacts on the amenity of adjacent land. Should any impacts arise, it is likely that they would be ameliorated by landscaping either on the subject or adjoining sites.

- *Substantial landscaping, a mature tree canopy and an attractive streetscape.*
  Comment: The site provides substantial landscaping and tree canopy coverage.

- *Flexibility in the siting of buildings and access.*
  Comment: The proposed building is largely located on the established building platform on the land. It is considered warranted to permit flexibility in the siting of buildings on the site given that the design is laid out in efforts to best protect landscaping and significant rock outcrops. Requiring compliance could either result in impacts to these natural features, or an expansion of floor area elsewhere (either further excavation or additional building height) which is considered to have a worse impact that the proposed.

- *Vegetation is retained and enhanced to visually reduce the built form.*
  Comment: The development retains an appropriate level of vegetation.

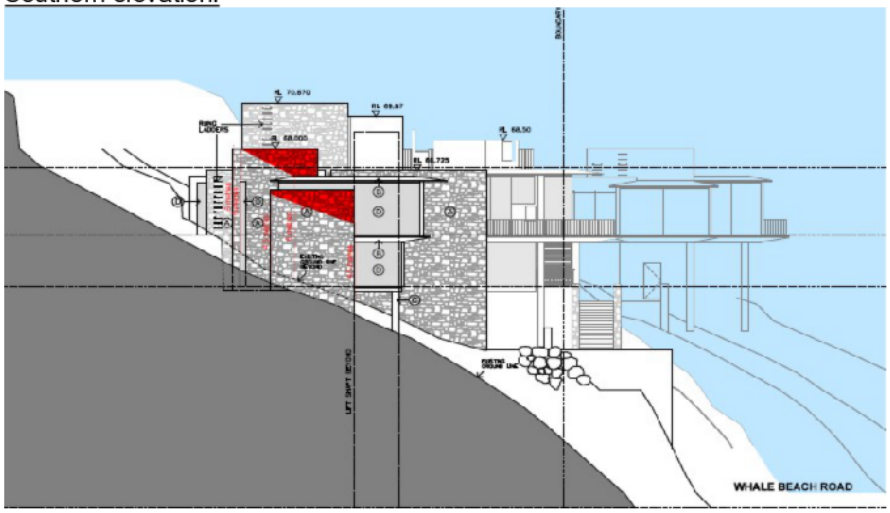
- *To ensure a landscaped buffer between commercial and residential zones is established.*
  Comment: N/A no adjacent commercial zones.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant outcomes of the P 21 DCP 2014 and the objectives specified in s1.3 of the Environmental Planning and Assessment Act 1979. Accordingly, this assessment finds that the proposal is supported, in this particular circumstance.

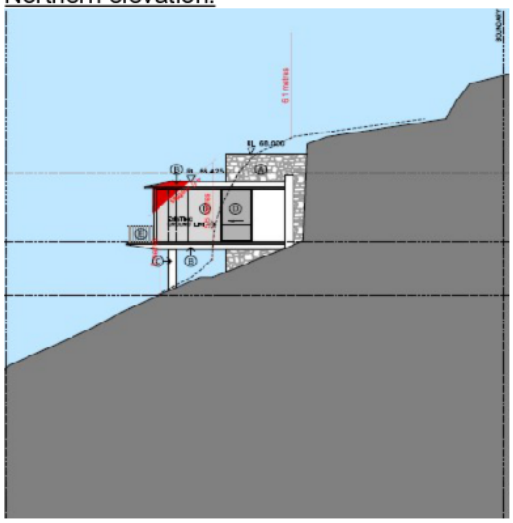
D12.8 Building envelope

Description of Non-Compliance
Clause D12.8 of the P 21 DCP prescribes a 3.5m side building envelope, but permits a variation to that envelope where the building footprint is situated on a slope of 16.7 degrees or more.

The proposal has three encroachments of the side building envelope, each a diminishing triangle in form with the maximum height of encroachment being 2m. The extent of encroachments is displayed in red on the below diagrams:
Southern elevation:



Northern elevation:



Merit Consideration:
With regard to the request for a variation, the development is considered against the underlying

outcomes of the control as follows:

- *To achieve the desired future character of the Locality.*
  Comment: Notwithstanding the encroachments to the building envelope, the proposal is deemed to achieve the desired future character of the Palm Beach Locality.

- *To enhance the existing streetscapes and promote a building scale and density that is below the height of the trees of the natural environment.*
  Comment: The building proposed is beneath tree canopy height and the works as a whole improve the streetscape.

- *To ensure new development responds to, reinforces and sensitively relates to spatial characteristics of the existing natural environment.*
  Comment: The building appropriately steps up the land and is designed specifically to retain and protect rock outcrops, and therefore is considered to appropriately respond to the characteristics of the existing natural environment.

- *The bulk and scale of the built form is minimised.*
  Comment: The portions of building which encroach the envelope are limited to two stone walls and a glazed facade of a cantilevered bedroom. Each of these facades is screened by vegetation. Notwithstanding that vegetation, the proportions of the encroaching elements are not considered to be unreasonably scaled or bulky.

- *Equitable preservation of views and vistas to and/or from public/private places.*
  Comment: The encroachments sought into the side building envelope do not detract from the provision of views currently enjoyed.

- *To ensure a reasonable level of privacy, amenity and solar access is provided within the development site and maintained to residential properties.*
  Comment: The encroachment sought do not detract from the amenity of adjacent land.

- *Vegetation is retained and enhanced to visually reduce the built form.*
  Comment: The proposal retains and enhances a satisfactory degree of vegetation as assessed elsewhere in this report.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant outcomes of the P 21 DCP 2014 and the objectives specified in s1.3 of the Environmental Planning and Assessment Act 1979. Accordingly, this assessment finds that the proposal is supported, in this particular circumstance.

D12.10 Landscaped Area - Environmentally Sensitive Land

The proposed development is unique in that it consolidates three lots (328, 329 and 330) to accommodate the new house, and retains Lot 327 independently for bushfire hazard reduction works only.

Part D12.10 of the P 21 DCP requires that a minimum ratio of 60% of the site area is to be landscaped and the development achieves this when assessed against the singular consolidated lot (328,329 and 330) which achieves a ratio of 65.27%, or the four lots (327, 328, 329 and 330) which achieves a ratio of 74.52% (as Lot 327 is to be vacant of development).

The provision of landscaped area is compliant with the requirements of the clause.

THREATENED SPECIES, POPULATIONS OR ECOLOGICAL COMMUNITIES

The proposal will not significantly affect threatened species, populations or ecological communities, or their habitats.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposal is consistent with the principles of Crime Prevention Through Environmental Design.

POLICY CONTROLS

Northern Beaches Section 7.12 Contributions Plan 2019

The proposal is subject to the application of Northern Beaches Section 7.12 Contributions Plan 2019.

A monetary contribution of $126,936 is required for the provision of new and augmented public infrastructure. The contribution is calculated as 1% of the total development cost of $12,693,563.

CONCLUSION

The site has been inspected and the application assessed having regard to all documentation submitted by the applicant and the provisions of:

- Environmental Planning and Assessment Act 1979;
- Environmental Planning and Assessment Regulation 2000;
- All relevant and draft Environmental Planning Instruments;
- Pittwater Local Environment Plan;
- Pittwater Development Control Plan; and
- Codes and Policies of Council.

This assessment has taken into consideration the submitted plans, Statement of Environmental Effects, all other documentation supporting the application and public submissions, and does not result in any unreasonable impacts on surrounding, adjoining, adjacent and nearby properties subject to the conditions contained within the recommendation.

In consideration of the proposal and the merit consideration of the development, the proposal is considered to be:

- Consistent with the objectives of the DCP
- Consistent with the zone objectives of the LEP
- Consistent with the aims of the LEP
- Consistent with the objectives of the relevant EPIs
- Consistent with the objects of the Environmental Planning and Assessment Act 1979

Council is satisfied that:

1) The Applicant's written request under Clause 4.6 of the Pittwater Local Environmental Plan 2014 seeking to justify a contravention of Clause 4.3 Height of Buildings has adequately addressed and demonstrated that:

a) Compliance with the standard is unreasonable or unnecessary in the circumstances of the case;

and
b) There are sufficient environmental planning grounds to justify the contravention.

2) The proposed development will be in the public interest because it is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

It is considered that the proposed development satisfies the appropriate controls and that all processes and assessments have been satisfactorily addressed.

RECOMMENDATION

That Northern Beaches Council as the consent authority vary clause 4.3 Height of Building development standard pursuant to clause 4.6 of the PLEP 2014 as the applicant's written request has adequately addressed the merits required to be demonstrated by subclause (3) and the proposed development will be in the public interest and is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

Accordingly Council as the consent authority grant Development Consent to DA2021/0268 for Demolition works, lot consolidation and construction of a dwelling house including swimming pool on land at Lot 328 DP 16362, 348 Whale Beach Road, PALM BEACH, Lot 330 DP 16362, 352 Whale Beach Road, PALM BEACH, Lot 329 DP 16362, 350 Whale Beach Road, PALM BEACH, Lot 327 DP 16362, 346 Whale Beach Road, PALM BEACH, subject to the conditions printed below:

DEVELOPMENT CONSENT OPERATIONAL CONDITIONS

1. **Approved Plans and Supporting Documentation**
The development must be carried out in compliance (except as amended by any other condition of consent) with the following:

a) Approved Plans

Architectural Plans - Endorsed with Council's stamp		
Drawing No.	**Dated**	**Prepared By**
005 Issue E - Site Plan (Level 1)	09 March 2021	Harry Seidler & Associates
006 Issue N - Site Plan (Level 2)	09 March 2021	Harry Seidler & Associates
010 Issue H - Plan Level 0 - 1	09 March 2021	Harry Seidler & Associates
011 Issue G - Plan Level 0 - 2	09 March 2021	Harry Seidler & Associates
012 Issue G - Plan Level 0 - 3	09 March 2021	Harry Seidler & Associates
013 Issue H - Plan Level 0 - 4	09 March 2021	Harry Seidler &

		Associates
020 Issue T - Plan Level 1	09 March 2021	Harry Seidler & Associates
030 Issue T - Plan Level 2	09 March 2021	Harry Seidler & Associates
040 Issue R - Plan Roof	09 March 2021	Harry Seidler & Associates
050 Issue R - East Elevation	09 March 2021	Harry Seidler & Associates
051 Issue G - South Elevation	09 March 2021	Harry Seidler & Associates
052 Issue F - North Elevation	09 March 2021	Harry Seidler & Associates
060 Issue J - Section A	09 March 2021	Harry Seidler & Associates
061 Issue L - Section B	09 March 2021	Harry Seidler & Associates
062 Issue J - Section C	09 March 2021	Harry Seidler & Associates
063 Issue J - Section D	09 March 2021	Harry Seidler & Associates
064 Issue H - Section E	09 March 2021	Harry Seidler & Associates
065 Issue F - Section F	09 March 2021	Harry Seidler & Associates
066 Issue F - Section G	09 March 2021	Harry Seidler & Associates
070 Issue J - Tree Location Plan	09 March 2021	Harry Seidler & Associates
100 Issue E - Finishes Sample	09 March 2021	Harry Seidler & Associates

Reports / Documentation – All recommendations and requirements contained within:		
Report No. / Page No. / Section No.	**Dated**	**Prepared By**
Arboricultural Impact Assessment Report (version 10)	09 March 2021	Earthscape Horticultural Services
BASIX Certificate No. 1176584S	10 March 2021	Integral Group Consulting Engineers Pty Ltd
Bushfire Assessment Report (ref:AE21-2232-REP-ISS-1)	03 March 2021	Abel Ecology
Geotechnical Assessment (ref: 31791SYrpt)	09 March 2021	JK Geotechnics
Heritage Impact Statement Rev. 02	05 March 2021	City Plan
NatHERS Certificate No. SC678SSLDI	18 February	Harry Seidler & Associates

	2021	
Preliminary Construction Traffic Management Plan (21011 Revision A)	10 March 2021	TEF Consulting
Prescribed Ecological Actions Report (ref:AE21-REP-2233-Draft A)	03 March 2021	Abel Ecology
Traffic and Parking Impacts Report (21011)	08 March 2021	TEF Consulting

b) Any plans and / or documentation submitted to satisfy the Conditions of this consent.

c) The development is to be undertaken generally in accordance with the following:

Landscape Plans		
Drawing No.	**Dated**	**Prepared By**
DA01-D0821 Rev. B	10 March 2021	Dangar Barin Smith
DA02-D0821 Rev. B	10 March 2021	Dangar Barin Smith
DA03-D0821 Rev. B	10 March 2021	Dangar Barin Smith
DA04-D0821 Rev. B	10 March 2021	Dangar Barin Smith
DA05-D0821 Rev. B	10 March 2021	Dangar Barin Smith
DA06-D0821 Rev. B	10 March 2021	Dangar Barin Smith

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent will prevail.

Reason: To ensure the work is carried out in accordance with the determination of Council and approved plans.

2. **Prescribed Conditions**

(a) All building works must be carried out in accordance with the requirements of the Building Code of Australia (BCA).

(b) BASIX affected development must comply with the schedule of BASIX commitments specified within the submitted BASIX Certificate (demonstrated compliance upon plans/specifications is required prior to the issue of the Construction Certificate);

(c) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(i) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(ii) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(iii) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

(d) Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the

following information:

(i) in the case of work for which a principal contractor is required to be appointed:
  A. the name and licence number of the principal contractor, and
  B. the name of the insurer by which the work is insured under Part 6 of that Act,

(ii) in the case of work to be done by an owner-builder:
  A. the name of the owner-builder, and
  B. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under becomes out of date, further work must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the updated information.

(e) Development that involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:
  (i) protect and support the adjoining premises from possible damage from the excavation, and
  (ii) where necessary, underpin the adjoining premises to prevent any such damage.
  (iii) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.
  (iv) the owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

In this clause, allotment of land includes a public road and any other public place.

Reason: Legislative requirement.

3. **General Requirements**

(a) Unless authorised by Council:
Building construction and delivery of material hours are restricted to:

- 7.00 am to 5.00 pm inclusive Monday to Friday,
- 8.00 am to 1.00 pm inclusive on Saturday,
- No work on Sundays and Public Holidays.

Demolition and excavation works are restricted to:

- 8.00 am to 5.00 pm Monday to Friday only.

(Excavation work includes the use of any excavation machinery and the use of jackhammers, rock breakers, excavators, loaders and the like, regardless of whether the activities disturb or alter the natural state of the existing ground stratum or are

breaking up/removing materials from the site).

(b) Should any asbestos be uncovered on site, its demolition and removal must be carried out in accordance with WorkCover requirements and the relevant Australian Standards.

(c) At all times after the submission the Notice of Commencement to Council, a copy of the Development Consent and Construction Certificate is to remain onsite at all times until the issue of a final Occupation Certificate. The consent shall be available for perusal of any Authorised Officer.

(d) Where demolition works have been completed and new construction works have not commenced within 4 weeks of the completion of the demolition works that area affected by the demolition works shall be fully stabilised and the site must be maintained in a safe and clean state until such time as new construction works commence.

(e) Onsite toilet facilities (being either connected to the sewer or an accredited sewer management facility) for workers are to be provided for construction sites at a rate of 1 per 20 persons.

(f) Prior to the release of the Construction Certificate, payment of the Long Service Levy is required. This payment can be made at Council or to the Long Services Payments Corporation. Payment is not required where the value of the works is less than $25,000. The Long Service Levy is calculated on 0.35% of the building and construction work. The levy rate and level in which it applies is subject to legislative change. The applicable fee at the time of payment of the Long Service Levy will apply.

(g) The applicant shall bear the cost of all works associated with the development that occurs on Council's property.

(h) No skip bins, building materials, demolition or excavation waste of any nature, and no hoist, plant or machinery (crane, concrete pump or lift) shall be placed on Council's footpaths, roadways, parks or grass verges without Council Approval.

(i) Demolition materials and builders' wastes are to be removed to approved waste/recycling centres.

(j) No trees or native shrubs or understorey vegetation on public property (footpaths, roads, reserves, etc.) or on the land to be developed shall be removed or damaged during construction unless specifically approved in this consent including for the erection of any fences, hoardings or other temporary works.

(k) Prior to the commencement of any development onsite for:

i) Building/s that are to be erected

ii) Building/s that are situated in the immediate vicinity of a public place and is dangerous to persons or property on or in the public place

iii) Building/s that are to be demolished

iv) For any work/s that is to be carried out

v) For any work/s that is to be demolished

The person responsible for the development site is to erect or install on or around the development area such temporary structures or appliances (wholly within the development site) as are necessary to protect persons or property and to prevent unauthorised access to the site in order for the land or premises to be maintained in a safe or healthy condition. Upon completion of the development, such temporary structures or appliances are to be removed within 7 days.

(l) A "Road Opening Permit" must be obtained from Council, and all appropriate charges paid, prior to commencement of any work on Council property. The owner/applicant shall be responsible for all public utilities and services in the area of the work, shall notify all relevant Authorities, and bear all costs associated with any repairs and/or

adjustments as those Authorities may deem necessary.

(m) The works must comply with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice.

(n) Requirements for new swimming pools/spas or existing swimming pools/spas affected by building works.

(1) Child resistant fencing is to be provided to any swimming pool or lockable cover to any spa containing water and is to be consistent with the following;

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 2018

(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.

(2) A 'KEEP WATCH' pool safety and aquatic based emergency sign, issued by Royal Life Saving is to be displayed in a prominent position within the pool/spa area.

(3) Filter backwash waters shall be conveyed to the Sydney Water sewerage system in sewered areas or managed on-site in unsewered areas in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system.

(4) Swimming pools and spas must be registered with the Division of Local Government.

Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community.

FEES / CHARGES / CONTRIBUTIONS

4. **Policy Controls**
Northern Beaches 7.12 Contributions Plan 2019

A monetary contribution of $126,935.63 is payable to Northern Beaches Council for the provision of local infrastructure and services pursuant to section 7.12 of the Environmental Planning & Assessment Act 1979 and the Northern Beaches Section 7.12 Contributions Plan 2019. The monetary contribution is based on a development cost of $12,693,563.00.

The monetary contribution is to be paid prior to the issue of the first Construction Certificate or Subdivision Certificate whichever occurs first, or prior to the issue of the Subdivision Certificate where no Construction Certificate is required. If the monetary contribution (total or in part) remains unpaid after the financial quarter that the development consent is issued, the amount unpaid (whether it be the full cash contribution or part thereof) will be adjusted on a quarterly basis in accordance with the applicable Consumer Price Index. If this situation applies, the cash contribution payable for this development will be the total unpaid monetary contribution as adjusted.

The proponent shall provide to the Certifying Authority written evidence (receipt/s) from Council that the total monetary contribution has been paid.

The Northern Beaches Section 7.12 Contributions Plan 2019 may be inspected at 725 Pittwater Rd, Dee Why and at Council's Customer Service Centres or alternatively, on Council's website at www.northernbeaches.nsw.gov.au

This fee must be paid prior to the issue of the Construction Certificate. Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To provide for contributions in accordance with the Contribution Plan to fund the provision of new or augmented local infrastructure and services.

5. **Security Bond**

A bond (determined from cost of works) of $10,000 and an inspection fee in accordance with Council's Fees and Charges paid as security are required to ensure the rectification of any damage that may occur to the Council infrastructure contained within the road reserve adjoining the site as a result of construction or the transportation of materials and equipment to and from the development site.

An inspection fee in accordance with Council adopted fees and charges (at the time of payment) is payable for each kerb inspection as determined by Council (minimum (1) one inspection).

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, and details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

To process the inspection fee and bond payment a Bond Lodgement Form must be completed with the payments (a copy of the form is attached to this consent and alternatively a copy is located on Council's website at www.northernbeaches.nsw.gov.au).

Reason: To ensure adequate protection of Council's infrastructure.

6. **Construction, Excavation and Associated Works Security Bond (Crossing / Kerb)**
The applicant is to lodge a Bond of $30000 as security against any damage or failure to complete the construction of the vehicular crossing, stormwater drainage and associated road reserve works required as part of this consent.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

7. **Construction, Excavation and Associated Works (Security Bond)**
A bond of $50000 as security against damage to Council's road/road reserve fronting the site caused by the transport and disposal of materials and equipment to and from the site and any other construction activities.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

8. **Geotechnical Report Recommendations have been Incorporated into Designs and Structural Plans**
The recommendations of the risk assessment required to manage the hazards as identified in the Geotechnical Report prepared by JK Geotechnics dated 9 March 2021 are to be incorporated into the construction plans. Prior to issue of the Construction Certificate, Form 2 of the Geotechnical Risk Management Policy for Pittwater (Appendix 5 of P21 DCP) is to be completed and submitted to the Accredited Certifier. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

9. **Delineation of Asset Protection Zones**
Prior to the commencement of any vegetation clearance/modification, the boundaries of the bushfire Asset Protection Zone (APZ) are to be surveyed and clearly marked by way of temporary fencing, flagging tape or markers. Clearing of vegetation for APZ establishment must only occur within the marked APZ boundaries.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to issue of the Construction Certificate.

Reason: To protect native vegetation and wildlife.

10. **Project Ecologist**
A Project Ecologist is to be employed for the duration of the approved works.

The Ecologist is to be experienced in flora identification and is to advise on species removal for the establishment of the Asset Protection Zone, prioritising exotics species, followed by non-locally indigenous natives before any locally-native species are to be removed.

Employment of a Project Ecologist is to provide an engagement letter, which is to be submitted to and certified by the Certifying Authority Prior to issue of Construction Certificate.

Reason: To protect native vegetation and wildlife in accordance with relevant Natural Environment LEP/DCP controls.

11. **Existing stairs with the road reserve**
The existing stair access within the road reserve is to be certified as structurally adequate for the design life of the building. Any rectification/reconstruction works are to form part of the Section 138A Roads Act application to Council and are include engineering plans prepared by a suitably qualified structural engineer.

Reason: Protection of Councils road reserve.

12. **Traffic Management and Control**
The Applicant is to submit an application for Traffic Management Plan to Council for approval

prior to issue of the Construction Certificate. The Traffic Management Plan shall be prepared to RMS standards by an appropriately certified person.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process.

13. **Stormwater Treatment Measures – Minor**
The applicant must install a filtration device (such as a sediment control pit or absorption trench) that captures organic matter and coarse sediments prior to discharge of stormwater from the land. All stormwater treatment measures must make provision for convenient and safe regular inspection, periodic cleaning, and maintenance.

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: Protection of the receiving environment.

14. **On-site Stormwater Detention Details**
The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development policy, and generally in accordance with the concept drainage plans prepared by Harris Page and Associates, drawing number 6651 SW03 Rev B, dated Feb 2020. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Professional Engineers Register (NPER) or RPENG (Professionals Australia) and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:
i. The proposed level spreader discharge device is to be deleted and replaced with 2 (No) 150mm outlets fixed to the existing rock face/cliff within the Whale Beach Road reserve. The outlets are to be suitable spaced and designed to prevent scour of the existing table drain.
ii.The stormwater outlets are to also be a pipe class suitable for the exposure classification.
iii. Detailed drainage plans, including engineering certification, are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for the disposal of stormwater and stormwater management arising from the development.

15. **Submission Roads Act Application for Civil Works in the Public Road**
The Applicant is to submit an application for approval for infrastructure works on Council's roadway. Engineering plans for the new development works within the road reserve and this development consent are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993. The works include :
1)The two stormwater outlets which are to be attached to the existing rockface within the Whale Beach Road reserve.The outlets are to be suitable spaced and designed to prevent scour of the existing table drain.
2).The stormwater outlets are to also be a pipe class suitable for the exposure classification.
3) Construction of the vehicle crossing and reconstruction of the down stream table drain where required.
4) A geotechnical report is also to be prepared in relation to the impact of the garage structure /vehicle crossing on the existing cliff/rock face and whether any stabilisation works to the adjoining rock face are required within or adjoining Councils road reserve.

The application is to include four (4) copies of Civil Engineering plans for the design of stormwater outlets and vehicle crossing and associated works are to be generally in accordance with the Council's specification for engineering works - AUS-SPEC #1. The plan shall be prepared by a qualified civil engineer with NER or RPENG registration.The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges.

An approval is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate

Reason: To ensure engineering works are constructed in accordance with relevant standards and Council's specification.

16. **Geotechnical Report Recommendations have been correctly incorporated into designs and structural plans**
The Applicant is to submit Form 2 of the Geotechnical Risk Management Policy for Pittwater (Appendix 5 of P21 DCP) and is to be completed and submitted to the Accredited Certifier, prior to issue of the Construction Certificate.

Reason: To ensure geotechnical risk is managed appropriately.

17. **Compliance with Standards**
The development is required to be carried out in accordance with all relevant Australian Standards.

Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure the development is constructed in accordance with appropriate standards.

18. **Surrender of Consent**
The applicant shall surrender to Council Development Consent No: DA2019/0231 dated 14 June 2019 in accordance with the requirements of the Environmental Planning and Assessment Act 1979.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To prevent inconsistencies between consent applying the site (ref s80A (5) EPAA & cl97 EPA Reg).

19. **Sydney Water "Tap In"**
The approved plans must be submitted to the Sydney Water Tap in service, prior to works commencing, to determine whether the development will affect any Sydney Water assets and/or easements. The appropriately stamped plans must then be submitted to the Certifying Authority demonstrating the works are in compliance with Sydney Water requirements.

Please refer to the website www.sydneywater.com.au for:
- "Tap in" details - see http://www.sydneywater.com.au/tapin
- Guidelines for Building Over/Adjacent to Sydney Water Assets.

Or telephone 13 000 TAP IN (1300 082 746).

Reason: To ensure compliance with the statutory requirements of Sydney Water.

20. **Removal of All Temporary Structures / Material and Construction Rubbish**
Once construction has been completed all silt and sediment fences, silt, rubbish, building debris, straw bales and temporary fences are to be removed from the site.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure bushland management.

21. **Waste Management Plan**
A Waste Management Plan must be prepared for this development. The Plan must be in accordance with the Development Control Plan.

Details demonstrating compliance must be provided to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure that any demolition and construction waste, including excavated material, is reused, recycled or disposed of in an environmentally friendly manner.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

22. **Project Arborist**
A Project Arborist with minimum AQF Level 5 in arboriculture shall be engaged to provide tree protection measures in accordance with Australian Standard 4970-2009 Protection of Trees on Development Sites. The Project Arborist is to specify and oversee all tree protection measures such as tree protection fencing, trunk and branch protection, and ground protection.

The Project Arborist is to supervise all demolition, excavation and construction works near all trees to be retained, including construction methods near the existing trees to protect tree roots, trunks, branches and canopy. Where required, manual excavation is to occur ensuring no tree root at or >25mm (Ø) is damaged by works, unless approved by the Project Arborist.

Existing ground levels shall be maintained within the tree protection zone of trees to be retained, unless authorised by the Project Arborist.

The Project Arborist shall be in attendance and supervise all works as nominated in the Arboricultural Impact Assessment, including:
i) works associated with Appendix 6 - Tree protection Plan
ii) works associated with tree 17 and 18 in adjoining property, as recommended in Appendix 4 and Section 10,
iii) works associated with tree 28 within the site, as recommended in Appendix 4 and Section 10.

All tree protection measures specified must:
a) be in place before work commences on the site, and
b) be maintained in good condition during the construction period, and
c) remain in place for the duration of the construction works.

The Project Arborist shall provide certification to the Certifying Authority that all

recommendations listed for the protection of the existing tree(s) have been carried out satisfactorily to ensure no impact to the health of the tree(s). Photographic documentation of the condition of all trees to be retained shall be recorded, including at commencement, during the works and at completion.

Note:
i) A separate permit or development consent may be required if the branches or roots of a protected tree on the site or on an adjoining site are required to be pruned or removed.
ii) Any potential impact to trees as assessed by the Project Arborist will require redesign of any approved component to ensure existing trees upon the subject site and adjoining properties are preserved and shall be the subject of a modification application where applicable.

Reason: Tree protection.

23. **Tree Removal Within the Property**
This consent approves the removal of the following tree(s) within the property (as recommended in the Arboricultural Impact Assessment):
i) trees of moderate to high retention value identified as number 25, 26, 27, 31, 31a, 33, 34a, 34b, 34c, and 38, all subject to tree replacement as per Landscape Plan
ii) trees of low retention value identified as number 29, 29a, 29b, 32, 34, 35, 36, 37, 39

Note: Exempt Species as listed in the Development Control Plan or the Arboricultural Impact Assessment do not require Council consent for removal, and these include:
iii) trees identified as number 16, 21a, 46, 48, 52, 53 and 54

Reason: To enable authorised building works.

24. **Tree Removal Within the Road Reserve**
This consent approves the removal of the following tree(s) within the road reserve (as recommended in the Arboricultural Impact Assessment):
i) trees identified as number 23 (dead), 24a, and 30.

Removal of the approved tree/s in the road reserve shall only be undertaken by a Council approved tree contractor. Details of currently approved tree contractors can be obtained from Northern Beaches Council's Trees Services Section prior to removal.

Reason: Public liability.

25. **Protection of Habitat Features**
All natural landscape features, including any rock outcrops, native vegetation and/or watercourses, are to remain undisturbed during the construction works, except where affected by necessary works detailed on approved plans.

Reason: To protect wildlife habitat.

26. **Clearing for Asset Protection Zones – Project Ecologist to Certify**
Clearing of vegetation during works for APZ establishment must only occur within the surveyed and permanently marked APZ boundaries. No clearing is to be undertaken outside of the APZ boundaries. No clearing of native vegetation within Council mapped Littoral Rainforest is to be undertaken.

Written certification of compliance is to be prepared by the Project Ecologist and submitted to the Principal Certifying Authority.

Reason: To protect native vegetation and wildlife.

27. **Pre-Construction Dilapidation Report**
Dilapidation reports, including photographic surveys, of the following adjoining properties must be provided to the Principal Certifying Authority prior to any works commencing on the site (including demolition or excavation). The reports must detail the physical condition of those properties listed below, both internally and externally, including walls, ceilings, roof, structural members and other similar items.

Properties:

- 344 Whale Beach Road, Palm Beach; and
- 354 Whale Beach Road, Palm Beach

The dilapidation report is to be prepared by a suitably qualified person. A copy of the report must be provided to Council, the Principal Certifying Authority and the owners of the affected properties prior to any works commencing.

In the event that access for undertaking the dilapidation report is denied by an adjoining owner, the applicant must demonstrate, in writing that all reasonable steps have been taken to obtain access. The Principal Certifying Authority must be satisfied that the requirements of this condition have been met prior to commencement of any works.

Note: This documentation is for record keeping purposes and may be used by an applicant or affected property owner to assist in any action required to resolve any civil dispute over damage rising from the works.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the commencement of any works on site.

Reason: To maintain proper records in relation to the proposed development.

28. **Public Liability Insurance - Works on Public Land**
Any person or contractor undertaking works on public land must take out Public Risk Insurance with a minimum cover of $20 million in relation to the occupation of, and approved works within Council's road reserve or public land, as approved in this consent. The Policy is to note, and provide protection for Northern Beaches Council, as an interested party and a copy of the Policy must be submitted to Council prior to commencement of the works. The Policy must be valid for the entire period that the works are being undertaken on public land.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works on public land.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

29. **Protection of Rock and Sites of Significance**
All sandstone rock faces and outcrops outside of the area of approved works are to be preserved and protected at all times during demolition excavation and construction works.

Should any Aboriginal Cultural Heritage items be uncovered during earthworks, works should cease in the area and the Aboriginal Heritage Office contacted to assess the finds. Under

Section 89a of the NPW Act should the objects be found to be Aboriginal, NSW Biodiversity and Conservation Division, Heritage NSW and the Metropolitan Local Aboriginal Land Council (MLALC) should be contacted.

Reason: Preservation of significant environmental features.

30. **Tree and Vegetation Protection**
a) Existing trees and vegetation shall be retained and protected, including:
i) all trees and vegetation within the site not approved for removal, excluding exempt trees and vegetation under the relevant planning instruments of legislation,
ii) all trees and vegetation located on adjoining properties,
iii) all road reserve trees and vegetation.

b) Tree protection shall be undertaken as follows:
i) tree protection shall be in accordance with Australian Standard 4970-2009 Protection of Trees on Development Sites, including the provision of temporary fencing to protect existing trees within 5 metres of development,
ii) existing ground levels shall be maintained within the tree protection zone of trees to be retained, unless authorised by an Arborist with minimum AQF Level 5 in arboriculture,
iii) removal of existing tree roots at or >25mm (Ø) diameter is not permitted without consultation with an Arborist with minimum AQF Level 5 in arboriculture,
iv) no excavated material, building material storage, site facilities, nor landscape materials are to be placed within the canopy dripline of trees and other vegetation required to be retained,
v) structures are to bridge tree roots at or >25mm (Ø) diameter unless directed by an Arborist with minimum AQF Level 5 in arboriculture on site,
vi) excavation for stormwater lines and all other utility services is not permitted within the tree protection zone, without consultation with an Arborist with minimum AQF Level 5 in arboriculture including advice on root protection measures,
vii) should either or all of v) or vi) occur during site establishment and construction works, an Arborist with minimum AQF Level 5 in arboriculture shall provide recommendations for tree protection measures. Details including photographic evidence of works undertaken shall be submitted by the Arborist to the Certifying Authority,
viii) any temporary access to, or location of scaffolding within the tree protection zone of a protected tree or any other tree to be retained during the construction works is to be undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of Australian Standard 4970-2009 Protection of Trees on Development Sites,
ix) the activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites shall not occur within the tree protection zone of any tree on the lot or any tree on an adjoining site,
x) tree pruning from within the site to enable approved works shall not exceed 10% of any tree canopy, and shall be in accordance with Australian Standard 4373-2007 Pruning of Amenity Trees,
xi) the tree protection measures specified in this clause must: i) be in place before work commences on the site, and ii) be maintained in good condition during the construction period, and iii) remain in place for the duration of the construction works.

c) Tree protection shall specifically be undertaken in accordance with the recommendations in the Arboricultural Impact Assessment, as listed in the following sections:
i) section 10 - Recommended Tree Protection Measures, including items 10.1 to 10.11 inclusive.

The Certifying Authority must ensure that:
d) The arboricultural works listed in c) are undertaken and certified by an Arborist as complaint to the recommendations of the Arboricultural Impact Assessment.

e) The activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites, do not occur within the tree protection zone of any tree, and any temporary access to, or location of scaffolding within the tree protection zone of a protected tree, or any other tree to be retained on the site during the construction, is undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of that standard.

Note: All street trees within the road verge and trees within private property are protected under Northern Beaches Council development control plans, except where Council's written consent for removal has been obtained. The felling, lopping, topping, ringbarking, or removal of any tree (s) is prohibited.

Reason: Tree and vegetation protection.

31. **Road Reserve**
The applicant shall ensure the public footways and roadways adjacent to the site are maintained in a safe condition at all times during the course of the work.

Reason: Public safety.

32. **Installation and Maintenance of Sediment and Erosion Controls**
Council proactively regulates construction sites for sediment management.

Sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) and the Erosion and Sediment Control Plan prepared by Harris Page and Associates prior to commencement of any other works on site.

Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and vegetation cover has been re-established across 70 percent of the site, and the remaining areas have been stabilised with ongoing measures such as jute mesh or matting.

Reason: Protection of the receiving environment.

33. **Dewatering Management**
Tailwater (surface water and rainwater): Please contact catchment@northernbeaches.nsw.gov.au for advice on Council's water quality requirements for a single instance of dewatering tailwater that collects in an excavation during works. A dewatering permit application must be made for expected multiple instances or continuous dewatering of tailwater.

Groundwater: A permit from Council is required for any dewatering of groundwater. An application for interference with an aquifer is required to the Natural Resources Access Regulator. Contact catchment@northernbeaches.nsw.gov.au for more information about permits.

The groundwater/tailwater to be discharged must be compliant with the General Terms of Approval/Controlled Activity permit issued by WaterNSW (if applicable), Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) (Blue Book), Council's Compliance and Enforcement Policy and legislation including Protection of the Environment Operations Act 1997 and Contaminated Lands Act 1997.

All approvals, water discharges and monitoring results are to be documented and kept on site.

Copies of all records shall be provided to the appropriate regulatory authority, including Council, upon request.

Reason: Protection of the receiving environment and groundwater resources.

34. **Survey Certificate**
A survey certificate prepared by a Registered Surveyor at the following stages of construction:

(a) Commencement of perimeter walls columns and or other structural elements to ensure the wall or structure, to boundary setbacks are in accordance with the approved details.

(b) At ground level to ensure the finished floor levels are in accordance with the approved levels, prior to concrete slab being poured/flooring being laid.

(c) At completion of the roof frame confirming the finished roof/ridge height is in accordance with levels indicated on the approved plans.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To determine the height of buildings under construction comply with levels shown on approved plans.

35. **Installation and Maintenance of Sediment Control**
Prior to any works commencing on site, including demolition, sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004). Techniques used for erosion and sediment control on site are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and the site is sufficiently stabilised with vegetation.

Reason: To protect the surrounding environment from the effects of sedimentation and erosion from the site.

36. **Civil Works Supervision**
The Applicant shall ensure all civil works approved in the Section 138 Roads Act approval are supervised by an appropriately qualified and practising Civil Engineer.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority and/or Roads Authority.

Reason: To ensure compliance of civil works with Council's specification for engineering works.

37. **Traffic Control During Road Works**
Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf) and to the satisfaction of the Roads Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety.

38. **Aboriginal Heritage**

If in undertaking excavations or works any Aboriginal site or object is, or is thought to have been found, all works are to cease immediately and the applicant is to contact the Aboriginal Heritage Officer for Northern Beaches Council, and the Cultural Heritage Division of the Department of Environment and Climate Change (DECC).

Any work to a site that is discovered to be the location of an Aboriginal object, within the meaning of the National Parks and Wildlife Act 1974, requires a permit from the Director of the DECC.

Reason: Aboriginal Heritage Protection.

39. **Protection of Rock Outcrops**
During works the rock shelters / outcrops are not to be used for the storing of any tools, machinery or materials at any time.

Reason: To avoid inadvertent harm to rock shelters protected under the NPW Act (1974().

40. **Waste Management During Development**
The reuse, recycling or disposal of waste during works must be done generally in accordance with the Waste Management Plan for this development.

Details demonstrating compliance must be submitted to the Principal Certifying Authority.

Reason: To ensure demolition and construction waste is recycled or reused and to limit landfill.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

41. **Landscape Completion**
Landscaping is to be implemented in accordance with the approved Landscape Plan, inclusive of the following conditions:
i) each new tree shall be located within a 9m2 deep soil area wholly within the site and be located a minimum of 3 metres from existing and proposed buildings, and other trees,
ii) within the Asset Protection Zone, tree planting shall comply with section 3.7 Landscaping, and Appendix 4 - Asset Protection Zone Requirements of Planning for Bush Fire Protection 2019,
iii) all tree planting shall be located to minimise significant impacts on neighbours in terms of blocking winter sunlight, or where the proposed tree location may impact upon significant views.

Prior to the issue of any Occupation Certificate details (from a landscape architect or landscape designer) shall be submitted to the Principal Certifying Authority certifying that the landscape works have been completed in accordance with any conditions of consent.

Reason: Environmental amenity.

42. **Stormwater Disposal**
The stormwater drainage works shall be certified as compliant with the approved Construction Certificate stormwater drainage plans and Councils water management policy by the design engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure appropriate provision for the disposal of stormwater arising from the development.

43. **Certification of Landscape Plan**
Landscaping is to be implemented in accordance with the approved Landscape Plans (Dangar Barin Smith 2021) and these conditions of consent.

Details demonstrating compliance are to be prepared by the landscape architect and provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To ensure compliance with the requirement to retain and protect significant planting on the site.

44. **No Weeds Imported On To The Site**
No Priority or environmental weeds are to be imported on to the site prior to or during construction works.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To reduce the risk of site works contributing to spread of Priority and environmental weeds.

45. **Priority Weed Removal and Management**
All Priority and environmental weeds as specified in the Prescribed Environmental Actions Report (Abel Ecology 2021) are to be removed from the site. This will assist in establishment of Asset Protection Zones to the required levels.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To reduce the risk of site works contributing to spread of Priority weeds.

46. **Works as Executed Drawings - Stormwater Treatment Measures**
Works as Executed Drawings for the stormwater treatment measures must be prepared in accordance with Council's Guideline for Preparing Works as Executed Data for Council Stormwater Assets.

The drawings shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: Protection of the receiving environment.

47. **Post-Construction Dilapidation Report**
Post-Construction Dilapidation Reports, including photos of any damage evident at the time of inspection, must be submitted after the completion of works. The report must:

- Compare the post-construction report with the pre-construction report,
- Clearly identify any recent damage and whether or not it is likely to be the result of the development works,
- Should any damage have occurred, suggested remediation methods.

Copies of the reports must be given to the property owners referred to in the Pre-Construction Dilapidation Report Condition. Copies must also be lodged with Council.

Details demonstrating compliance with this condition are to be submitted to the Principal

Certifying Authority prior to the issuing of any Occupation Certificate.

Reason: To maintain proper records in relation to the proposed development.

48. **Positive Covenant and Restriction as to User for On-site Stormwater Disposal Structures**
The Applicant shall lodge the Legal Documents Authorisation Application with the original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) to Council and a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan), hydraulic engineers' certification.

The Applicant shall create on the Title a restriction on the use of land and a positive covenant in respect to the ongoing maintenance and restriction of the on-site stormwater disposal structures within this development consent. The terms of the positive covenant and restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with the NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.
A copy of the certificate of title demonstrating the creation of the positive covenant and restriction for on-site storm water detention as to user is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of final Occupation Certificate.

Reason: To ensure the on-site stormwater disposal system is maintained to an appropriate operational standard.

49. **Post-Construction Road Reserve Dilapidation Report**
The applicant must bear the cost of all restoration works to Council's property damaged during the course of this development. All building work must have been carried out in accordance with the provisions of the Building Code of Australia

Note: Where by Council is not the Principal Certifying Authority, Refund of the trust fund deposit will also be dependent upon receipt of a final Occupation Certificate by the Principal Certifying Authority, Post Construction Dilapidation Report and infrastructure inspection by Council.

Reason: To ensure security against possible damage to Council property.

50. **Geotechnical Certification Prior to Occupation Certificate**
The Applicant is to submit the completed Form 3 of the Geotechnical Risk Management Policy (Appendix 5 of P21 DCP) to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

51. **Consolidation of Lots or Restrictive Covenant**
Lot 328, 329 and 330 in DP 16362 must be consolidated as one (1) allotment and registered on a survey plan (prepared and signed by a Registered Surveyor) with the NSW Land & Property Information Service (NSW Department of Lands).

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure development is not constructed over property boundaries.

52. **Swimming Pool Requirements**
The Swimming Pool shall not be filled with water nor be permitted to retain water until:

(a) All required safety fencing has been erected in accordance with and all other requirements have been fulfilled with regard to the 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

(b) A certificate of compliance prepared by the manufacturer of the pool safety fencing, shall be submitted to the Principal Certifying Authority, certifying compliance with Australian Standard 1926.

(c) Filter backwash waters shall be discharged to the Sydney Water sewer mains in accordance with Sydney Water's requirements. Where Sydney Water mains are not available in rural areas, the backwash waters shall be managed onsite in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system. Appropriate instructions of artificial resuscitation methods.

(d) A warning sign stating '**YOUNG CHILDREN SHOULD BE SUPERVISED WHEN USING THIS POOL**' has been installed.

(e) Signage showing resuscitation methods and emergency contact

(f) All signage shall be located in a prominent position within the pool area.

(g) Swimming pools and spas must be registered with the *Division of Local Government*.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of an Interim / Final Occupation Certificate.

Reason: To protect human life.

53. **Waste Management Confirmation**
Prior to the issue of a Final Occupation Certificate, evidence / documentation must be submitted to the Principal Certifying Authority that all waste material from the development site arising from demolition and/or construction works has been appropriately recycled, reused or disposed of generally in accordance with the approved Waste Management Plan.

Reason: To ensure demolition and construction waste is recycled or reused and to limit landfill.

ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES

54. **Landscape Maintenance**
If any landscape materials/components or planting under this consent fails, they are to be replaced with similar materials/components. Trees, shrubs and groundcovers required to be planted under this consent are to be mulched, watered and fertilised as required at the time of

planting.

If any tree, shrub or groundcover required to be planted under this consent fails, they are to be replaced with similar species to maintain the landscape theme and be generally in accordance with the approved Landscape Plan and any conditions of consent.

All landscape maintenance shall comply with section 3.7 Landscaping, and Appendix 4 - Asset Protection Zone Requirements, of Planning for Bush Fire Protection 2019.

All weeds are to be removed and controlled in accordance with the NSW Biosecurity Act 2015.

Reason: To maintain local environmental amenity.

55. **Protection of Habitat Features**
All natural landscape features, including any rock outcrops, native vegetation, soil and/or watercourses, are to remain undisturbed except where affected by necessary works detailed on approved plans.

Reason: To protect wildlife habitat.

56. **Maintenance of Asset Protection Zones**
Vegetation clearing for ongoing APZ maintenance must only occur within the surveyed and marked APZ boundaries. No clearing is to be undertaken outside of the APZ boundaries.

Reason: To protect native vegetation and wildlife.

57. **Maintenance of Stormwater Treatment Measures - Minor**
Stormwater treatment measures must be maintained at all times in accordance with manufacturer's specifications and as necessary to achieve the required stormwater quality targets for the development.

Northern Beaches Council reserves the right to enter the property and carry out appropriate maintenance of the device at the cost of the property owner.

Reason: Protection of the receiving environment.

58. **Location of Mechanical Ventilation and Swimming Pool / Spa Motor**
During occupation and ongoing use of the building, the applicant must ensure all subsequently installed noise generating mechanical ventilation systems or other plant and equipment, inclusive of any swimming pool / spa motor or pump, are in an appropriate location on the site (including a soundproofed area where necessary) to ensure the noise generated does not exceed 5dBA at the boundary adjacent to any habitable room of an adjoining residential premises.

Reason: To protect the residential amenity of neighbouring properties.



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Drawing List

Drawing	Issue	Title
001	E	Photomontage 01 View of Proposal from East
002	D	Site Survey Plan
003	E	Site Analysis Plan
005	E	Site Plan (Level 1)
006	N	Site Plan (Level 2)
007	F	Demolition Plan
008	J	Excavation & Fill plan
010	H	LO-1 Plan
011	G	LO-2 Plan
012	G	LO-3 Plan
013	H	LO-4 Plan
020	T	L1 Plan
030	T	L2 Plan
040	R	Roof Plan
050	R	East Elevation
051	G	South Elevation
052	F	North Elevation
060	J	Section A
061	L	Section B
062	J	Section C
063	J	Section D
064	H	Section E
065	F	Section F
066	F	Section G
070	J	Tree Location Plan
100	E	Finishes Sample
101	C	Photomontage 02 Area Overview
108	C	Maximum Building Height 8.5m height plane diagram
109	E	Maximum Building Height 10m height plane diagram
110	D	Shadow Diagrams 21 June 9am
111	D	Shadow Diagrams 21 June 12pm
112	D	Shadow Diagrams 21 June 3pm
115	D	Landscaped Area Plan - Existing
116	D	Landscaped Area Plan - Proposed
130	A	Notification Plan Level 1
131	A	Notification Plan Level 2
150	A	Notification Elevations

ISSUE	REVISION	DATE
E	DA submission. Drawing list updated.	09-03-21 08-03-21
D	Drawing list updated	01-03-21
C	Drawing list updated	23-02-21
B	Drawing list updated	22-02-21
A	Initial Issue	08-02-21

Project
House
Lots 327 to 330, DP 16382
340-352 Whale Beach Road
Palm Beach NSW 2108

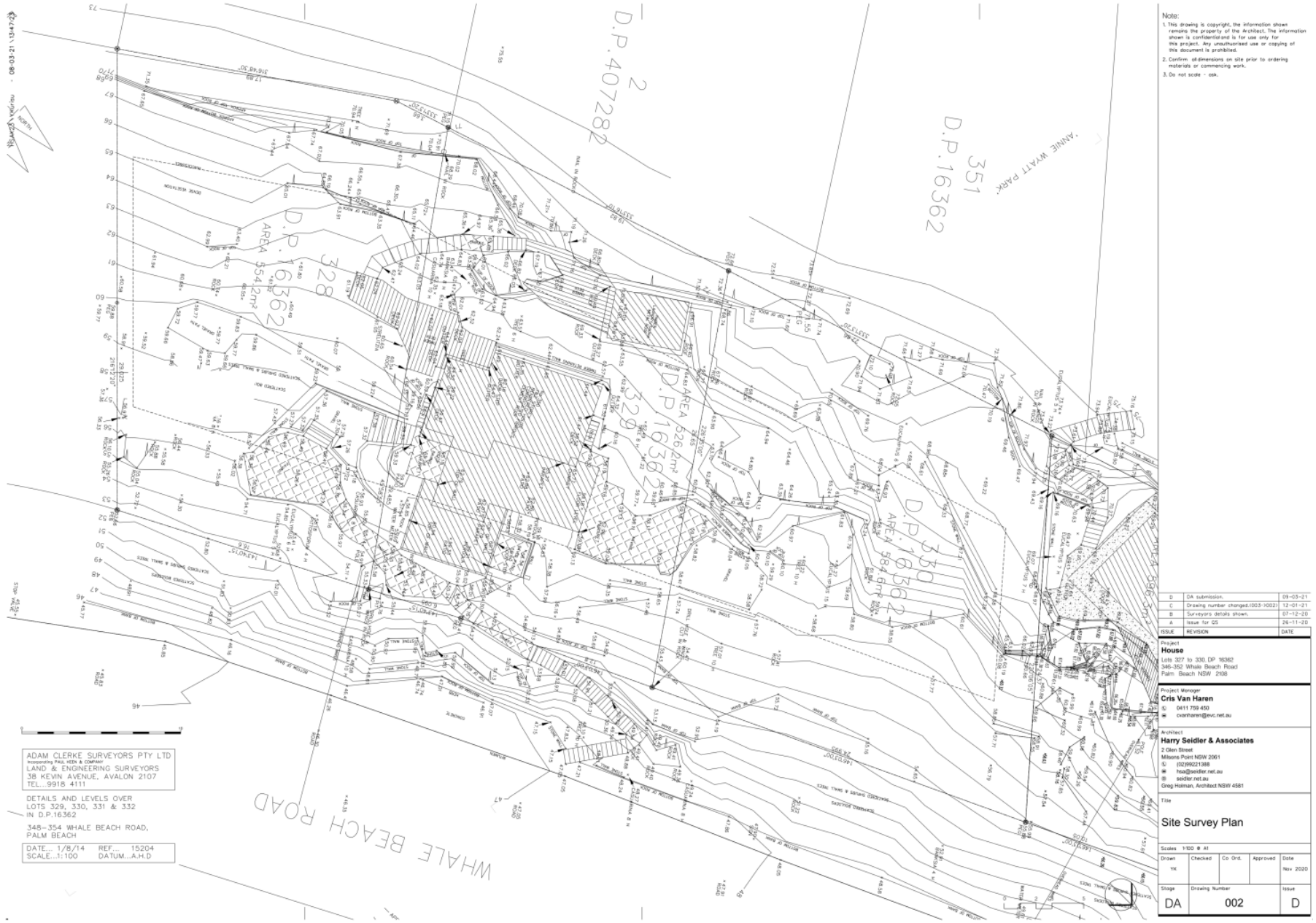
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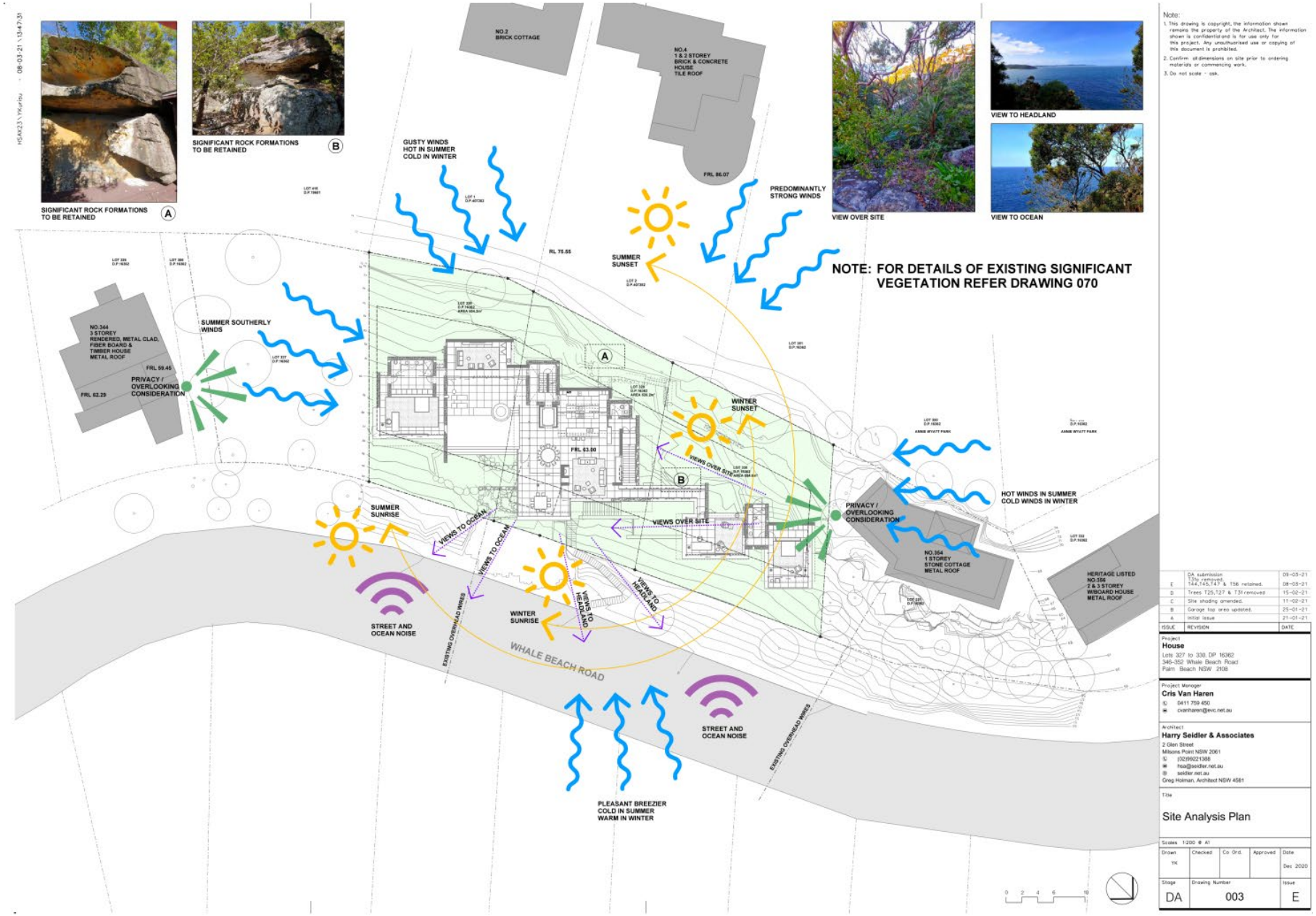
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Title
Photomontage 01
View of Proposal from East

Scales	N.T.S.			
Drawn	Checked	Co Ord.	Approved	Date
YK				Feb 2021

Stage	Drawing Number	Issue
DA	001	E


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D.P.407282
D.P.16362
ANNIE WYATT PARK
WHALE BEACH ROAD
ADAM CLERKE SURVEYORS PTY LTD
Incorporating PAUL KEEN & COMPANY
LAND & ENGINEERING SURVEYORS
38 KEVIN AVENUE, AVALON 2107
TEL...9918 4111
DETAILS AND LEVELS OVER
LOTS 329, 330, 331 & 332
IN D.P.16362
348-354 WHALE BEACH ROAD,
PALM BEACH
DATE... 1/8/14 REF... 15204
SCALE...1:100 DATUM...A.H.D
D DA submission. 09-03-21
C Drawing number changed.(003-1002) 12-01-21
B Surveyors details shown. 07-12-20
A Issue for QS 26-11-20
ISSUE REVISION DATE
Project
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Title
Site Survey Plan
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Nov 2020
Stage DA
Drawing Number 002
Issue D


SIGNIFICANT ROCK FORMATIONS TO BE RETAINED
A
SIGNIFICANT ROCK FORMATIONS TO BE RETAINED
B
NO.2 BRICK COTTAGE
NO.4 1 & 2 STOREY BRICK & CONCRETE HOUSE TILE ROOF
FRL 86.07
GUSTY WINDS HOT IN SUMMER COLD IN WINTER
PREDOMINANTLY STRONG WINDS
VIEW OVER SITE
VIEW TO HEADLAND
VIEW TO OCEAN
NOTE: FOR DETAILS OF EXISTING SIGNIFICANT VEGETATION REFER DRAWING 070
SUMMER SUNSET
RL 75.55
NO.344 3 STOREY RENDERED, METAL CLAD, FIBER BOARD & TIMBER HOUSE METAL ROOF
FRL 59.45
FRL 62.29
SUMMER SOUTHERLY WINDS
PRIVACY / OVERLOOKING CONSIDERATION
WINTER SUNSET
FRL 63.00
VIEWS OVER SITE
HOT WINDS IN SUMMER COLD WINDS IN WINTER
NO.354 1 STOREY STONE COTTAGE METAL ROOF
HERITAGE LISTED NO.356 2 & 3 STOREY WEBOARD HOUSE METAL ROOF
SUMMER SUNRISE
VIEWS TO OCEAN
VIEWS TO HEADLAND
WINTER SUNRISE
STREET AND OCEAN NOISE
EXISTING OVERHEAD WIRES
WHALE BEACH ROAD
PLEASANT BREEZIER COLD IN SUMMER WARM IN WINTER
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E DA submission T30 removed. 144,145,147 & 156 retained. 09-03-21
D Trees T25,127 & T31 removed 15-02-21
C Site shading amended. 11-02-21
B Garage top area updated. 25-01-21
A Initial issue 21-01-21
ISSUE REVISION DATE
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Greg Holman, Architect NSW 4581
Title
Site Analysis Plan
Scales 1:200 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Dec 2020
Stage DA
Drawing Number 003
Issue E



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ISSUE	REVISION	DATE
E	DA submission T31a removed. 144,145,147 & 156 retained.	09-03-21 08-03-21
D	Trees T25,127 & 131removed	15-02-21
C	Site shading amended. Stair to terrace amended.	11-02-21 09-02-21
B	Garage top area updated.	25-01-21
A	Initial issue	19-01-21

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Title
Site Plan (Level 1)

Scales 1:200 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	005	E



	FECA	UCA	GFA
Roof	10.38m²	-	10.38m²
Level 2	364.29m²	55.17m²	419.46m²
Level 1	234.89m²	55.31m²	290.20m²
Level 0-4	52.39m²	41.51m²	93.90m²
Level 0-3	73.94m²	-	73.94m²
Level 0-2	84.48m²	-	84.48m²
Level 0-1	113.90m²	17.51m²	131.41m²
Total	934.27m²	169.50m²	1103.77m²

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ISSUE	REVISION	DATE
N	DA submission LO-4 area amended. T35a removed. 144,145,147 & 156 retained.	09-03-21 08-03-21
M	Levels 0-2, 0-3, 0-4 area amended.	26-02-21
L	Area (FECA, UCA, GFA) amended. Trees T25,127 & 131 removed.	16-02-21 15-02-21
K	Site shading amended.	11-02-21
J	Garage top area updated.	25-01-21
H	Trees T24 removed.	14-01-21
G	Drawing number changed.(002->006)	12-01-21
F	Trees updated.	08-01-21
E	Existing terrace edge shown. Dimensions amended.	22-12-20 21-12-20
D	Level 2 plan shown instead of roof plan	07-12-20
C	Issue for QS Area (FECA, UCA, GFA) shown	26-11-20 25-11-20
B	Amended to client request	09-09-20
A	Initial issue	17-07-20

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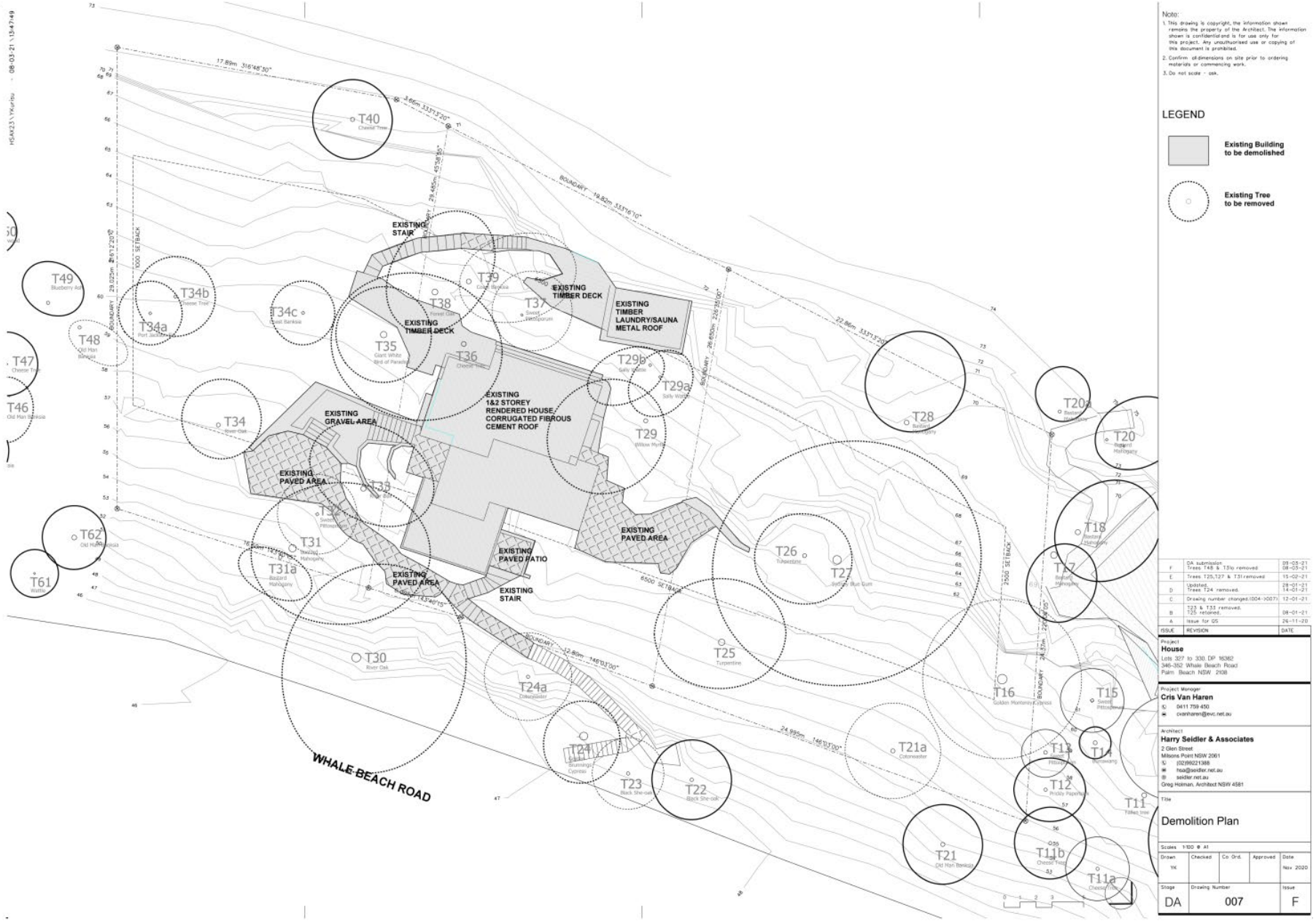
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Title
Site Plan (Level 2)

Scales 1:200 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	006	N



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LEGEND

Existing Building to be demolished

Existing Tree to be removed

ISSUE	REVISION	DATE
F	DA submission Trees T48 & T31a removed	09-03-21 08-03-21
E	Trees T25,T27 & T31 removed	15-02-21
D	Updated. Trees T24 removed.	28-01-21 14-01-21
C	Drawing number changed.(004->007)	12-01-21
B	T23 & T33 removed. T25 retained.	08-01-21
A	Issue for QS	26-11-20

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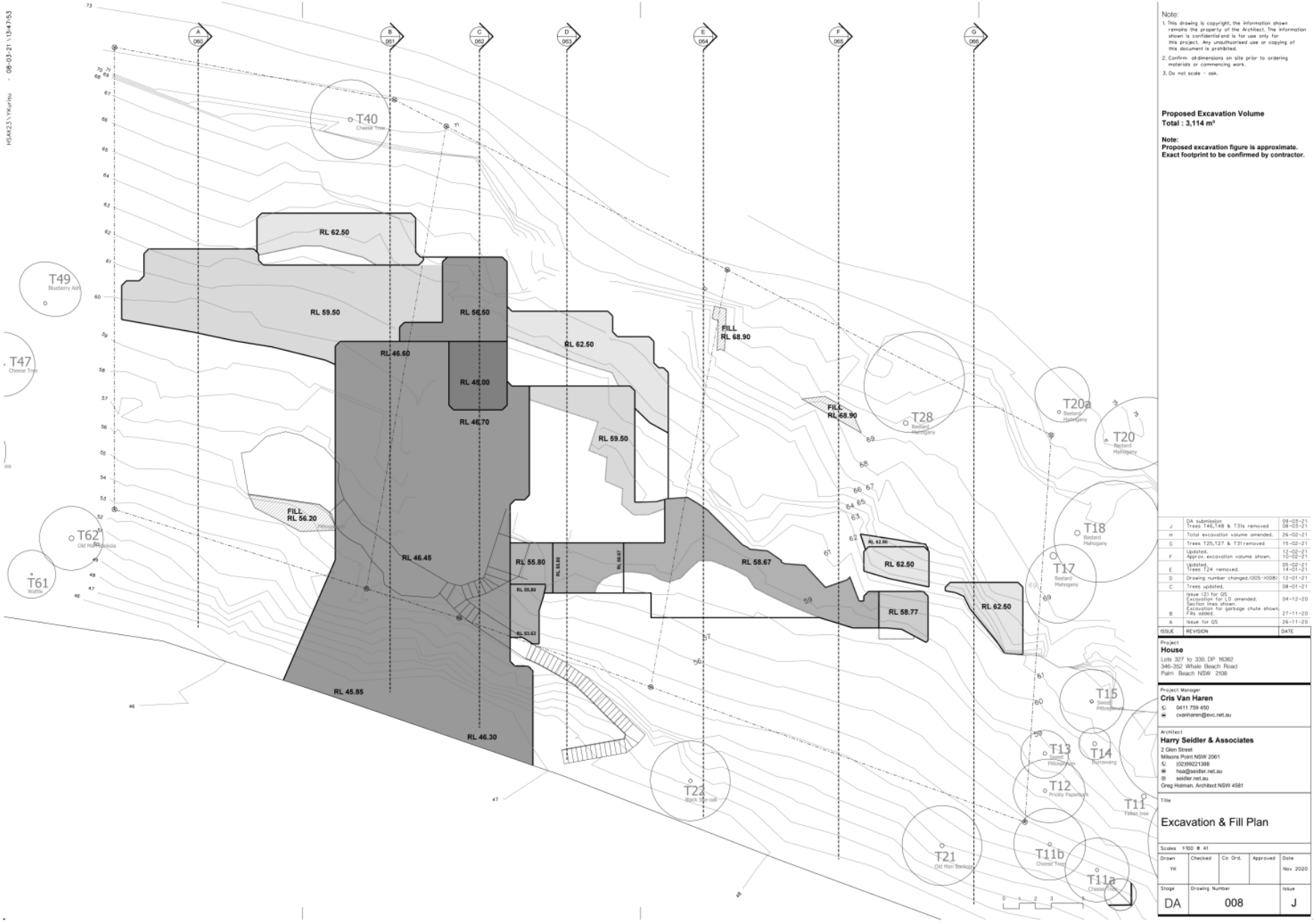
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Greg Holman, Architect NSW 4581

Title
Demolition Plan

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	007	F


RL 62.50
RL 59.50
RL 56.50
RL 46.60
RL 48.00
RL 46.70
RL 62.50
RL 59.50
FILL
RL 68.90
FILL
RL 68.90
FILL
RL 56.20
RL 46.45
RL 55.80
RL 58.67
RL 62.50
RL 58.77
RL 62.50
RL 45.85
RL 46.30
T40
T49
T47
T62
T61
T28
T20a
T20
T18
T17
T15
T13
T14
T12
T11
T22
T21
T11b
T11a
Note:
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Proposed Excavation Volume
Total : 3,114 m³
Note:
Proposed excavation figure is approximate.
Exact footprint to be confirmed by contractor.
J DA submission Trees T46,T48 & T31a removed 09-03-21 08-03-21
H Total excavation volume amended. 26-02-21
G Trees T25,T27 & T31 removed 15-02-21
F Updated. Approx. excavation volume shown. 12-02-21 10-02-21
E Updated. Trees T24 removed. 09-02-21 14-01-21
D Drawing number changed.(005->008) 12-01-21
C Trees updated. 08-01-21
B Issue (2) for QS Excavation for LD amended. Section lines shown. Excavation for garbage chute shown. Fills added. 04-12-20 27-11-20
A Issue for QS 26-11-20
ISSUE REVISION DATE
Project
House
Lots 327 to 330, DP 16362
346-352 Whale Beach Road
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Title
Excavation & Fill Plan
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Nov 2020
Stage DA
Drawing Number 008
Issue J



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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission Garbage bins area amended. Hydrant near garbage bins shown.	09-03-21 08-03-21
G	Perimeter wall thickness reduced. Balustrade to stair.	24-02-21 24-02-21
F	Conc. wall to garbage bins area.	16-02-21
E	Info added. Lift shaft width increased.	02-02-21 01-02-21
D	Updated.	27-01-21
C	Drawing number changed. Updated.	22-01-21
B	Updated.	19-01-21
A	Initial issue	23-12-20

Project
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Plan
Level 0 - 1

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	010	H



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29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
G	DA submission Facade south window amended. Plant room added. Wine cellar RL amended.	09-03-21 05-03-21 03-03-21 02-03-21
F	Perimeter wall thickness reduced. Wine cellar shown.	26-02-21
E	Conc. wall to garbage bins area	16-02-21
D	Info added. Lift shaft width increased.	02-02-21 01-02-21
C	Updated.	27-01-21
B	Drawing number changed. Updated.	22-01-21
A	Initial issue	23-12-20

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Plan
Level 0 - 2

Scales 1:100 @ A1

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YK				Dec 2020

Stage	Drawing Number	Issue
DA	011	G



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31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
G	DA submission Façade south window amended. Water tank room amended.	09-03-21 05-03-21 03-03-21
F	Perimeter wall thickness reduced. Water tank room shown.	26-02-21
E	Conc. wall to garbage bins area	16-02-21
D	Info added. Lift shaft width increased.	02-02-21 01-02-21
C	Updated.	27-01-21
B	Drawing number changed. Updated.	22-01-21
A	Initial issue	23-12-20

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Plan
Level 0 - 3

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	012	G



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32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission Trees shown. Plant room enlarged. Gravel area & plant RLs amended. Internal stair to plant amended.	09-03-21 08-03-21 04-03-21 03-03-21

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Title
Plan
Level 0 - 4

Scales 1:100 @ A1

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YK				Dec 2020

Stage	Drawing Number	Issue
DA	013	H



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36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
T	DA submission Trees updated. Hot water system shown.	09-03-21 04-03-21 04-03-21
S	Main stair support side wall	24-02-21
R	Awning & sliding windows shown. Spire wall to main stair. Trees T25,T27 & T31 removed.	19-02-21 16-02-21 15-02-21
Q	Stair to terrace amended.	09-02-21
P	Existing building shown. Info added. Lift shaft width increased.	05-02-21 03-02-21 01-02-21
N	Updated. Garage top area updated.	27-01-21 25-01-21
M	Entry stair extended. Concrete column outside of centre bedroom moved.	21-01-21

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Title
Plan :
Level 1

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	020	T



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LEGEND

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37 Wine Cellar

ISSUE	REVISION	DATE
T	DA submission Trees updated. Hot water system shown.	09-03-21 08-03-21 04-03-21
S	Main stair support side wall Bulkhead to enquiries shown.	24-02-21
R	Rung ladders added.	23-02-21

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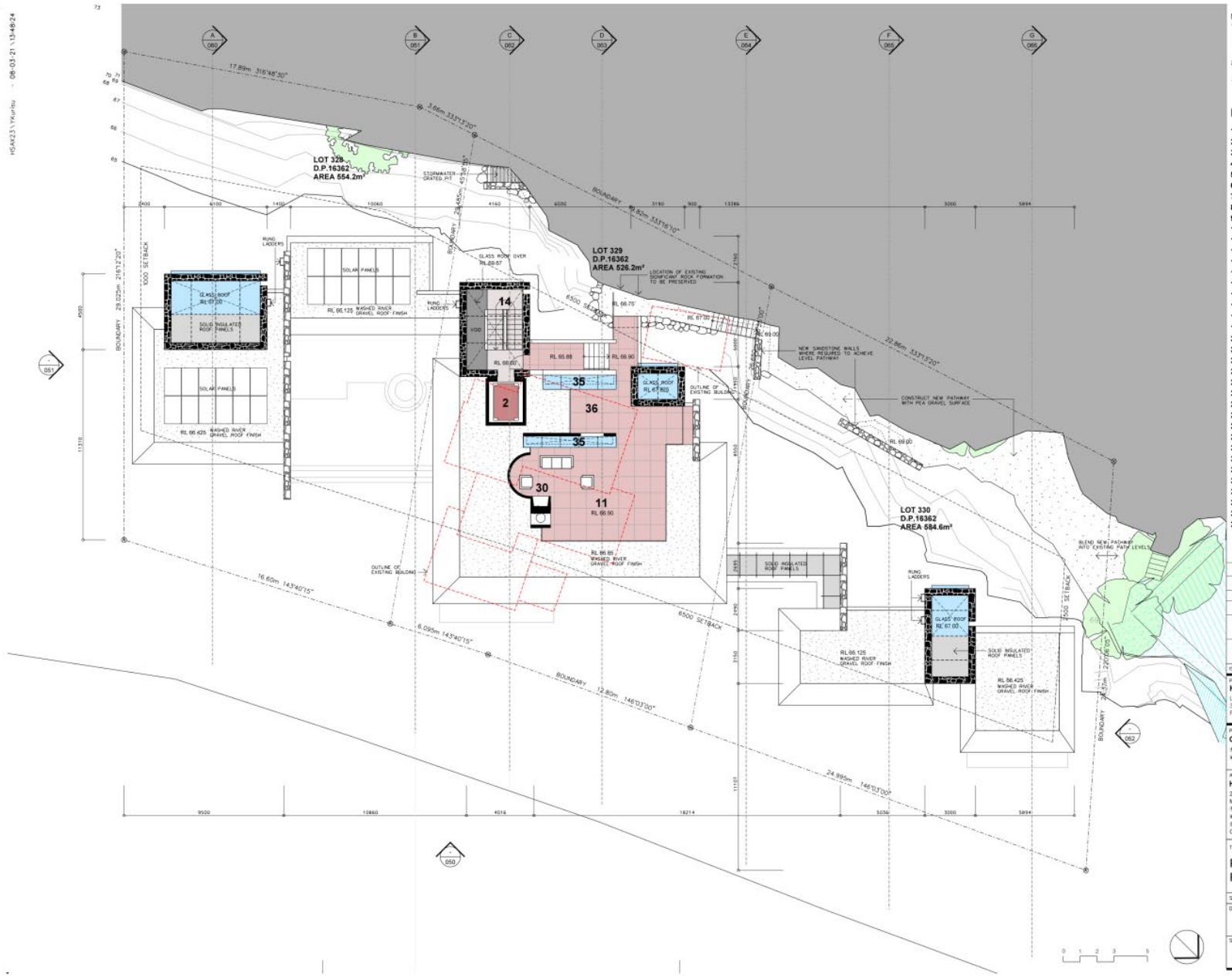
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Title
Plan :
Level 2

Scales 1:100 @ A1

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YK				Jul 2020

Stage	Drawing Number	Issue
DA	030	T



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LEGEND

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29 Garage
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32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
R	DA submission Stormwater pit shown.	09-03-21 05-03-21
Q	Main stair support side wall. Solid insulated roof panels shown.	24-02-21
P	Rung ladders & Solar panels added.	23-02-21
N	Spine wall to main stair. Trees T25,T27 & T31 removed.	16-02-21 15-02-21
M	Existing building shown, into added. Lift shaft width increased. Roof terrace amended.	05-02-21 03-02-21 01-02-21
L	Glass roof above entry deleted. Roof edge above entry extended. Skylight above kitchen amended. Updated.	29-01-21 28-01-21

Project
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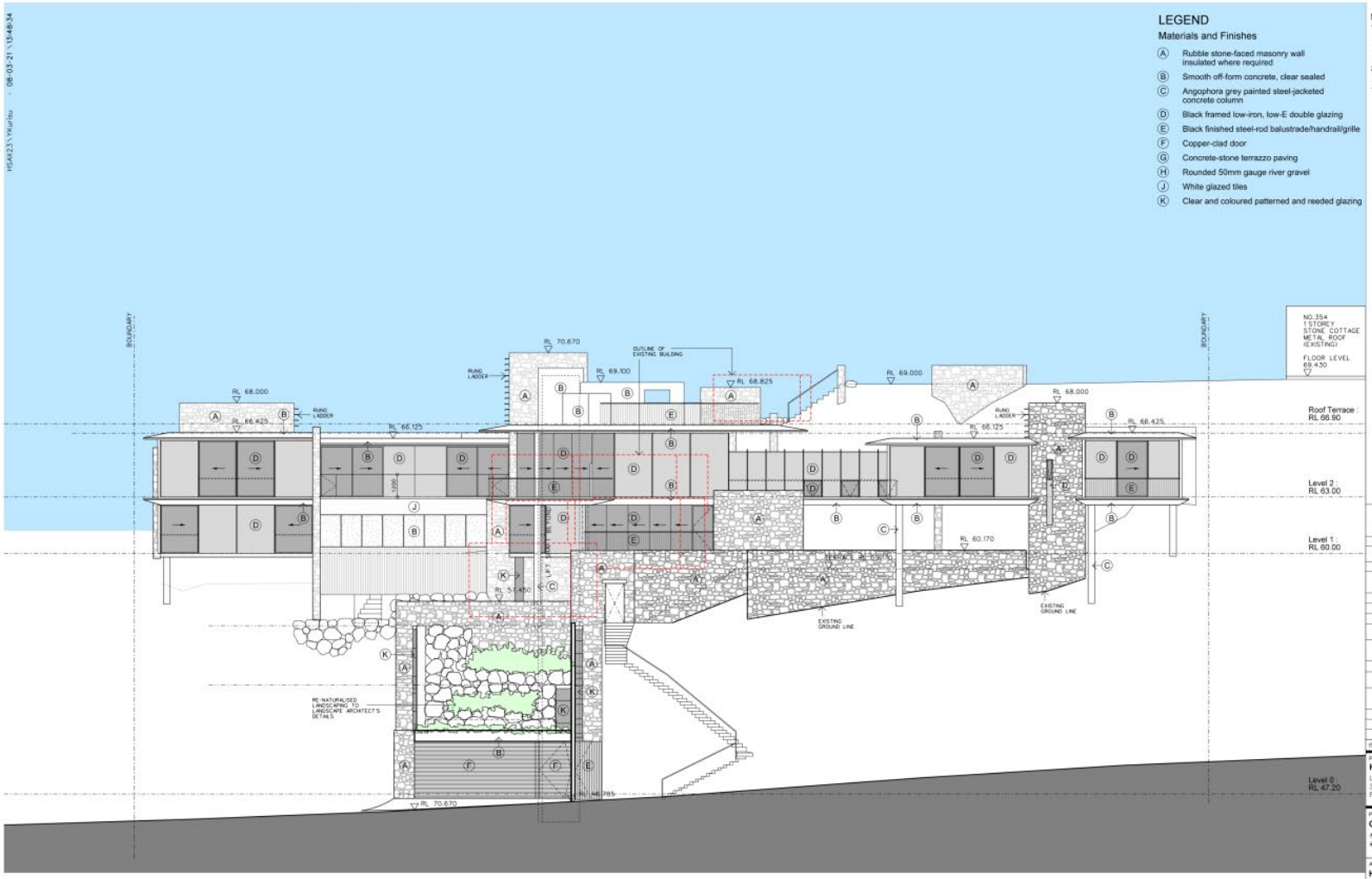
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Title
Plan:
Roof

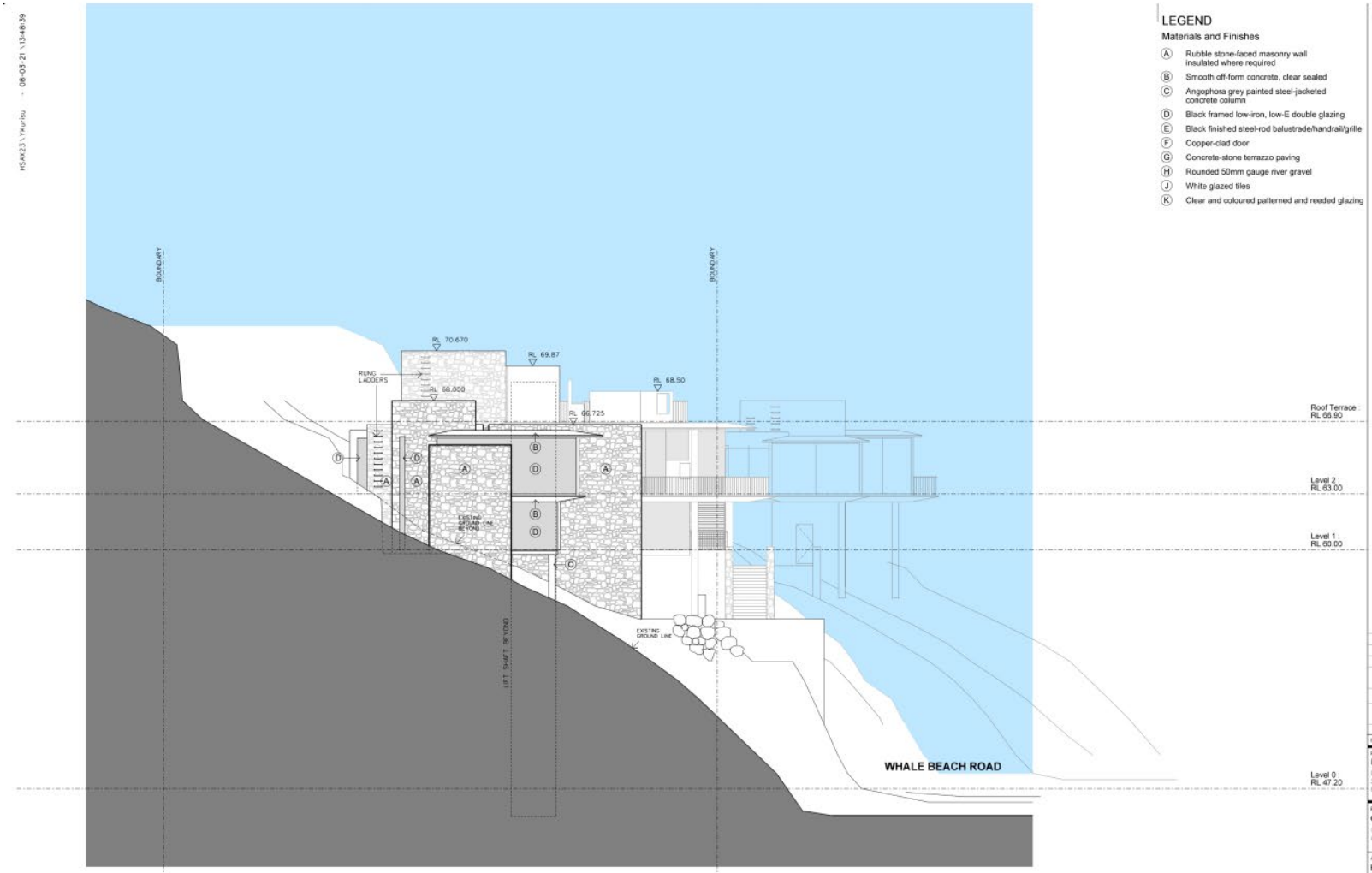
Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	040	R



EAST ELEVATION



SOUTH ELEVATION

LEGEND

Materials and Finishes

- (A) Rubble stone-faced masonry wall insulated where required
- (B) Smooth off-form concrete, clear sealed
- (C) Angophora grey painted steel-jacketed concrete column
- (D) Black framed low-iron, low-E double glazing
- (E) Black finished steel-rod balustrade/handrail/grille
- (F) Copper-clad door
- (G) Concrete-stone terrazzo paving
- (H) Rounded 50mm gauge river gravel
- (J) White glazed tiles
- (K) Clear and coloured patterned and reeded glazing

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ISSUE	REVISION	DATE
G	DA submission	09-03-21
F	Rung ladders added.	25-02-21
E	Top part of chimney at roof deleted.	10-02-21
D	Roof terrace amended. Garage top area updated. Stair & lift shaft top raised.	02-02-21 26-01-21 20-01-21
C	Updated. Ground line amended	15-01-21 13-01-21
B	Issue (2) for QS Retaining stone wall shown Finishes shown.	04-12-20 27-11-20
A	Issue for QS	26-11-20

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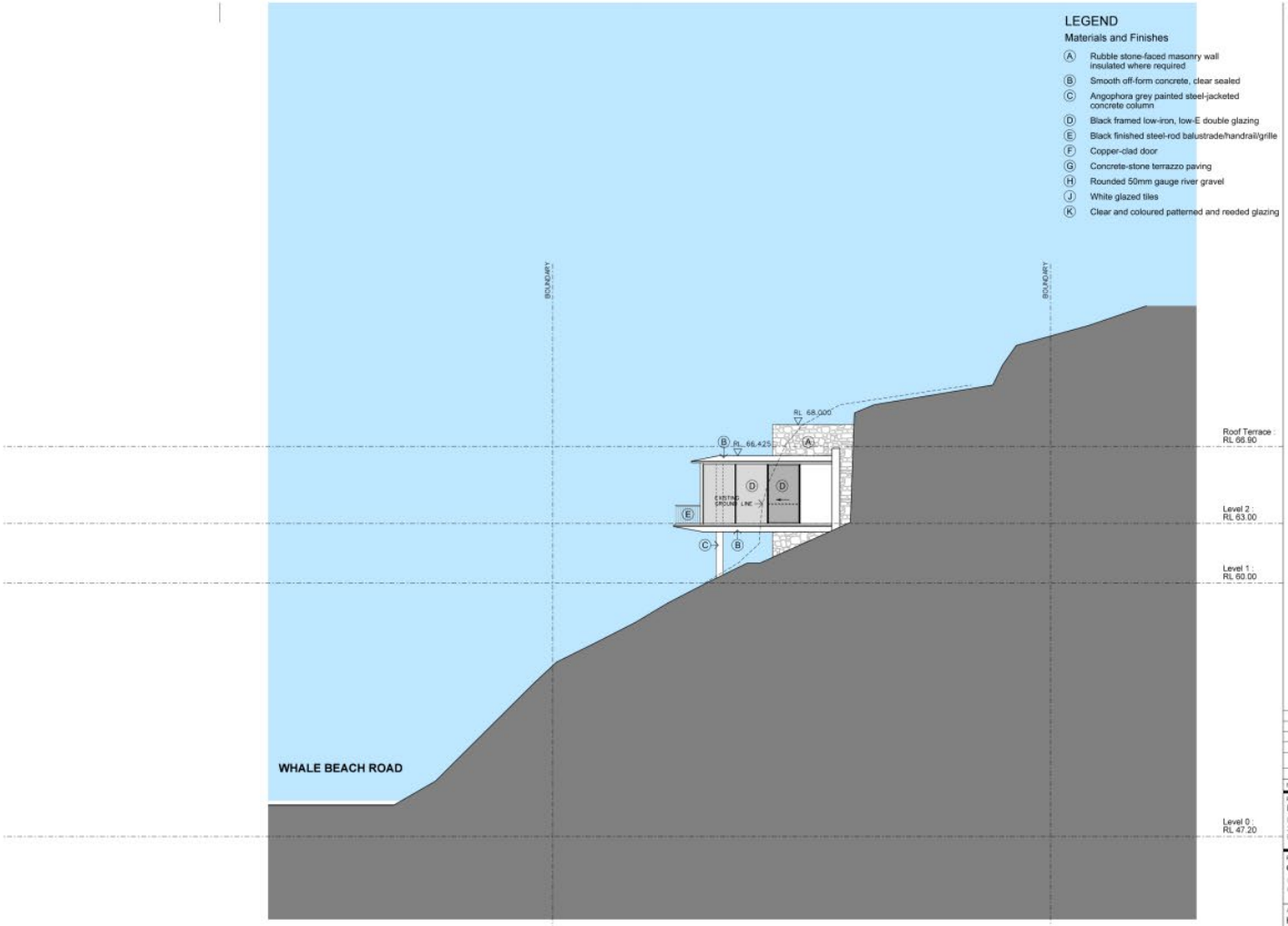
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Title
South Elevation

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	051	G



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ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Updated.	19-02-21
D	Existing ground line shown.	11-02-21
C	Updated.	02-02-21
B	Issue (2) for QS Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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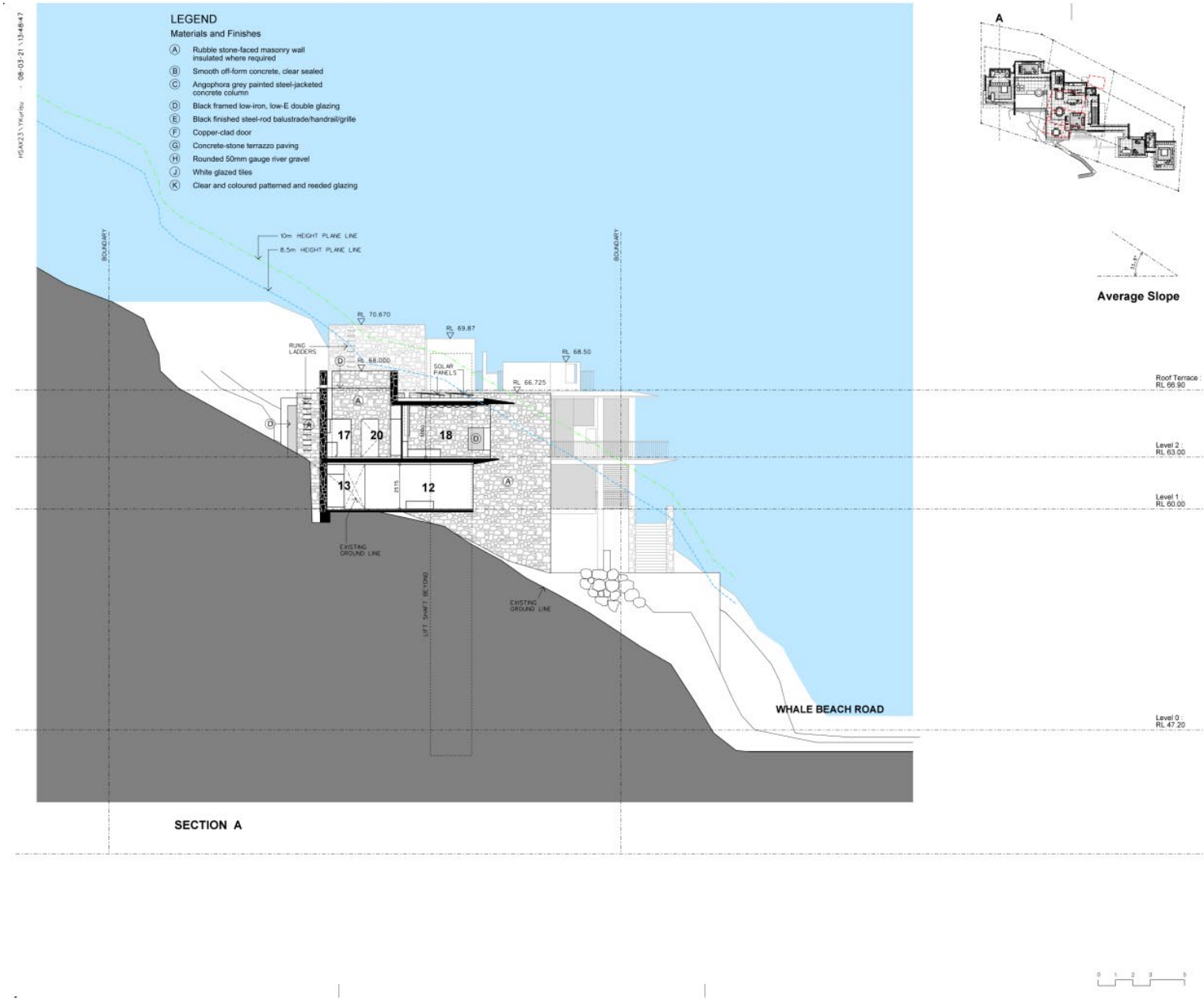
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Title
North Elevation

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	052	F



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LEGEND

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37 Wine Cellar

ISSUE	REVISION	DATE
J	DA submission	09-03-21
H	Rung ladders & Solar panels added.	23-02-21
G	Draped ceiling shown.	18-02-21
F	8.5m & 10m height lines added. Average slope shown. Top portion of chimney at roof deleted. Legend "2" amended.	12-02-21 11-02-21 10-02-21 09-02-21
E	Master bedroom window amended. Roof terrace amended. Garage top area updated.	04-02-21 03-02-21 27-01-21
D	Stair & lift shaft top raised.	20-01-21
C	Updated.	15-01-21
B	Issue (2) for QS Conc col moved. Retaining stone wall shown Finishes shown.	04-12-20 03-12-20 27-11-20
A	Issue for QS	26-11-20

Project
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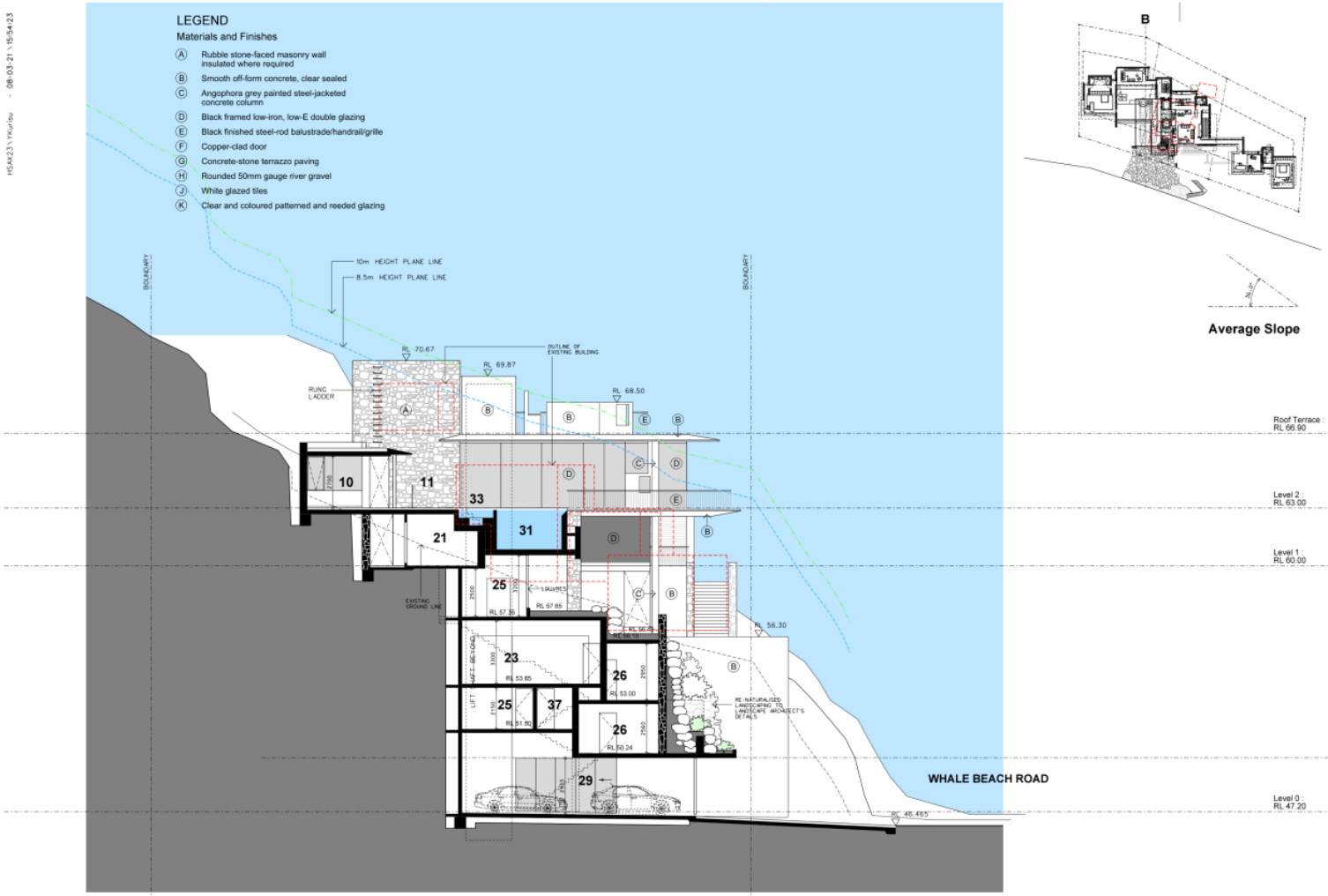
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Title
Section A

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Sep 2020

Stage	Drawing Number	Issue
DA	060	J



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LEGEND

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ISSUE	REVISION	DATE
L	DA submission Water tank room & top plant levels changed. Pool glass fence amended. Internal stair to plant shown dotted.	09-03-21 02-03-21

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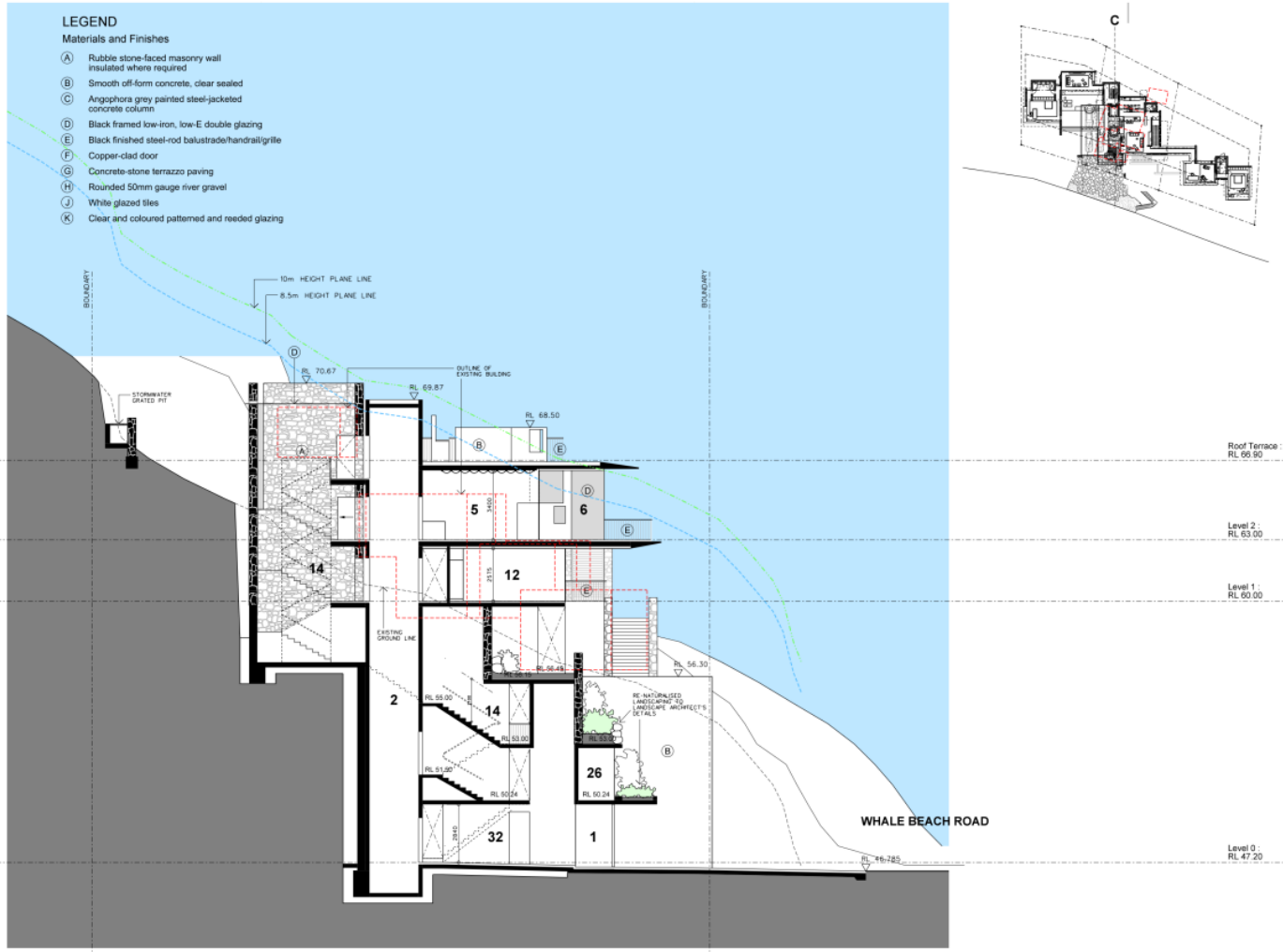
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Title
Section B

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	061	L



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LEGEND

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13 Bathroom
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15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
J	DA submission Stormwater grated pit shown. Level 0-4 gravel area RLs changed.	09-03-21 05-03-21 04-03-21
H	Dropped ceiling shown. Spine wall to main stair.	17-02-21
G	8.5m & 10m height lines added. Top part of chimney of roof deleted. Legend "G" amended.	12-02-21 10-02-21 09-02-21
F	Existing building shown. Roof terrace amended.	08-02-21 02-02-21
E	Updated	25-01-21
D	Drawing number changed. (096->062) Stair & lift shaft top raised.	20-01-21
C	Updated	15-01-21
B	Updated	07-01-21
A	Initial issue	23-12-20

Project
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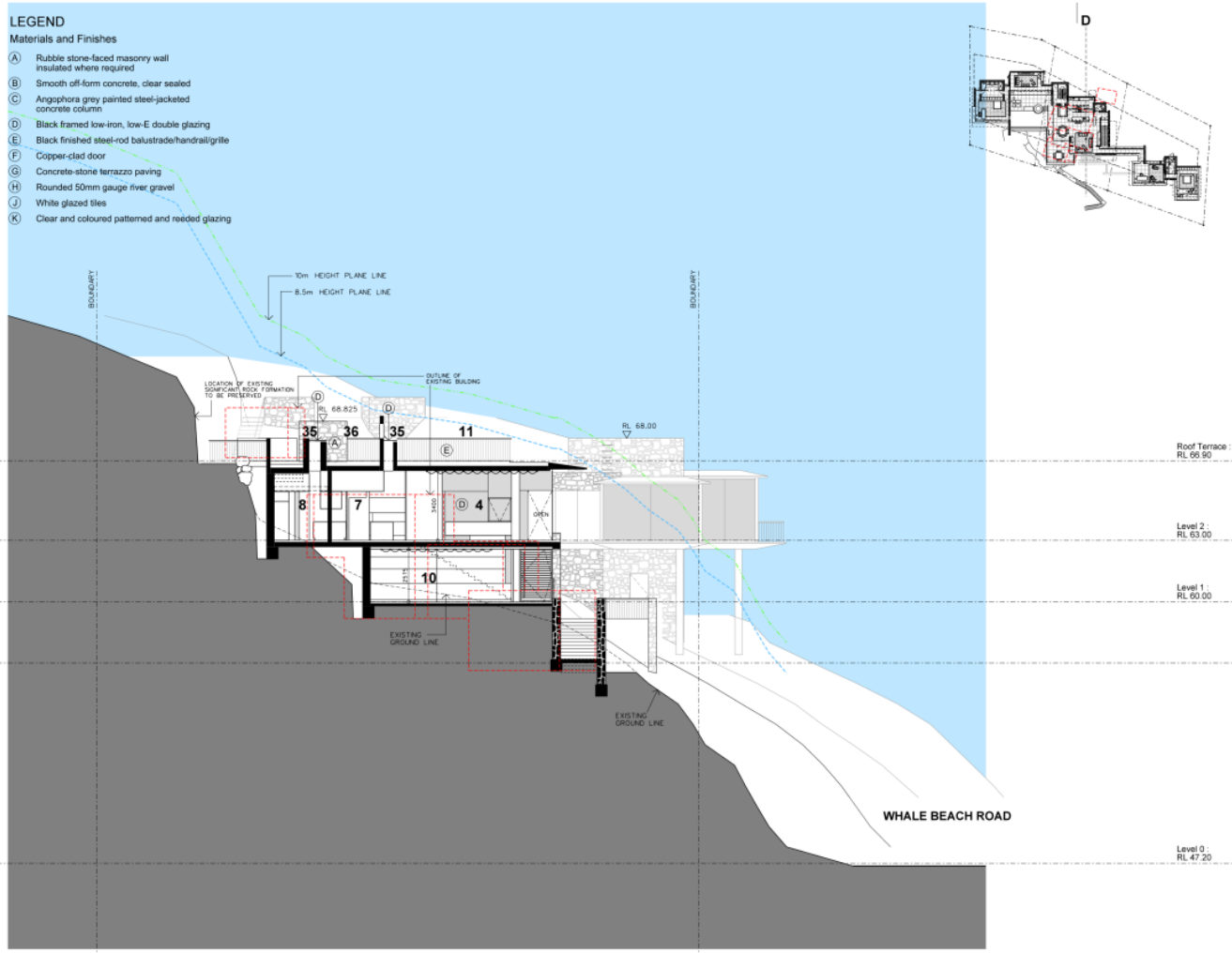
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Title
Section C

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	062	J



SECTION D

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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
J	DA submission	09-03-21
H	Living room window amended.	24-02-21
G	Draped ceiling shown. Butlers pantry & kitchen amended	18-02-21 17-02-21
F	8.5m & 10m height lines added. Legend "D" amended.	12-02-21 09-02-21
E	Existing building shown. Roof terrace amended. Skylight above kitchen amended.	08-02-21 01-02-21 28-01-21
D	Updated.	21-01-21
C	Updated.	15-01-21
B	Issue (2) for QS Stone walls along path to existing house shown. Finishes shown.	04-12-20 27-11-20
A	Issue for QS	26-11-20

Project
House
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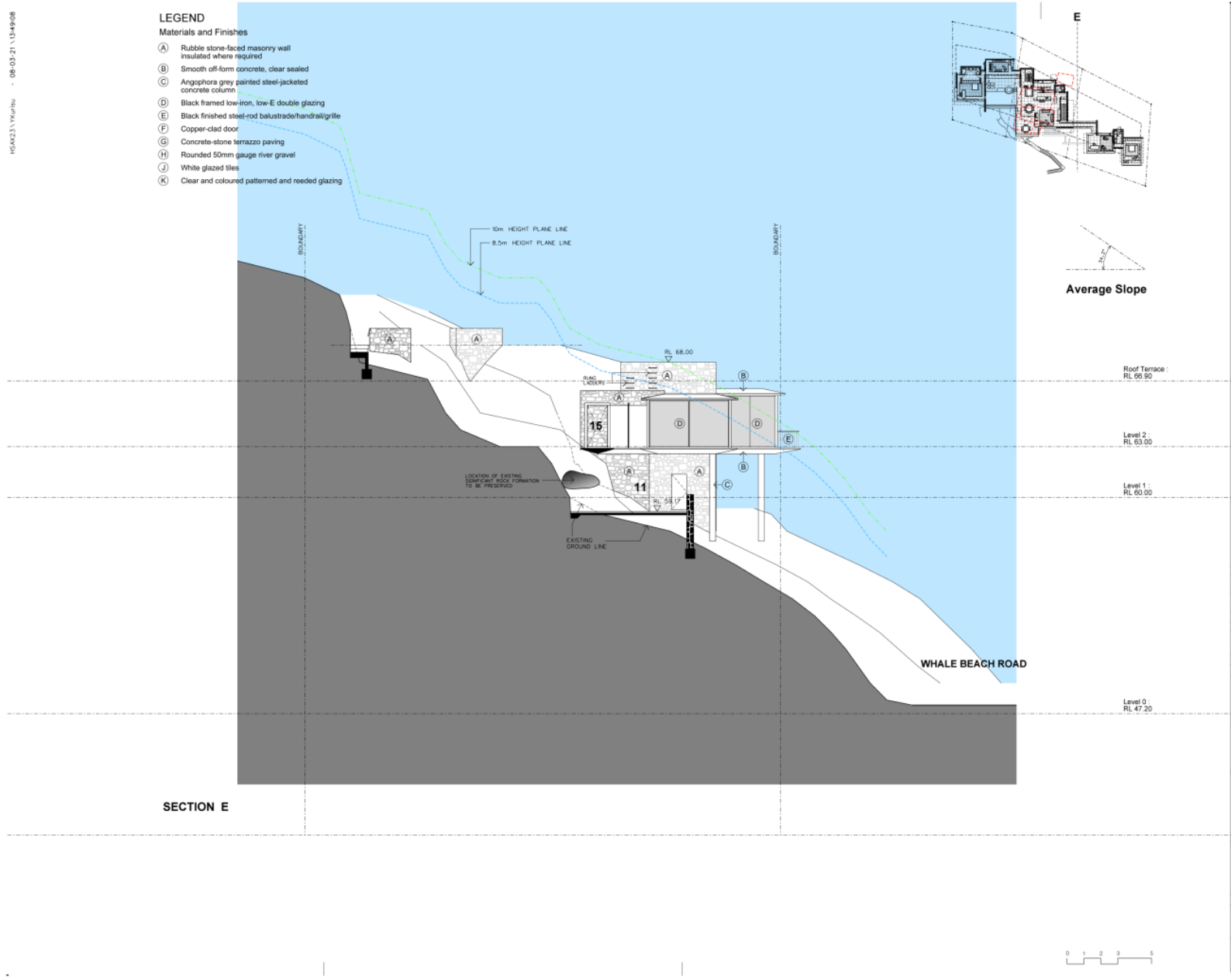
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Title
Section D

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Sep 2020

Stage	Drawing Number	Issue
DA	063	J



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LEGEND

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28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission	09-03-21
G	Rung ladders added.	23-02-21
F	Updated.	19-02-21
E	8.5m & 10m height lines added. Average slope shown. Legend "5" amended.	12-02-21 11-02-21 09-02-21
D	Updated.	03-02-21
C	Updated.	15-01-21
B	Issue (2) for QS Stone walls along path to existing house shown. Finishes shown.	04-12-20 27-11-20
A	Issue for QS	26-11-20

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Title
Section E

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Sep 2020

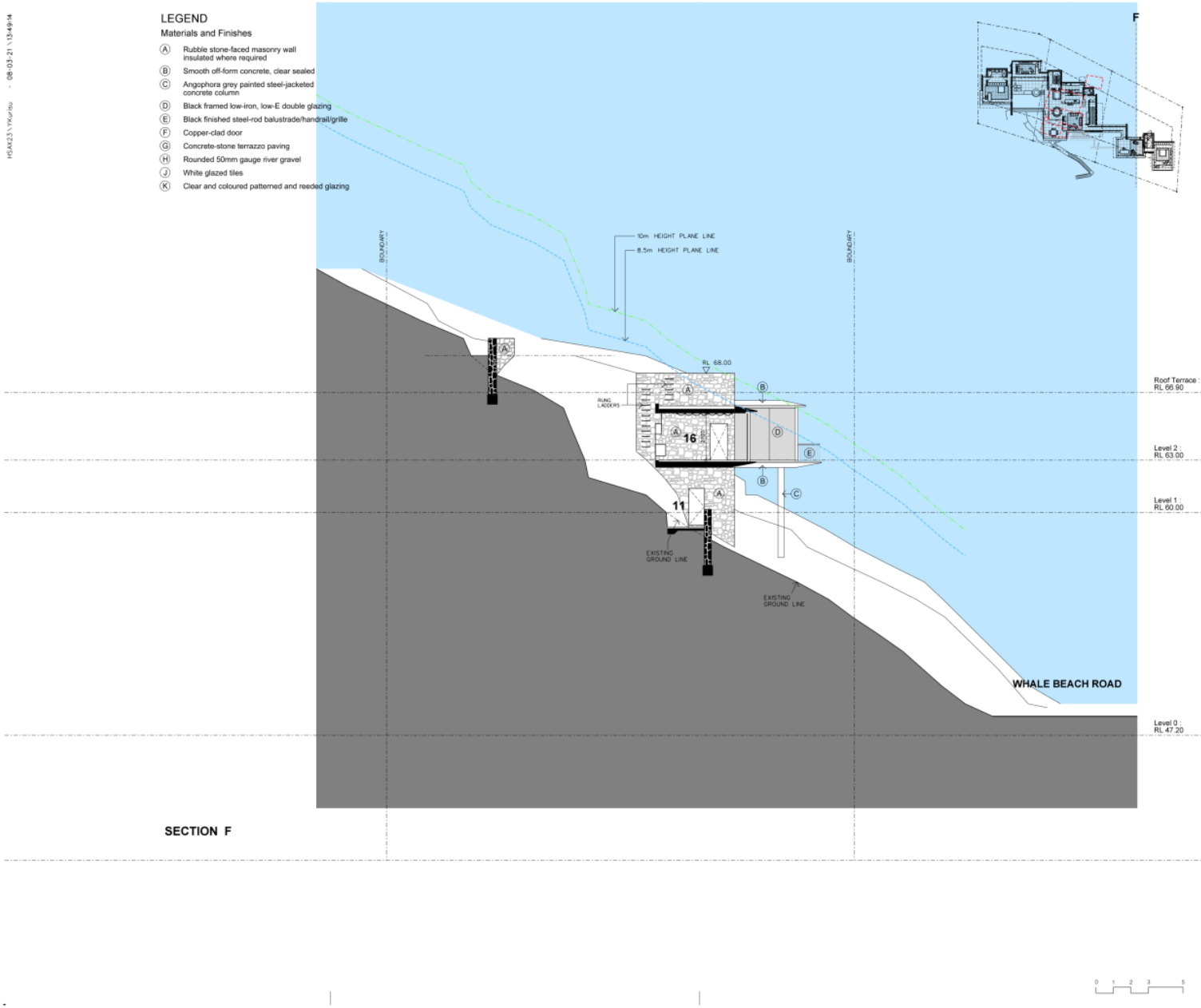
Stage	Drawing Number	Issue
DA	064	H

HSAX23\YKurisu - 08-03-21 13:49:14

LEGEND

Materials and Finishes

- (A) Rubble stone-faced masonry wall insulated where required
- (B) Smooth off-form concrete, clear sealed
- (C) Angophora grey painted steel-jacketed concrete column
- (D) Black framed low-iron, low-E double glazing
- (E) Black finished steel-rod balustrade/handrail/grille
- (F) Copper-clad door
- (G) Concrete-stone terrazzo paving
- (H) Rounded 50mm gauge river gravel
- (J) White glazed tiles
- (K) Clear and coloured patterned and reeded glazing



SECTION F

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LEGEND

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24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Rung ladders added.	23-02-21
D	Draped ceiling shown.	18-02-21
C	8.5m & 10m height lines added. Legend "D" amended.	12-02-21 09-02-21
B	Issue (2) for QS Stone wall along path to existing house shown. Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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Title
Section F

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Oct 2020

Stage	Drawing Number	Issue
DA	065	F

HSAX23\YKurisu - 08-03-21\134919

LEGEND

Materials and Finishes

- (A) Rubble stone-faced masonry wall insulated where required
- (B) Smooth off-form concrete, clear sealed
- (C) Angophora grey painted steel-jacketed concrete column
- (D) Black framed low-iron, low-E double glazing
- (E) Black finished steel-rod balustrade/handrail/grille
- (F) Copper-clad door
- (G) Concrete-stone terrazzo paving
- (H) Rounded 50mm gauge river gravel
- (J) White glazed tiles
- (K) Clear and coloured patterned and reeded glazing



SECTION G

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LEGEND

1 Entrance Lobby
2 Passenger Lift
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4 Living Room
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28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Dropped ceiling shown.	18-02-21
D	8.5m & 10m height lines added. Average slope shown. Legend "G" amended.	12-02-21 11-02-21 09-02-21
C	Ceiling to wardrobe.	02-02-21
B	Issue (2) for QS Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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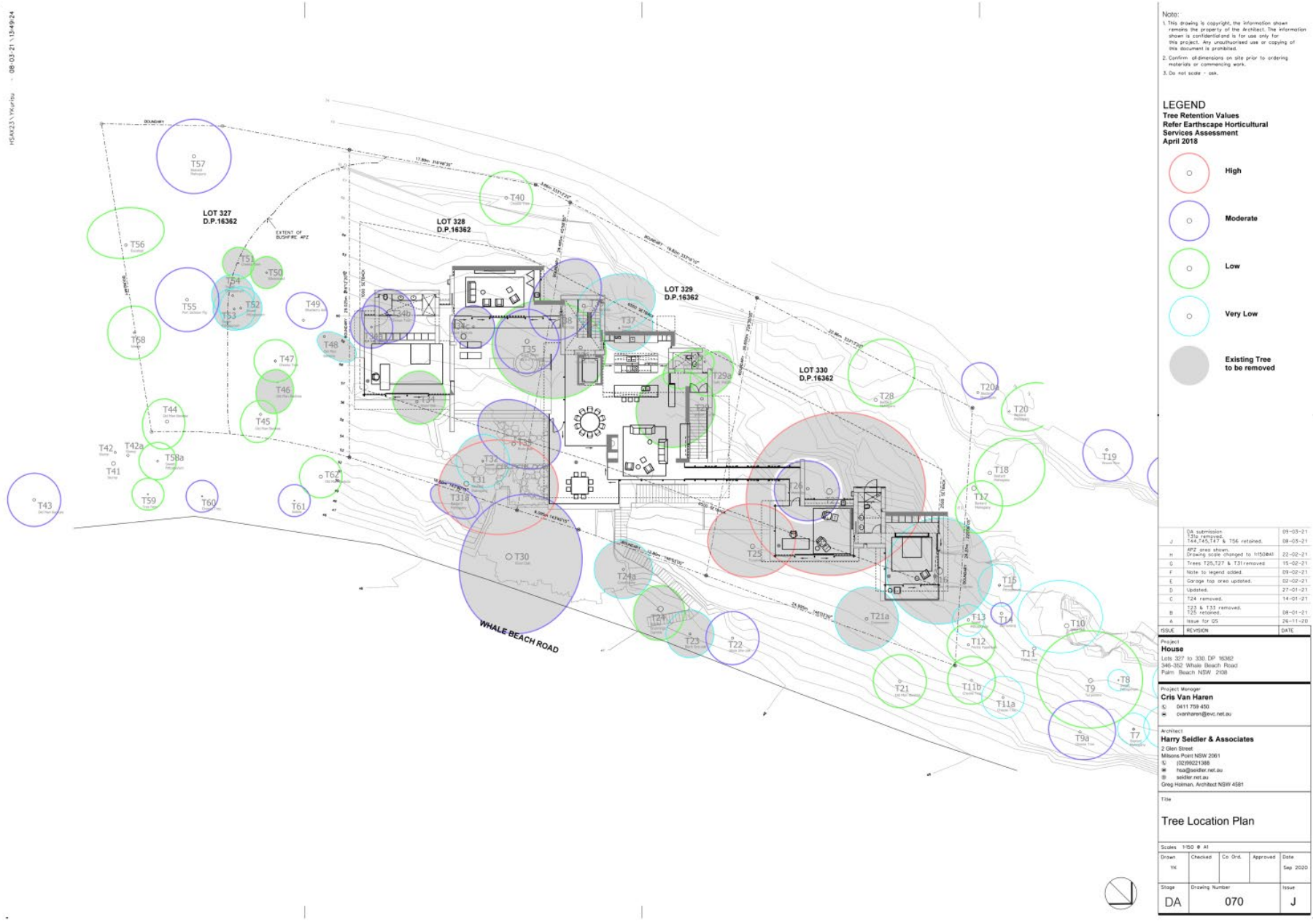
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Title
Section G

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Oct 2020

Stage	Drawing Number	Issue
DA	066	F


LOT 327
D.P.16362
LOT 328
D.P.16362
LOT 329
D.P.16362
LOT 330
D.P.16362
WHALE BEACH ROAD
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LEGEND
Tree Retention Values
Refer Earthscape Horticultural Services Assessment April 2018
High
Moderate
Low
Very Low
Existing Tree to be removed
J DA submission T30 removed. T44,T45,T47 & T56 retained. 09-03-21
H APZ area shown. Drawing scale changed to 1:150@A1 22-02-21
G Trees T25,T27 & T31 removed 15-02-21
F Note to legend added. 09-02-21
E Garage top area updated. 02-02-21
D Updated. 27-01-21
C T24 removed. 14-01-21
B T23 & T33 removed. T25 retained. 08-01-21
A Issue for QS 24-11-20
ISSUE REVISION DATE
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Title
Tree Location Plan
Scales 1:150 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Sep 2020
Stage DA
Drawing Number 070
Issue J



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ISSUE	REVISION	DATE
C	DA submission. Solar panels shown.	09-03-21 04-03-21
B	Updated.	01-03-21
A	Initial Issue	12-02-21

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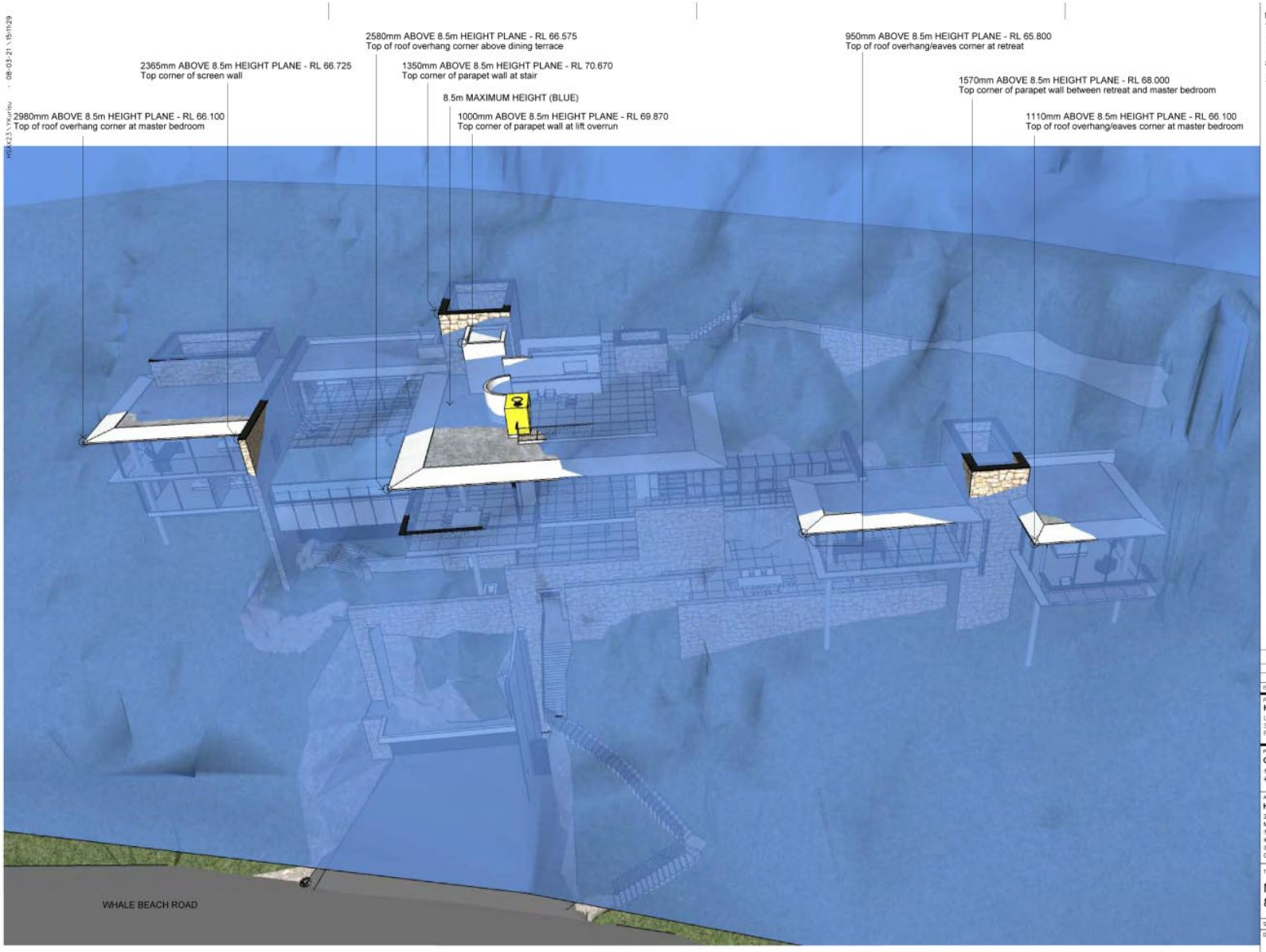
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Title
Photomontage 02
Area Overview

Scales N.T.S.

Drawn	Checked	Co Ord.	Approved	Date
YK				Feb 2021

Stage	Drawing Number	Issue
DA	101	C



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ISSUE	REVISION	DATE
C	DA submission. Chimney excluded.	09-03-21 08-03-21
B	RLs shown.	23-02-21
A	Initial issue	10-02-21

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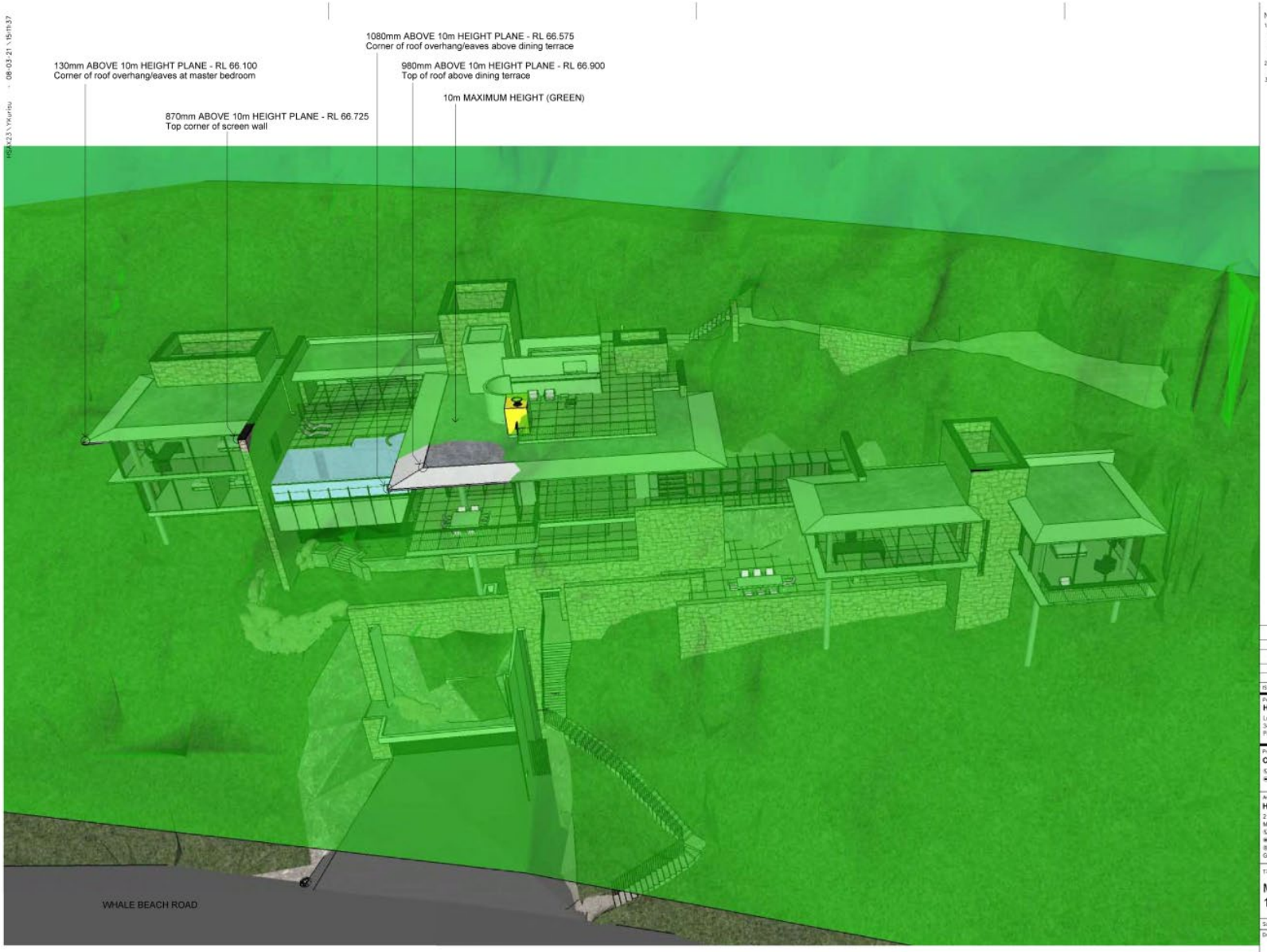
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Title
Maximum Building Height
8.5m height plane diagram

Scales NTS

Drawn	Checked	Co Ord.	Approved	Date
YK				Feb 2021

Stage	Drawing Number	Issue
DA	108	C



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ISSUE	REVISION	DATE
E	DA submission. Chimney excluded.	09-03-21 08-03-21
D	RLs shown.	23-02-21
C	Drawing number changed.(009->109) Updated.	10-02-21
B	Updated.	04-02-21
A	Initial issue	12-01-21

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Title
Maximum Building Height
10m height plane diagram

Scales NTS

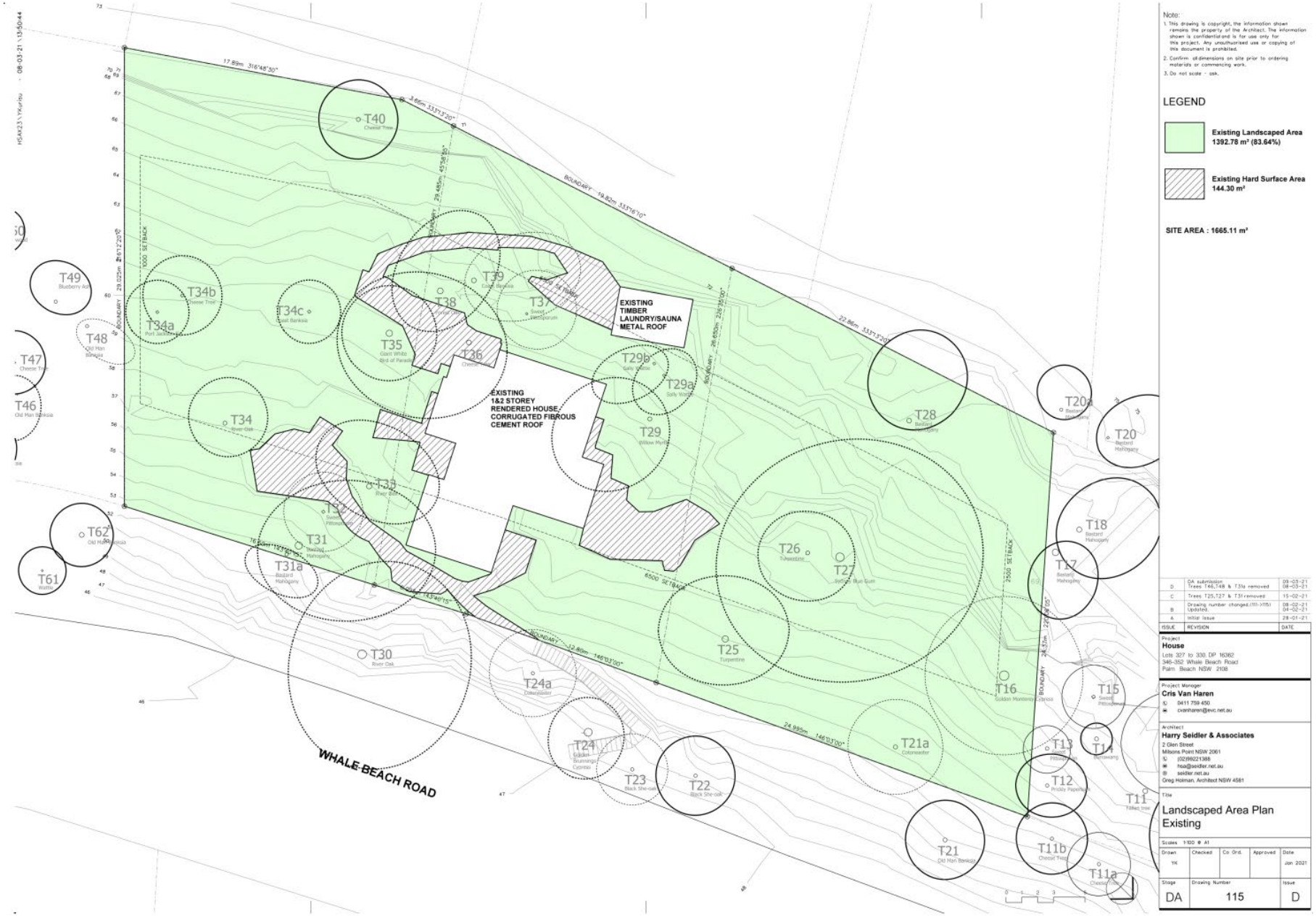
Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

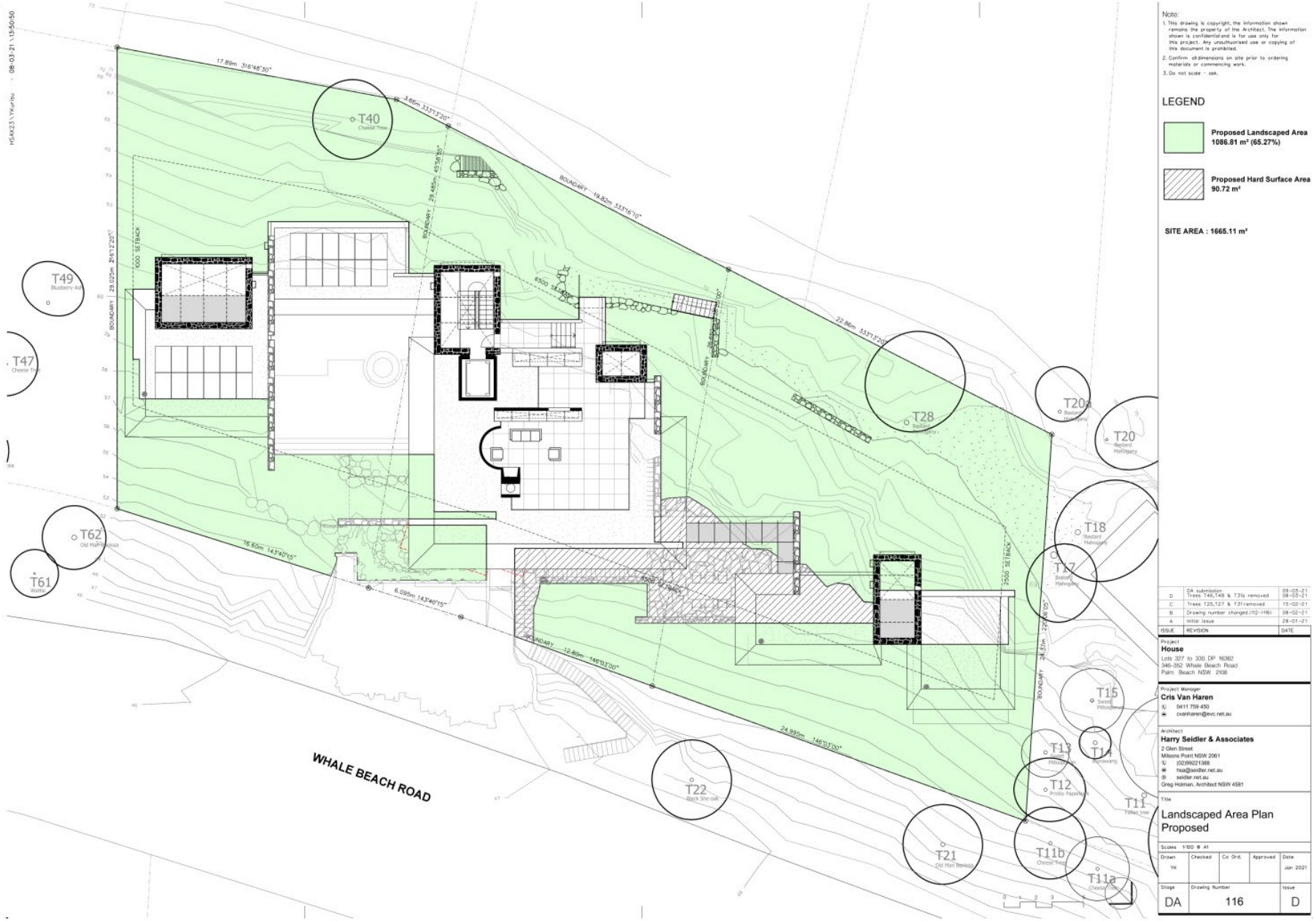
Stage	Drawing Number	Issue
DA	109	E


No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 9:00AM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 9:00AM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING
WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
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D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated. Street numbers shown. 12-02-21 09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
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Title
Shadow Diagrams
21 June, 9:00am
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 110
Issue D


No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 12:00PM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 12:00PM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING
WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
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D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated. Street numbers shown. 12-02-21 09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
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Title
Shadow Diagrams
21 June, 12:00pm
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 111
Issue D


No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 3:00PM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 3:00PM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING
WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
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2. Confirm all dimensions on site prior to ordering materials or commencing work.
3. Do not scale - ask.
D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated Street numbers shown 17-02-21 09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
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Title
Shadow Diagrams
21 June, 3:00pm
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 112
Issue D


EXISTING TIMBER LAUNDRY/SAUNA METAL ROOF
EXISTING 1&2 STOREY RENDERED HOUSE, CORRUGATED FIBROUS CEMENT ROOF
WHALE BEACH ROAD
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LEGEND
Existing Landscaped Area 1392.78 m² (83.64%)
Existing Hard Surface Area 144.30 m²
SITE AREA : 1665.11 m²
D DA submission Trees T46,T48 & T31a removed 09-03-21 08-03-21
C Trees T25,T27 & T31 removed 15-02-21
B Drawing number changed.(111->115) Updated. 08-02-21 04-02-21
A Initial Issue 28-01-21
ISSUE REVISION DATE
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Title
Landscaped Area Plan Existing
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Jan 2021
Stage DA
Drawing Number 115
Issue D


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LEGEND
Proposed Landscaped Area
1086.81 m² (65.27%)
Proposed Hard Surface Area
90.72 m²
SITE AREA : 1665.11 m²
WHALE BEACH ROAD
T40
T49
T47
T62
T61
T28
T20
T18
T17
T15
T13
T12
T11
T22
T21
T11b
T11a
D DA submission Trees T46,T48 & T31a removed 09-03-21
C Trees T25,T27 & T31 removed 15-02-21
B Drawing number changed.(112->116) 08-02-21
A Initial issue 28-01-21
ISSUE REVISION DATE
Project
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Title
Landscaped Area Plan
Proposed
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Jan 2021
Stage DA
Drawing Number 116
Issue D


NO.2
BRICK COTTAGE
NO.4
1 & 2 STOREY
BRICK & CONCRETE
HOUSE
TILE ROOF
FRL 86.07
NO.344
3 STOREY
RENDERED, METAL CLAD,
FIBER BOARD &
TIMBER HOUSE
METAL ROOF
FRL 59.45
FRL 62.29
POOL
RL 60.58
RL 66.68
RL 69.17
NO.354
1 STOREY
STONE COTTAGE
METAL ROOF
HERITAGE LISTED
NO-356
2 & 3 STOREY
WEBOARD HOUSE
METAL ROOF
WHALE BEACH ROAD
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3. Do not scale - ask.
A DA submission 09-03-21
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Notification Plan
Level 1
Scales 1:200 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Mar 2021
Stage DA
Drawing Number 130
Issue A



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ISSUE	REVISION	DATE
A	DA submission	09-03-21

Project
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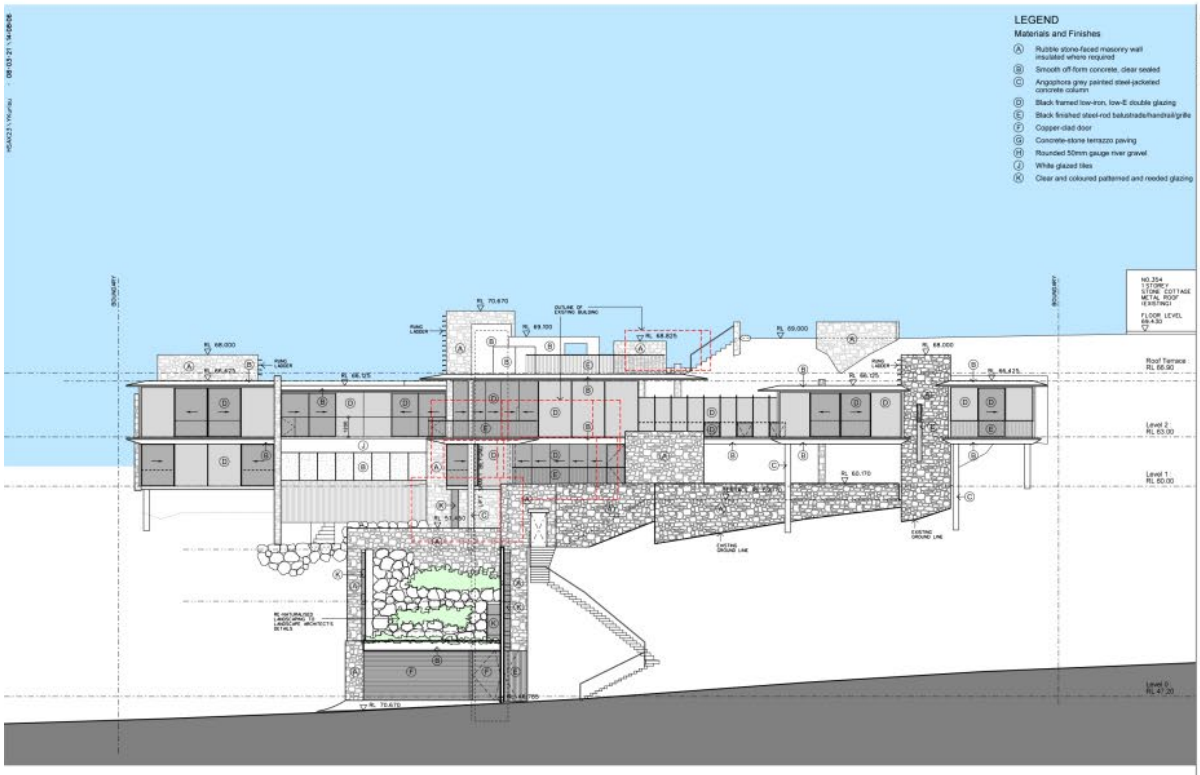
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Notification Plan
Level 2

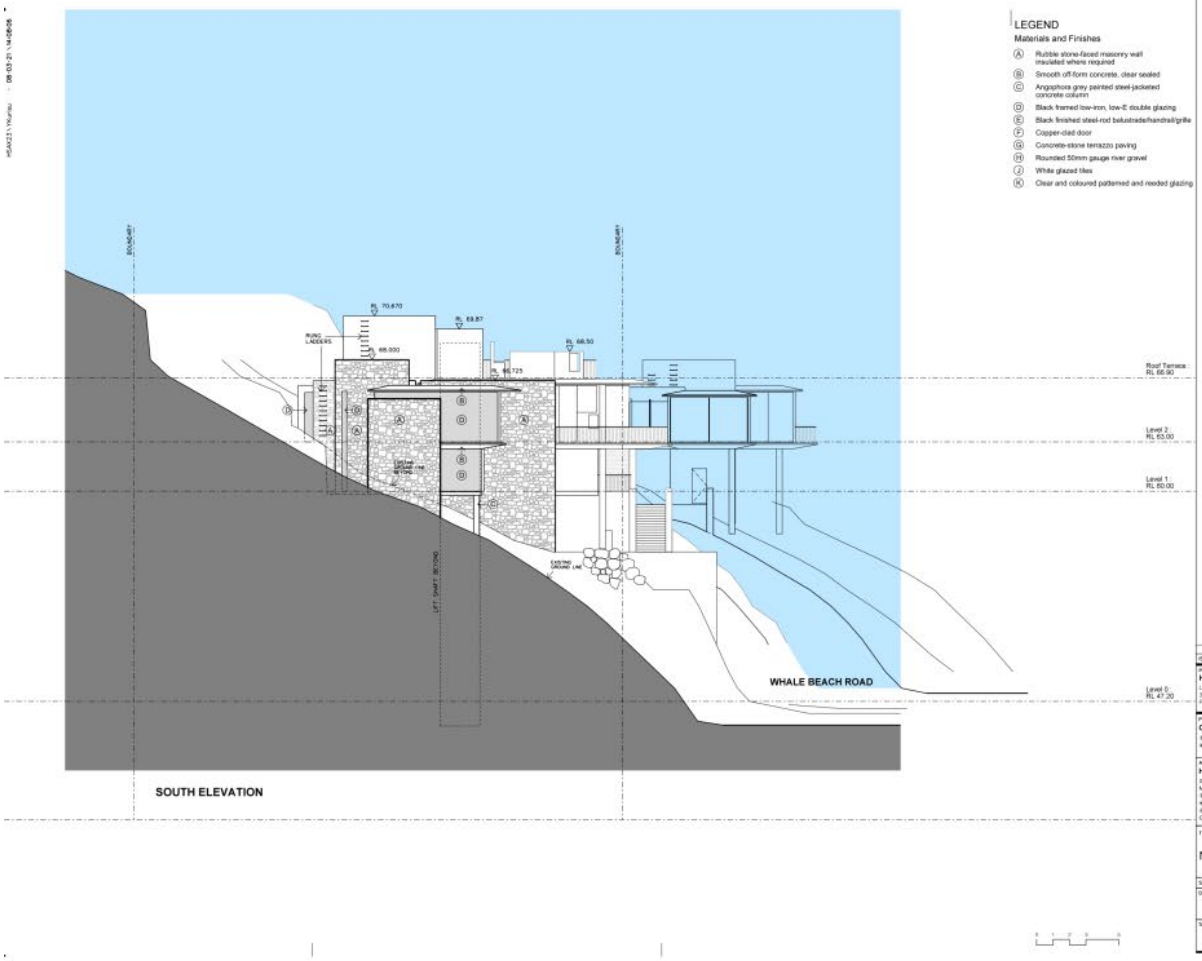
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Drawn	Checked	Co Ord.	Approved	Date
YK				Mar 2021

Stage	Drawing Number	Issue
DA	131	A



EAST ELEVATION



SOUTH ELEVATION

A	DA submission	09-03-21
ISSUE	REVISION	DATE

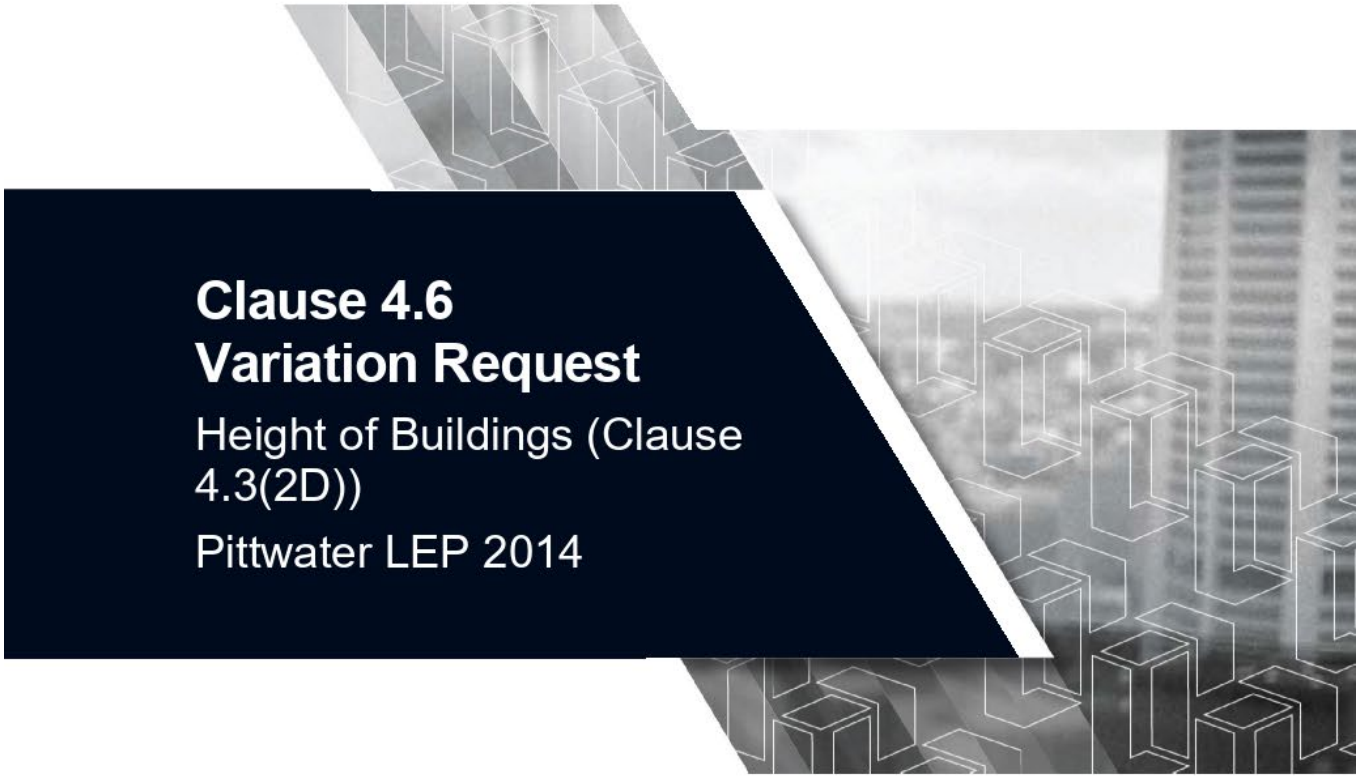
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Title
Notification Elevations

Scales				
Drawn	Checked	Co Ord.	Approved	Date
YK				Mar 2021
Stage	Drawing Number			Issue
DA	132			A



Clause 4.6 Variation Request

Height of Buildings (Clause 4.3(2D))

Pittwater LEP 2014

346- 352 Whale Beach Road, Palm Beach

Submitted to Northern Beaches Council
On Behalf of The Applicant

March 2021

CITY PLAN

Clause 4.6 Request
346- 352 Whale Beach Road, Palm Beach
Project # 21-015
March 2021

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		Olivia Page *Senior Project Planner*	 Mark Schofield *Director*
02	10/03/21	Final	
		Prepared by	**Verified by**
		Olivia Page *Senior Project Planner*	 Mark Schofield *Director*

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CITY PLAN

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No.	Appendix	Prepared by
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2	Heritage Report	City Plan Heritage
3	Prescribed Ecology Actions Report	Abel Ecology
4	Bushfire Report	Abel Ecology
5	Geotechnical Report	JK Geotechnics
6	Arborist Report	Earthscape Horticultural Services
7	Landscape Plan	Danger Barin Smith

1. EXECUTIVE SUMMARY

This clause 4.6 variation request accompanies a development application (DA) to Northern Beaches Council (Council) for a proposed development at 346- 352 Whale Beach Road, Palm Beach (the site). The proposal involves the demolition of existing structures at the site and construction of a new dwelling house with basement parking, landscaping, excavation and consolidation of 348- 352 Whale Beach Road. The DA involves bushfire hazard reduction works on 346 Whale Beach Road.

This clause 4.6 request is to address a contravention of clause 4.3(2D) (height of buildings) of the Pittwater Local Environmental Plan 2014 (PLEP). Clause 4.3(2) of the PLEP states:

> *"(2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map."*

The height of buildings map identifies the maximum permissible building height as being 8.5m. However, pursuant to clause 4.3(2D) development on land that has a maximum building height of 8.5m may exceed 8.5m but be no more than 10m if:

- *The consent authority is satisfied that the portion of the building above the maximum height shown on that land on the Height of Buildings Map is minor, and*
- *The objectives of clause 4.3 are achieved; and*
- *The building footprint is situated on a slope that is in excess of 16.7 degrees (that is 30%); and*
- *The buildings are sited and designed to take into account the slope of the land to minimise the need for cut and fill by design that allow the building to step down the slope.*

These objectives are achieved as discussed in Section 4 of this report, meaning the applicable height of buildings development standard is 10 metres. The proposal contravenes the 10 metre height of buildings development standard as follows:

- 0.13m at the corner of the roof overhang/eaves at the south-wing master bedroom (RL66.10)
- 0.87m at the top corner of the screen wall (RL66.725)
- 0.98m at the top of the roof of the dining terrace (RL66.90)
- 1.08m the corner of the roof overhang/eaves above the dining terrace (RL66.575)

The maximum variation proposed represents a 10.8% variation from the 10 metre height of buildings development standard.

It is appropriate to provide a degree of flexibility in the circumstance, as the proposed contravention to the height control will achieve a better planning outcome by:

- Creating a high-quality built form where:
  - the mass is distributed across three allotments,
  - is non-linear and continually recessed as to provide a contextually fitting building which sits comfortably in the bushland/landscape setting, and
  - materially sympathetic comprising earthy tones.
- Allowing for a development that is consistent with the existing and desired future character of the area,
- Minimising the building footprint and disturbance to natural landforms, whilst dedicating 65.27% of Lot 328- 330 to landscaping, and
- Maintenance of reasonable view sharing and minimising overshadowing impacts onto adjoining properties.

This request demonstrates compliance with the building height development standard is unreasonable and unnecessary in the circumstances of the proposed development and that there are sufficient environmental planning grounds to justify the contravention. The development satisfies the objectives of the height standard, as well as the objectives of the E4 Environmental Living zone and is in the public interest. Strict adherence to the height standard in this instance is therefore unreasonable and unnecessary and would result in a poorer planning outcome.

2. INTRODUCTION

This is a formal request that has been prepared in accordance with clause 4.6 of the PLEP to justify a variation to the height of buildings development standard proposed in a DA submitted to Council for a new dwelling house at 346- 352 Whale Beach Road, Palm Beach.

The objectives of clause 4.6 are to provide an appropriate degree of flexibility in applying development standards to achieve better outcomes for, and from, development.

As the following request demonstrates, a better planning outcome would be achieved by exercising the flexibility afforded by clause 4.6 in the particular circumstances of this application.

This request has been prepared having regard to the Department of Planning and Environment's Guidelines to Varying Development Standards (August 2011) and various relevant decisions in the New South Wales Land and Environment Court and New South Wales Court of Appeal (Court).

Clause 4.6 requires that a consent authority be satisfied of three matters before granting consent to a development that contravenes a development standard (see *Initial Action Pty Ltd v Woollahra Municipal Council* [2018] NSWLEC 118, *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130, *Al Maha Pty Ltd v Huajun Investments Pty Ltd* (2018) 233 LGERA 170; [2018] NSWCA 245) at [23] and *Baron Corporation Pty Limited v Council of the City of Sydney* [2019] NSWLEC 61 at [76]-[80] and *SJD DB2 Pty Ltd v Woollahra Municipal Council* [2020] NSWLEC 1112 at [31]:

1. That the applicant has adequately demonstrated that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case [clause 4.6(3)(a)];
2. That the applicant has adequately demonstrated that there are sufficient environmental planning grounds to justify contravening the development standard [clause 4.6(3)(b)];
3. That the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out [clause 4.6(4)]

This request also addresses the requirement for the concurrence of the Secretary as required by clause 4.6(4)(b).

3. STANDARD TO BE VARIED

The site is located in the E4 Environmental Living zone. Dwelling houses are permitted with development consent in the E4 zone.

The standard that is proposed to be varied is the "height of buildings" development standard which is set out in clause 4.3(2) of the PLEP as follows:

> ***4.3 Height of buildings***
>
> *(2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.*

As shown in Figure 1, the numerical value of the development standard in this instance is 8.5 metres.



Figure 1: Extract of the height of buildings map, site outlined in red (Source: NSW Legislation)

However, pursuant to clause 4.3(2D) development on land that has a maximum building of 8.5m may exceed 8.5 metres but be no more than 10.0 metres if:

- *The consent authority is satisfied that the portion of the building above the maximum height shown on that land on the Height of Buildings Map is minor, and*
- *The objectives of clause 4.3 are achieved; and*
- *The building footprint is situated on a slope that is in excess of 16.7 degrees (that is 30%); and*
- *The buildings are sited and designed to take into account the slope of the land to minimise the need for cut and fill by design that allow the building to step down the slope.*

The development standard to be varied is not excluded from the operation of clause 4.6 of the PLEP.

For clarity, the definition of building height in the PLEP is:

> ***building height (or height of building) means—***
>
> *(a) in relation to the height of a building in metres—the vertical distance from ground level (existing) to the highest point of the building, or*

(b) in relation to the RL of a building—the vertical distance from the Australian Height Datum to the highest point of the building,

including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.

4. EXTENT OF VARIATION

Pursuant to clause 4.3(2D), a development that has a maximum building height of 8.5 metres may exceed 8.5 metres but be no greater than 10.0 metres if all the considerations in clause 4.3(2D) are addressed. A response to the criteria is provided below and justifies that the 10 metres building height development standard is appropriate for the development:

a) The consent authority is satisfied that the portion of the building above the maximum height shown for that land on the Height of Buildings Map is minor, and

The portions of the building that exceed the height standard mainly pertain to roof structure. This structure is minor compared to the overall building and roof area as shown below. Refer to Figure 2.

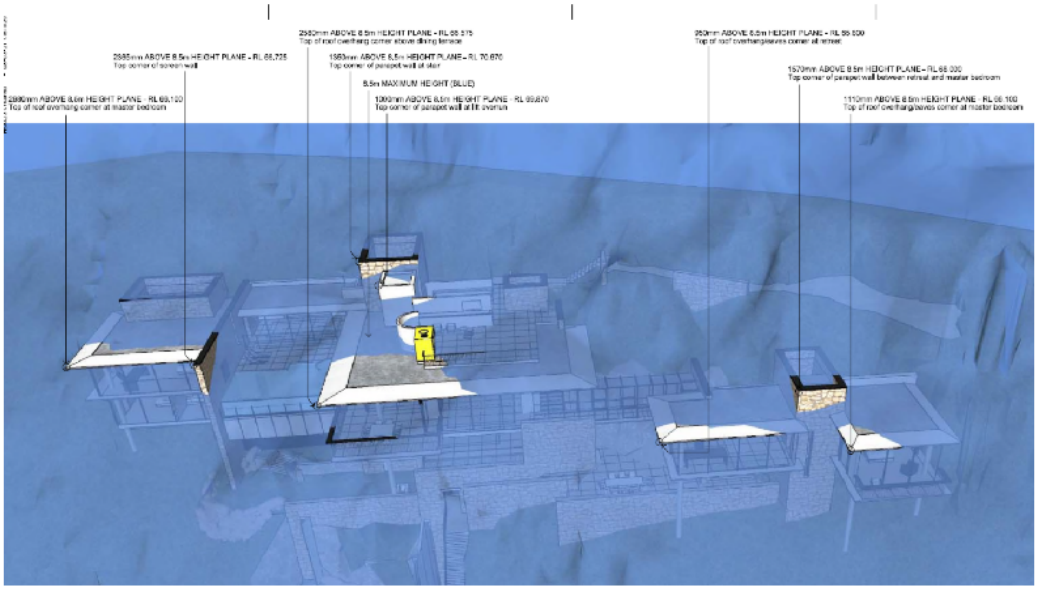


Figure 2: Extract of the 8.5 metre height plane diagram, chimney highlighted in yellow (Source: HSA)

The proposed variation is minor. Some examples that illustrate the wide range of commonplace numerical variations to development standards under clause 4.6 (as it appears in the Standard Instrument) are as follows:

- In *Auswin TWT Development Pty Ltd v Council of the City of Sydney* [2015] NSWLEC 1273 the Land and Environment Court granted consent for a mixed-use development on the basis of a clause 4.6 request that sought a 28 per cent height exceedance over a 22-metre building height standard.
- On *Amarino Pty Ltd v Liverpool City Council* [2017] NSWLEC 1035 the Land and Environment Court granted development consent to a mixed-use development on the basis of a clause 4.6 request that sought a 38 per cent height exceedance over 15- metre building height standard.
- In *Baker Kavanagh Architects v Sydney City Council* [2014] NSWLEC 1003 the Land and Environment Court granted development consent for a three storey shop top housing development in Woolloomooloo. In this decision, the Court, approved a floor space ratio variation of 187 per cent.

In short, clause 4.6 is a performance control so it is possible (and not uncommon) for large variations to be approved in the right circumstances.

b) The objectives of this clause are achieved, and

The proposal achieves the objectives of clause 4.3 of the PLEP as outlined in detail in Table 1. Specifically:

- The built form is generally consistent with the desired future character of the Palm Beach Locality as stipulated in Section D12 of the Pittwater Development Control Plan 2014 (PDCP).
- The development sits comfortably within the bushland setting and is consistent with the height and scale of surrounding development. The proposal is designed with a central core and two connecting bedroom wings to the north and south. Harry Seidler Architects (HSA) utilise recessing and materiality to achieve compatibility and sympathy with surrounding context.
- The proposal as a whole minimises overshadowing onto neighbouring properties. No shadows are cast onto the adjoining properties at 9am. Minor shadows are cast at 12pm. At 3pm, Nos. 346 and 344 experience overshadowing from the subject development. Given the orientation of the sites, facing east, all properties on the escarpment experience overshadowing to this effect.
- The building has been designed to respond to the steep topography of the site. Excavation is required to accommodate the basement and internal access from street level. As evident on the sections, the generally habitable area of the dwelling house (level 1 and 2) has been designed, wherever possible, to the existing ground levels.

Refer to Table 1 for further detail.

c) The building footprint is situated on a slope that is in excess of 16.7 degrees (that is 30%), and

The building footprint is situated on slope in excess 16.7 degrees. HSA have confirmed the building sits on a slope in excess 16.7 degrees, noting the slope of the site is on average:

- North boundary - 33.7 degrees
- Mid-north boundary - 34.2 degrees
- Mid-south boundary - 36 degrees
- South boundary 33.8 degrees

Refer to Appendix 1.

d) The buildings are sited and designed to take into account the slope of the land to minimise the need for cut and fill by design that allow the building to step down the slope.

The building has been designed as to minimise the extent of excavation wherever possible. Notwithstanding, excavation is required to accommodate the basement and provide internal access to the dwelling house. As illustrated on the sections prepared by HSA, the habitable spaces on levels 1 and 2 of the dwelling house are all designed mostly to the existing ground level.

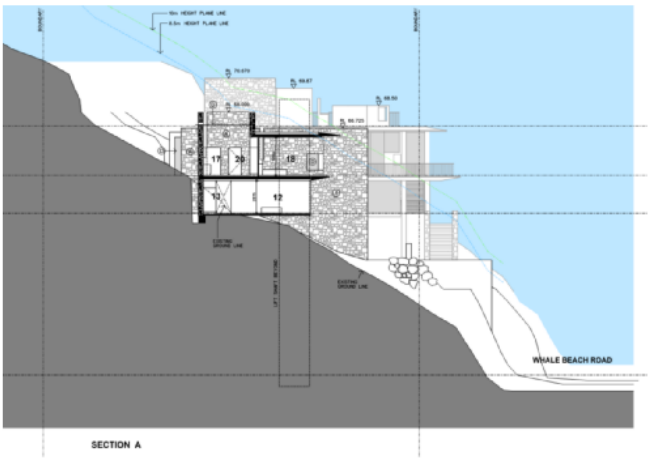


Figure 3: Extract of section A, showing proposal designed to the existing ground level (Source: HSA)



Figure 4: Extract of section B, showing excavation to accommodate the basement (Source: HSA)

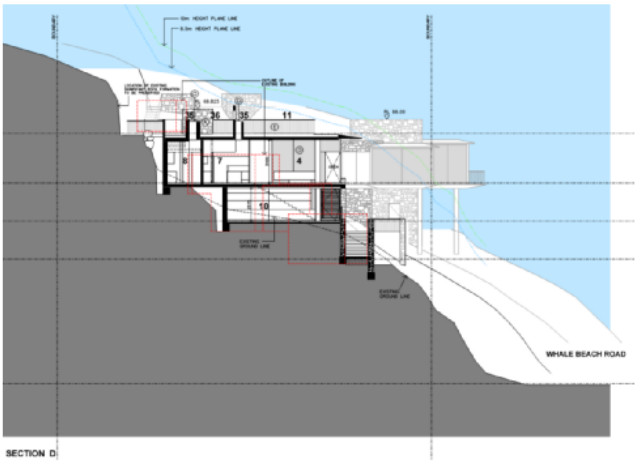


Figure 5: Extract of section D, showing excavation to accommodate the basement (Source: HSA)

The proposal responds to the varying site levels, minimising the requirement for cut and fill, where possible.

As subclause 4.3(2D)(a)- (d) are achieved, the 10 metre building height limit is applicable in this circumstance.

The proposal involves minor variation of the 10 metre height of buildings development standard as follows:

- 0.13m at the corner of the roof overhang/eaves at the south-wing master bedroom (RL66.10)
- 0.87m at the top corner of the screen wall (RL66.725)
- 0.98m at the top of the roof of the dining terrace (RL66.90)
- 1.08m the corner of the roof overhang/eaves above the dining terrace (RL66.575)

The maximum variation proposed represents a 10.8% variation from the 10 metre development standard.

Refer to the below 10 metre height plane diagram.



Figure 6: Extract of the 10 metre height plane diagram, chimney highlighted in yellow (Source: HSA)

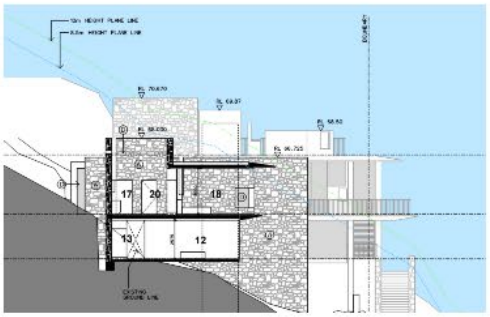


Figure 7: Extract of section A showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)



Figure 8: Extract of section B showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)

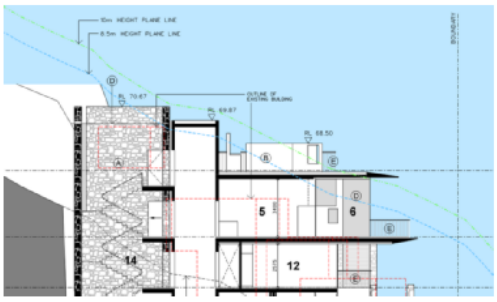


Figure 9: Extract of section C showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)

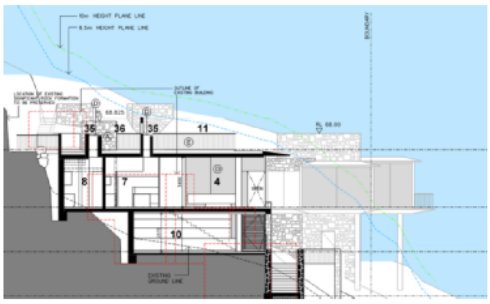


Figure 10: Extract of section D showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)

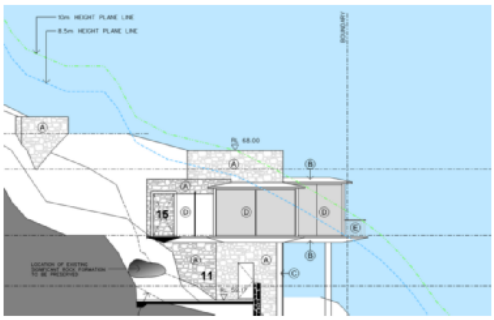


Figure 11: Extract of section E showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)

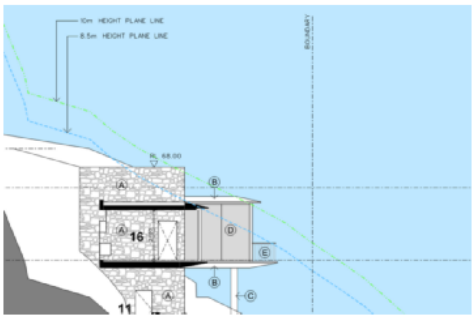


Figure 12: Extract of section F showing the non-compliant portions of the building above the 10 metre height plane dashed green (Source: HSA)

Refer to Appendix 1 for the full architectural drawing set.

5. UNREASONABLE OR UNNECESSARY

In this section it is demonstrated why compliance with the development standard is unreasonable or unnecessary in the circumstances of this case as required by clause 4.6(3)(a) of the LEP.

The Court has held that there are at least five different ways, and possibly more, through which an applicant might establish that compliance with a development standard is unreasonable or unnecessary (see *Wehbe v Pittwater Council* [2007] NSWLEC 827).

The five ways of establishing that compliance is unreasonable or unnecessary are:

1. The objectives of the development standard are achieved notwithstanding non-compliance with the standard;
2. The underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary;
3. The objective would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable;
4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence the standard is unreasonable and unnecessary; and
5. The zoning of the land is unreasonable or inappropriate

It is sufficient to demonstrate only one of these ways to satisfy clause 4.6(3)(a) (*Wehbe v Pittwater Council* [2007] NSWLEC 827, *Initial Action Pty Limited v Woollahra Municipal Council* [2018] NSWLEC 118 at [22] and *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130 at [28]) and *SJD DB2 Pty Ltd v Woollahra Municipal Council* [2020] NSWLEC 1112 at [31].

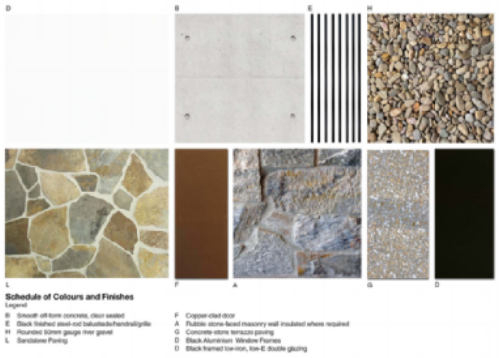
In this case, it is demonstrated below that Test 1 has been satisfied.

5.1. The objectives of the development standard are achieved notwithstanding non-compliance with the standard.

The following table considers whether the objectives of the development standard are achieved notwithstanding the proposed variation (Test 1 under Wehbe).

Table 1: Achievement of Objectives of Clause number of LEP.

Objective	Discussion
(a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,	The site is located within the Palm Beach Locality and is situated on the eastern escarpment, orientated east to the Pacific Ocean. The proposal is nestled in the natural bushland setting, separated above the rocky uninhabited foreshore by Whale Beach Road. The proposal is generally consistent with the built form controls for the site as established by the PLEP and the PDCP. The proposed contravention is the result of minimising the extent of excavation and designing to the existing ground levels, wherever possible. In the absence of an explicit desired future character statement, the character of the locality is guided by the applicable planning controls and the nature of development in the locality. The locality, notably much of the Pittwater Peninsula, comprises large-scale dwelling houses maximising views to the east and west. The height and scale are informed by the PLEP height control (10 metres given the slope of the site) and built form controls in the PDCP. The development involves minor contraventions to the 10 metre standard. Despite the proposed contravention, the building is consistent with the desired future character, in particular:

Objective	Discussion
	▪ The built form is distributed across three allotments, minimising the density impact compared to a single allotment, like numerous neighbouring developments. ▪ The distribution of built form provides opportunities for building modulation and recessing clearly defining two wings connected by a central living/entertainment core. ▪ The proposal is generally consistent with the side and front setback provisions. Where variations occur, these have been offset by greater setbacks in adjoining and other locations. ▪ The proposal complies with the rear setback provision. ▪ The development achieves a suitable balance between built form and landscape area, with landscaping/bushland the dominant feature of the site, reflecting this characteristic of the locality. The proposal provides 1,086.81m² of landscape area, representing 65.27% of Lot 328- 330. ▪ The proposed materials are a composition of earthy tones (Figure 13), ensuring the proposed building sits comfortably within the natural landscape setting.  *Figure 13: Extract of material sample board (Source: HSA)* ▪ Due to the dense vegetation across the site, the dwelling house is barely recognisable when approaching the site on Whale Beach Road.  *Figure 14: Street view photomontage of the view looking north along Whale Beach Road (Source: HSA)* The proposed materials ensure the built form camouflages into the bushland.

Objective	Discussion
	The proposal, as it contravenes the height of buildings development standard, is of a height and scale which is compatible with the locality. In considering of the contraventions, the built form remains consistent with the desired future character of the area.
(b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,	The proposal is compatible with the height and scale of surrounding and nearby development. The development in the locality comprises large scale dwelling houses orientated east, maximising views of the Pacific Ocean and Palm Beach Headland. Despite the contravention, the proposal achieves this objective by: ▪ Distributing mass across three allotments ▪ Minimising the extent of cut and fill by designing (where possible) to existing ground levels ▪ Providing a suitable balance between built form and landscaping, ensuring the built sits comfortably within the natural bushland setting, and ▪ Proposing materials which are earthy and sympathetic of the locality. As shown in the below figure, the proposal is compatible with the scale of surrounding and nearby development in the locality.  *Figure 15: Extract of proposed photomontage from Pacific Ocean, proposal outlined in orange (Source: HSA)*
(c) to minimise any overshadowing of neighbouring properties,	The proposal minimises overshadowing of neighbouring properties. The portions of the building which contravene the 10 metre height of buildings development standard cause no overshadowing impacts at 9am mid-winter (Figure 16). At 12pm the non-compliant portion of the building causes a very minor shadow to be cast onto the mid-north portion No.346 to the south (Figure 17). At 3pm the non-compliant portion of the building causes a minor shadow to be cast onto the south-east corner of 346 and the north-east corner of 348 Whale Beach Road (Figure 18). Refer to the below figures and Appendix 1 for the shadows plans in their entirety.

Objective	Discussion

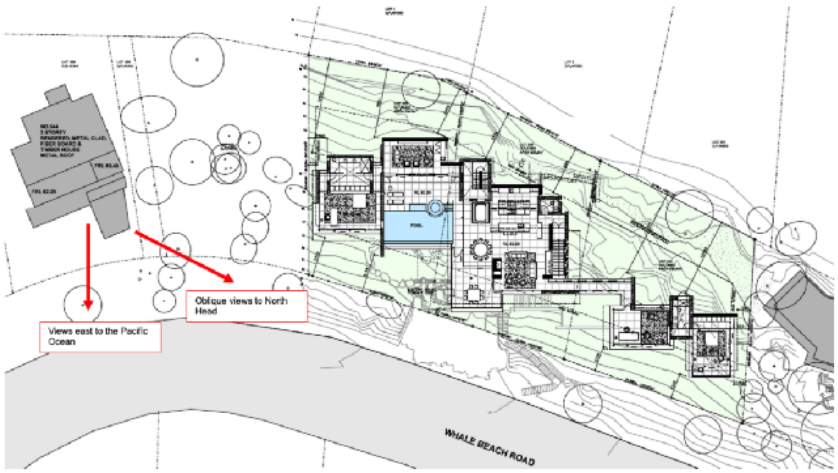


Figure 16: Extract of the 9am shadow diagrams, no shadow cast onto neighbouring properties by non-compliant portion of dwelling (Source: HSA)



Figure 17: Extract of the 12pm shadow diagrams, very minor shadow cast onto No.346 by non-compliant portion of dwelling in red (Source: HSA)

Objective	Discussion
	 *Figure 18: Extract of the 3pm shadow diagrams, minor shadow cast onto south-east corner of No.346 and north-east corner of No.344 by non-compliant portion of dwelling in red (Source: HSA)* In summary, the proposal minimises overshadowing onto adjoining properties. The shadows cast fall onto non-habitable and vegetated spaces.
(d) to allow for the reasonable sharing of views,	The proposal, specifically the non-compliant portions of the building, allow for reasonable view sharing. The sites on the east escarpment benefit from views of the Pacific Ocean directly east and may benefit from views of Palm Beach Headland to the north-east. The dwelling house does not cause any view loss from the neighbouring property No.354 on consideration of its lowest floor level being RL69.430 and the proposal's roof level adjacent to No.354 being RL66.425 – 3 metres below. Refer to drawings 050(Q) and 101(A) in Appendix 1 for detail. The proposal allows for view sharing from No.344 directly east toward the Pacific Ocean (front boundary). The proposal is anticipated to cause minor view loss from the oblique view across the subject site looking north and north-east. It is noted that sightline from the northern-most corner of the house through the corner of the permissible building setback line closest to No.344 masks the parts of the proposal further north which do come forward of the building line. Refer to Figure 19and drawings 001(C), 005(D), 006(L) and 101(A) in Appendix 1.

Objective	Discussion
	 *Figure 19: Extract of drawing 006 showing view lines from No.344 (Source: HSA, annotated by City Plan)* Consistent with *Tenacity Consulting v Warringah Council* [2004] NSWLEC 2004, side views are harder to protect than views obtained front and rear property boundaries. The proposal causes minor view loss from the side (north) boundary (due to the orientation of the site) which comprises a view with water, bushland and foreshore. The proposal causes no view loss from the properties at the rear due to the steep topography of the ridgeline. Therefore, the development allows reasonable view sharing.
(e) to encourage buildings that are designed to respond sensitively to the natural topography,	HSA have designed the proposed dwelling house to respond sensitively to the natural topography. Excavation is proposed to accommodate on-site basement parking. Given the slope of the site, this is the only reasonable on-site parking solution. As shown in the sections in Appendix 1, the dwelling house has been designed in response to the existing ground level. There is minimal excavation associated with the habitable areas of the dwelling. The proposal involves maintaining the natural levels and vegetation in the rear, undeveloped area of the site.
(f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items.	The proposal, specifically the areas of the building which contravene the height development standard, has been designed to minimise visual impact on the natural environment and nearby heritage item 'Cox House'. The development nestles sympathetically into the natural bushland setting as illustrated in Figure 15. This is facilitated through the proposed materials and recessing built form design. The street view in Figure 14 shows that the front corner of the top of the roof of the dining terrace and top of the corner of the screen wall beside the pool which contravene the height of buildings standard are visible from Whale Beach Road. Notwithstanding, even if compliant, these elements would still be visible. The site is not a heritage conservation area or located in proximity of. The proposed contraventions, nor the proposed development, cause visual impact on the nearby heritage item 'Cox House' to the north. The site and heritage item are separated by 354 Whale Beach Road. Furthermore, City Plan Heritage note in Appendix 2: *"Through built form configuration which follows the unique topography of the site and curvature of the headland, the development fits into the consistent usage of land seen across the streetscape and wider locality. The design of the residence also utilises a palette of both traditional materials as understated contemporary finishes that together help the development*

Objective	Discussion
	integrate visually within the surrounding environmental context and streetscape.".

As demonstrated in Table 1 above, the objectives of the height of buildings development standard are achieved notwithstanding the proposed variation.

In accordance with the decision in *Wehbe v Pittwater Council* [2007] NSWLEC 827, *Initial Action Pty Limited v Woollahra Municipal Council* [2018] NSWLEC 118, *Al Maha Pty Ltd v Huajun Investments Pty Ltd* (2018) 233 LGERA 170; [2018] NSWCA 245 and *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130 and *SJD DB2 Pty Ltd v Woollahra Municipal Council* [2020] NSWLEC 1112 at [31], therefore, compliance with the height of buildings development standard is demonstrated to be unreasonable or unnecessary and the requirements of clause 4.6(3)(a) have been met on this way alone.

For the sake of completeness, the other recognised ways are considered as follows.

5.2. The underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary;

The underlying objective or purpose is relevant to the development and therefore is not relied upon.

5.3. The objective would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable.

The objective would not be defeated or thwarted if compliance was required. This reason is not relied upon.

5.4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence the standard is unreasonable and unnecessary; or

The standard has not been abandoned by Council actions in this case and so this reason is not relied upon.

5.5. The zoning of the land is unreasonable or inappropriate.

The zoning of the land is reasonable and appropriate and therefore is not relied upon.

6. SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS

In *Initial Action Pty Ltd v Woollahra Council* [2018] NSWLEC 118, Preston CJ observed that in order for there to be 'sufficient' environmental planning grounds to justify a written request under clause 4.6 to contravene a development standard, the focus must be on the aspect or element of the development that contravenes the development standard, not on the development as a whole.

In *Four2Five Pty Ltd v Ashfield Council* [2015] NSWLEC 90, Pain J observed that it is within the discretion of the consent authority to consider whether the environmental planning grounds relied on are particular to the circumstances of the proposed development on the particular site.

As discussed in Section 4, the variation is minor and relates to:

- the corner of the roof overhang/eaves at the south-wing master bedroom
- the top corner of the screen wall
- the top of the roof of the dining terrace, and
- the corner of the roof overhang/eaves above the dining terrace.

The parts of the building that contravene the standard do not cause adverse impacts to surrounding residential properties. Therefore, it can be concluded that the proposal does not result in any unreasonable environmental impacts and it is considered that there are sufficient environmental planning grounds to justify the contravention.

Specific environmental planning grounds that focus on the aspect or element of the development that contravenes the standard are summarised below:

- The site is steeply sloping and even though the proposed house is a maximum of two storeys in height, the height standard is varied on the leading edge of small portions of the roof.
- The extent of the variation is less than the current approval (DA2019/0231) that exceeded the 8.5m height standard by 3.04m and the 10m height standard by 1.6m as deemed acceptable by the Northern Beaches Local Planning Panel on 12 June 2019.
- The contravention does not detract from the proposal's promotion of good design and amenity. The building is sympathetic with the bushland setting and provides a high-quality design which is compatible with the earthy materials required in the PDCP, distributes the built form mass across three allotments and the building is not linear though rather recessed at various points creating a central core connected to bedroom wings at the north and south of the site.
- The contravention of the standard allows for a development that is consistent with the existing and desired future character of the area.
- The proposed non-compliance with the height standard for the site maintains the orderly and economic use of the land.
- The variation helps minimise the building footprint and disturbance to natural landforms, whilst dedicating 65.27% of Lot 328- 330 to landscaping.
- The contravention of the standard allows for a development which causes no view loss except for minor loss from the oblique view across the north side boundary of No.344. The primary view toward the Pacific Ocean is maintained in full.
- The overshadowing impacts caused by the non-compliant portions of the building and the development fall mostly on the subject site until 3pm mid-winter. Very minor shadows are cast onto No.346 at 12pm by the non-compliant portions of the proposed dwelling house. At 3pm much of No.346 are overshadowed by the subject development. This is due to the orientation of the site and all properties on the east escarpment. Though this shadow analysis does not take into account the canopy trees and dense vegetation present on No.346 which would alleviate shadow impacts caused by the development. Minor shadows are caused by the non-compliant portions of the building onto the south-east corner of No.346 and north-east corner of No.344. This small area overshadowed is non-habitable and covered by vegetation.
- The dense vegetation on the east, west and south boundary of the site, in addition to the proposal's skilful design, ameliorates the impact of the minor contravention by reducing the scale as viewed from the public domain.

- The variation does not alter the intended purpose for a dwelling house in the E4 Environmental Living zone.
- There are no unreasonable adverse environmental impacts as a result of the proposed contravention of the standard.
- The proposed development achieves objectives of the standard (Section 5) and the objectives of the zone (Section 7).

In terms of the objects (Section 1.3) of the EP&A Act, which Preston J observed constitute 'environmental planning grounds', the consolidation of the three allotments, provision of a new bushfire compliant dwelling house and extensive landscaping is highly desirable. The proposal promotes protection of the environment (s1.3(e)), sustainable management of heritage in the nearby vicinity (s1.3(f)) and, good design and amenity of the built environment (s.1.3(g)). The benefit of the minor contravention greatly outweighs the negligible harm resulting from the variation. In this regard we submit that there are sufficient environmental planning grounds to justify contravening the height of buildings development standard to extent proposed in this application.

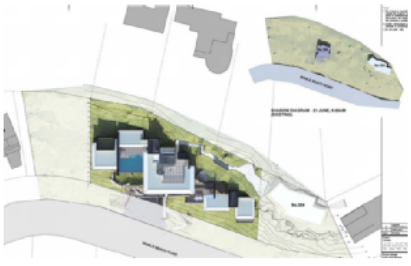
7. PUBLIC INTEREST

In this section it is explained how the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out. This is required by clause 4.6(4)(a)(ii) of the PLEP.

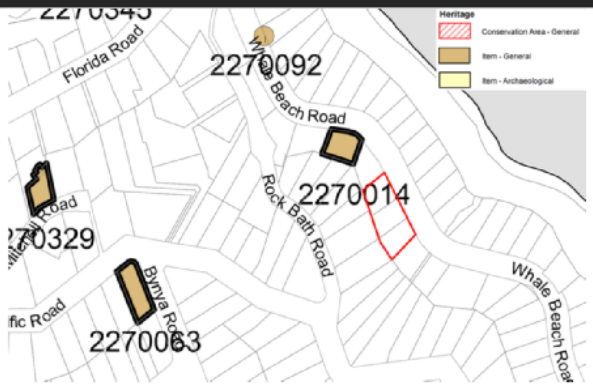
In Section 5 it was demonstrated that the proposed development overall achieves the objectives of the development standard notwithstanding the variation of the development standard (see comments under "public interest" in Table 2).

The table below considers whether the proposal is also consistent with the objectives of the zone.

Table 2: Consistency with zone objectives.

Objectives of E4 Environment Living Zone	Discussion
To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.	The proposal is a low impact residential development. The development involves the amalgamation of three allotments, which may have otherwise comprised an individual development on each lot. The distribution of built form and mass across the multiple allotments minimises the visual impact of the proposal. The development is low impact with regard to view loss, overshadowing and privacy. The proposal causes no view loss from No.354 or the properties to the rear on the top of the ridgeline. The development will cause minor view loss from the oblique view toward Palm Beach Headline from No.344. Notwithstanding. No.344 will maintain its uninterrupted view toward the Pacific Ocean eastward. The proposal is therefore low impact with regard to view loss. The proposed shadow impacts are overall minor, contributing to the low impact nature of the development: ▪ 9am: minor shadows fall on-site on the rear rock escarpment. ▪ 12pm: minor shadow remain on-site on the rear rock escarpment and a small shadow falls on the mid-north boundary on the adjoining site to the south, No.346. ▪ 3pm: most of the site including the adjoining No.346 are shadowed. Refer to the below figures.  *Figure 20: Extract of 9am shadow diagram (Source: HSA)*  *Figure 21: Extract of 12pm shadow diagram (Source: HSA)*

Objectives of E4 Environment Living Zone	Discussion
	 *Figure 22: Extract of 3pm shadow diagram (Source: HSA)* The design has sought to minimise opportunities for overlooking to and from the development, with setbacks, retention of vegetation and a continually recessing built form. Privacy is forwarded naturally due to the dense landscaping setting and falling of topography toward the Pacific Ocean. No.354 is situated north-west of the proposed dwelling, 3 metres up the ridgeline. The north-wing of the proposal and the south portion of the adjoining dwelling are close in proximity, though sufficiently separated by existing vegetation and topography. While Tree 16 (Golden Monterey Cypress) requires removal with the proposal and currently contributes to screening, there is ample existing vegetation to afford privacy in the new context.
To ensure that residential development does not have an adverse effect on those values.	The site contains ecological and aesthetic values as referenced in objective (a). Ecologically the site is valued for various reasons, including: ▪ Flora and fauna value ▪ Tree presence ▪ Bushfire risk ▪ Geotechnical hazard risk ▪ Nearby heritage value The proposal does not have adverse impact on the above ecological values, rather the design skilfully considers the site constraints. Abel Ecology confirm in Appendix 3 that the proposal does not cause any adverse impact on flora and fauna in the locality. The proposal requires the removal of three high retention trees, notably T25, T27 and T31 (Appendix 6). The development includes sufficient replacement planting to ensure the residential development maintains the landscape/bushland setting characteristic of the locality (refer to Appendix 7). The tree presence value of the site is therefore not adversely impacted. The bushfire risk of the site is not exacerbated by the proposal. Abel Ecology verify this in Appendix 4. Therefore the bushfire value of the site is not adversely impacted. The geotechnical hazard risk of site is not exacerbated by the proposal. JK Geotechnics confirm this in Appendix 5. Therefore the geotechnical hazard value of the site is not adversely impacted. The site is not a heritage item or located in a conservation area. Local heritage item 'Cox House' is located at 356 Whale Beach Road to the north of the site. The heritage item is separated by the development site by 354 Whale Beach Road (Figure 23).

Objectives of E4 Environment Living Zone	Discussion
	 *Figure 23: Extract of PLEP heritage map, site outlined in red to the south of Cox House (Source: NSW Legislation)* The heritage values of 'Cox House' are not adversley impacted and confirmed by Heritage Plan Heritage (Appendix 2). In summary, the proposed residential dwelling does not cause adverse impact on the ecological and natural environment values of the site and wider locality. The aesthetic values of the area include the conglomeration of the coastline and bushland setting. The development responds to the bushland setting, seeking to create a building which sits within the landscape as discussed in this report. The materials and finishes are earthy as prescribed in the Palm Beach Locality in the PDCP. The aesthetic value of the sandstone underlying the site and rocky escarpment of the Pacific Ocean coastline is portrayed in the proposed mix of sandstone, rubble stone faced masonry and concrete stone terrazzo paving. In summary, the proposed residential dwelling does not cause adverse impact on the ecological and natural environment values of the site and wider locality.
To provide for residential development of a low density and scale integrated with the landform and landscape.	As discussed above in this table, the development is low impact and does not cause adverse impact on the ecological and aesthetic values of the site and locality. The design comprises a central building core with the primary habitable spaces connecting to a north and south wing. HSA utilises modulation and recessing of the built form to distinctly present the central core and various wings. The distribution of built form across the three allotments enables the proposal to integrate within the rock escarpment and natural landscape setting. The proposal is consistent with this objective in that the low density and scale development sits sympathetically within the local context setting, as illustrated in the photomontage below.

Objectives of E4 Environment Living Zone	Discussion
	 *Figure 24: Extract of the photomontage of the proposal as viewed from the Pacific Ocean, proposal outlined by a yellow box (Source: HSA)*
To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.	The site is not affected by a riparian corridor. The proposed development retains and enhances, to the extent applicable, the foreshore vegetation and wildlife corridors of the locality. The site is separated from the foreshore by Whale Beach Road. Notwithstanding, the proposed materials and finishes of the dwelling house draws on the characteristics of the rocky foreshore to the east of the site as shown in Figure 24. The proposal also includes a Bushland Regeneration Strategy, refer to the Ecology Report in Appendix 3.

As demonstrated in Table 2, the proposal is consistent with the objectives of the zone and in Section 5 it was demonstrated that the proposal is consistent with the objectives of the development standard. According to clause 4.6(4)(a)(ii), therefore, the proposal in the public interest.

8. STATE OR REGIONAL ENVIRONMENTAL PLANNING

There is no identified outcome which would be prejudicial to planning matters of state or regional significance that would result as a consequence of varying the development standard as proposed by this application.

As demonstrated already, the proposal is consistent with the objectives of the zone and the objectives of the development standard and in our opinion, there are no additional matters which would indicate there is any public benefit of maintaining the development standard in the circumstances of this application.

As far as known there are no other matters required to be taken into consideration by the Secretary before granting concurrence.

9. CONCLUSION

This clause 4.6 variation request demonstrates that:

- Compliance with the development standard would be unreasonable and unnecessary in the circumstances of this development,
- There are sufficient environmental planning grounds to justify the contravention,
- The development achieves the objectives of the development standard and achieves the objectives of the E4 Environmental Living zone notwithstanding the non-compliance with the height of buildings standard,
- The proposed development, notwithstanding the variation, is in the public interest and there is no public benefit in maintaining the standard in the circumstances, and
- The variation does not raise any matter of State or Regional Significance.

On this basis, therefore, it is appropriate to exercise the flexibility provided by clause 4.6 in the circumstances of this application.

APPENDIX 1 - ARCHITECTURAL PLANS



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Drawing List

Drawing	Issue	Title
001	E	Photomontage 01 View of Proposal from East
002	D	Site Survey Plan
003	E	Site Analysis Plan
005	E	Site Plan (Level 1)
006	N	Site Plan (Level 2)
007	F	Demolition Plan
008	J	Excavation & Fill plan
010	H	LO-1 Plan
011	G	LO-2 Plan
012	G	LO-3 Plan
013	H	LO-4 Plan
020	T	L1 Plan
030	T	L2 Plan
040	R	Roof Plan
050	R	East Elevation
051	G	South Elevation
052	F	North Elevation
060	J	Section A
061	L	Section B
062	J	Section C
063	J	Section D
064	H	Section E
065	F	Section F
066	F	Section G
070	J	Tree Location Plan
100	E	Finishes Sample
101	C	Photomontage 02 Area Overview
108	C	Maximum Building Height 8.5m height plane diagram
109	E	Maximum Building Height 10m height plane diagram
110	D	Shadow Diagrams 21 June 9am
111	D	Shadow Diagrams 21 June 12pm
112	D	Shadow Diagrams 21 June 3pm
115	D	Landscaped Area Plan - Existing
116	D	Landscaped Area Plan - Proposed
130	A	Notification Plan Level 1
131	A	Notification Plan Level 2
132	A	Notification Elevations

ISSUE	REVISION	DATE
E	DA submission. Drawing list updated.	09-03-21 08-03-21
D	Drawing list updated	01-03-21
C	Drawing list updated	23-02-21
B	Drawing list updated	22-02-21
A	Initial Issue	08-02-21

Project
House
Lots 327 to 330, DP 16382
340-352 Whale Beach Road
Palm Beach NSW 2108

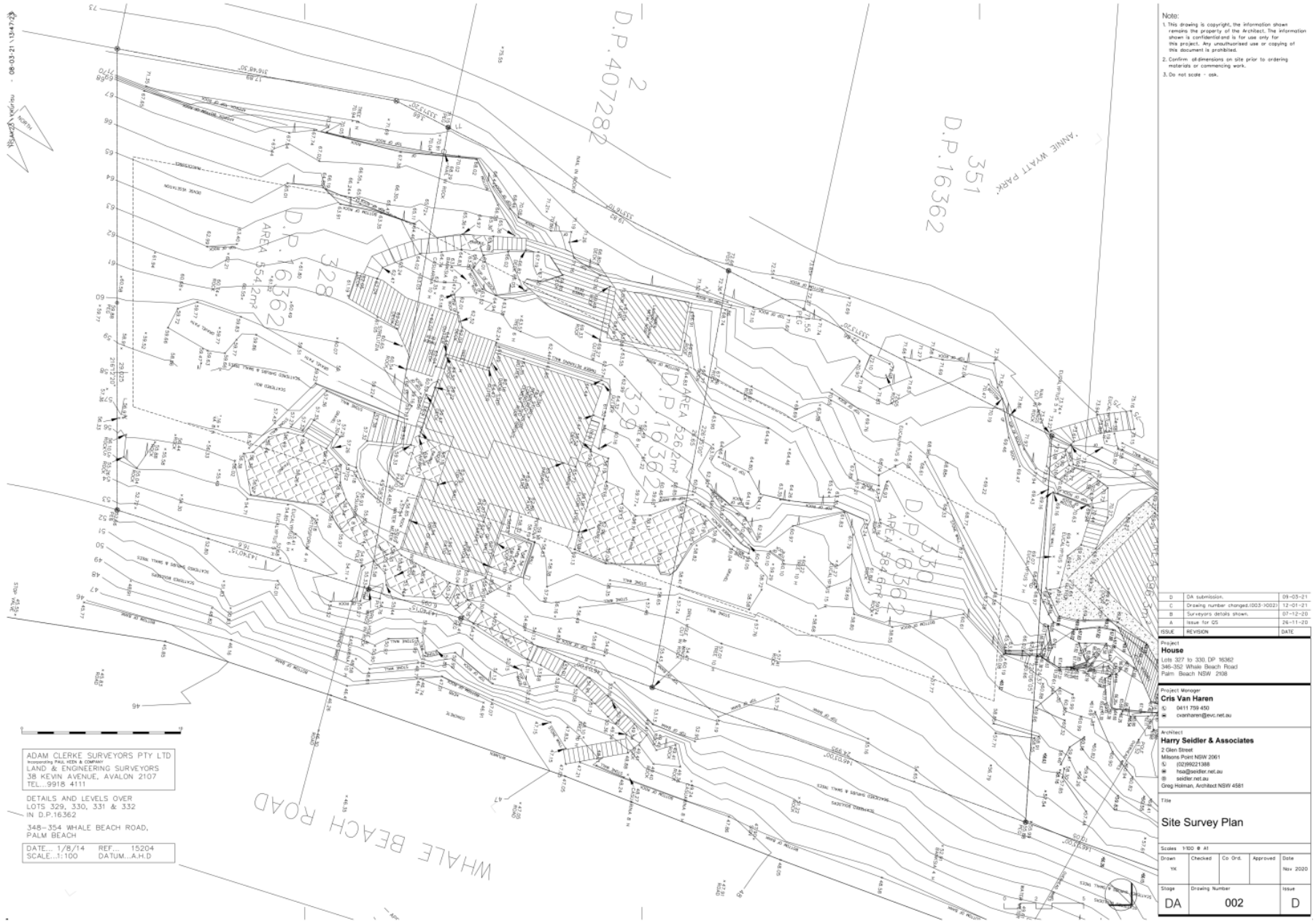
Project Manager
Cris Van Haren
0411 759 450
cvanharen@evc.net.au

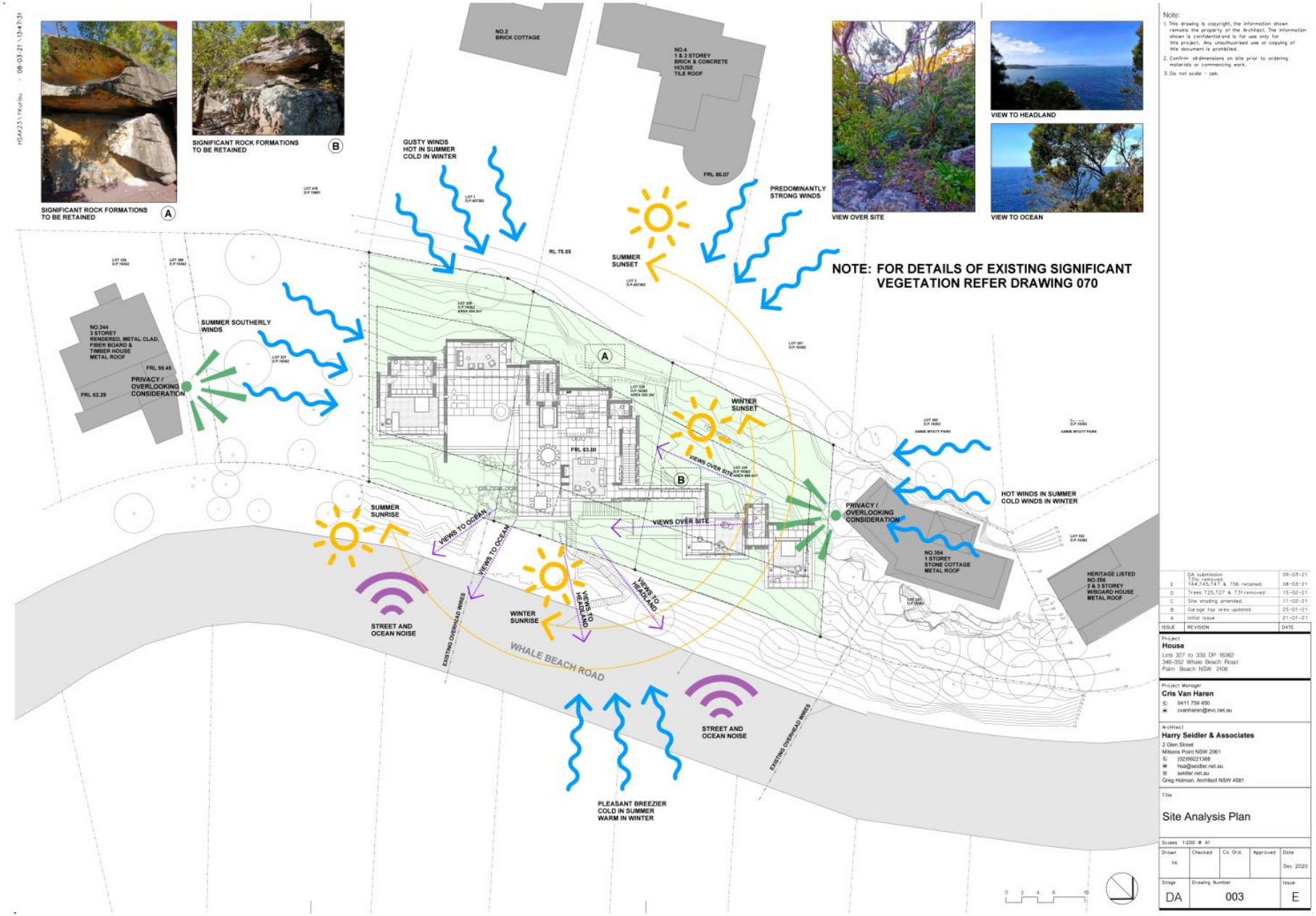
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seidler.net.au
Greg Holman, Architect NSW 4581

Title
Photomontage 01
View of Proposal from East

Scales	N.T.S.			
Drawn	Checked	Co Ord.	Approved	Date
YK				Feb 2021

Stage	Drawing Number	Issue
DA	001	E


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D | DA submission. | 09-03-21
C | Drawing number changed.(003-1002) | 12-01-21
B | Surveyors details shown. | 07-12-20
A | Issue for QS | 26-11-20
ISSUE | REVISION | DATE
Project
House
Lots 327 to 330, DP 16362
346-352 Whale Beach Road
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Greg Holman, Architect NSW 4581
Title
Site Survey Plan
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Nov 2020
Stage DA
Drawing Number 002
Issue D
ADAM CLERKE SURVEYORS PTY LTD
Incorporating PAUL KEEN & COMPANY
LAND & ENGINEERING SURVEYORS
38 KEVIN AVENUE, AVALON 2107
TEL...9918 4111
DETAILS AND LEVELS OVER
LOTS 329, 330, 331 & 332
IN D.P.16362
348-354 WHALE BEACH ROAD,
PALM BEACH
DATE... 1/8/14 REF... 15204
SCALE...1:100 DATUM...A.H.D
WHALE BEACH ROAD
ANNIE WYATT PARK
D.P.407282
D.P.16362
LOT 328
AREA 554.2m²
LOT 329
AREA 526.2m²
LOT 330
AREA 584.6m²
LOT 351


SIGNIFICANT ROCK FORMATIONS TO BE RETAINED
A
SIGNIFICANT ROCK FORMATIONS TO BE RETAINED
B
NO.2 BRICK COTTAGE
NO.4 1 & 2 STOREY BRICK & CONCRETE HOUSE TILE ROOF
FRL 86.07
VIEW TO HEADLAND
VIEW OVER SITE
VIEW TO OCEAN
GUSTY WINDS HOT IN SUMMER COLD IN WINTER
PREDOMINANTLY STRONG WINDS
SUMMER SUNSET
NOTE: FOR DETAILS OF EXISTING SIGNIFICANT VEGETATION REFER DRAWING 070
SUMMER SOUTHERLY WINDS
NO.344 3 STOREY RENDERED, METAL CLAD, FIBER BOARD & TIMBER HOUSE METAL ROOF
FRL 59.45
FRL 62.29
PRIVACY / OVERLOOKING CONSIDERATION
RL 75.55
FRL 63.00
WINTER SUNSET
VIEWS OVER SITE
VIEWS OVER SITE
HOT WINDS IN SUMMER COLD WINDS IN WINTER
PRIVACY / OVERLOOKING CONSIDERATION
NO.354 1 STOREY STONE COTTAGE METAL ROOF
HERITAGE LISTED NO.356 2 & 3 STOREY WEATHERBOARD HOUSE METAL ROOF
SUMMER SUNRISE
VIEWS TO OCEAN
VIEWS TO OCEAN
VIEWS TO HEADLAND
VIEWS TO HEADLAND
WINTER SUNRISE
STREET AND OCEAN NOISE
EXISTING OVERHEAD WIRES
WHALE BEACH ROAD
STREET AND OCEAN NOISE
EXISTING OVERHEAD WIRES
PLEASANT BREEZIER COLD IN SUMMER WARM IN WINTER
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2. Confirm all dimensions on site prior to ordering materials or commencing work.
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E DA submission T30 removed. 144,145,147 & 156 retained. 09-03-21
D Trees T25,127 & T31 removed 15-02-21
C Site shading amended. 11-02-21
B Garage top area updated. 25-01-21
A Initial issue 21-01-21
ISSUE REVISION DATE
Project
House
Lots 327 to 330 DP 16362
346-352 Whale Beach Road
Palm Beach NSW 2108
Project Manager
Cris Van Haren
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Architect
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Greg Holman, Architect NSW 4581
Title
Site Analysis Plan
Scales 1:200 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Dec 2020
Stage DA
Drawing Number 003
Issue E



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ISSUE	REVISION	DATE
E	DA submission T3b removed. 144,145,147 & 156 retained.	09-03-21 08-03-21
D	Trees T29,127 & 131 removed	15-02-21
C	Site shading amended. Stair to terrace amended.	11-02-21 09-02-21
B	Garage top area updated.	25-01-21
A	Initial issue	19-01-21

Project
House
Lots 327 to 330, DP 16382
346-352 Whale Beach Road
Palm Beach NSW 2108

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Title
Site Plan (Level 1)

Scales 1:200 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	005	E



	FECA	UCA	GFA
Roof	10.38m²	-	10.38m²
Level 2	364.29m²	55.17m²	419.46m²
Level 1	234.89m²	55.31m²	290.20m²
Level 0-4	52.39m²	41.51m²	93.90m²
Level 0-3	73.94m²	-	73.94m²
Level 0-2	84.48m²	-	84.48m²
Level 0-1	113.90m²	17.51m²	131.41m²
Total	934.27m²	169.50m²	1103.77m²

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ISSUE	REVISION	DATE
N	DA submission LO-4 area amended. T35a removed. 144,145,147 & 156 retained.	09-03-21 08-03-21
M	Levels 0-2, 0-3, 0-4 area amended.	26-02-21
L	Area (FECA, UCA, GFA) amended. Trees 125,127 & 131 removed.	18-02-21 15-02-21
K	Site shading amended.	11-02-21
J	Garage top area updated.	25-01-21
H	Trees T24 removed.	14-01-21
G	Drawing number changed.(002->006)	12-01-21
F	Trees updated.	08-01-21
E	Existing terrace edge shown. Dimensions amended.	22-12-20 21-12-20
D	Level 2 plan shown instead of roof plan	07-12-20
C	Issue for QS Area (FECA, UCA, GFA) shown	26-11-20 25-11-20
B	Amended to client request	09-09-20
A	Initial issue	17-07-20

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Title
Site Plan (Level 2)

Scales 1:200 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	006	N



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LEGEND

Existing Building to be demolished

Existing Tree to be removed

ISSUE	REVISION	DATE
F	DA submission Trees T48 & T31a removed	09-03-21 08-03-21
E	Trees T25,T27 & T31 removed	15-02-21
D	Updated. Trees T24 removed.	28-01-21 14-01-21
C	Drawing number changed.(004->007)	12-01-21
B	T23 & T33 removed. T25 retained.	08-01-21
A	Issue for QS	26-11-20

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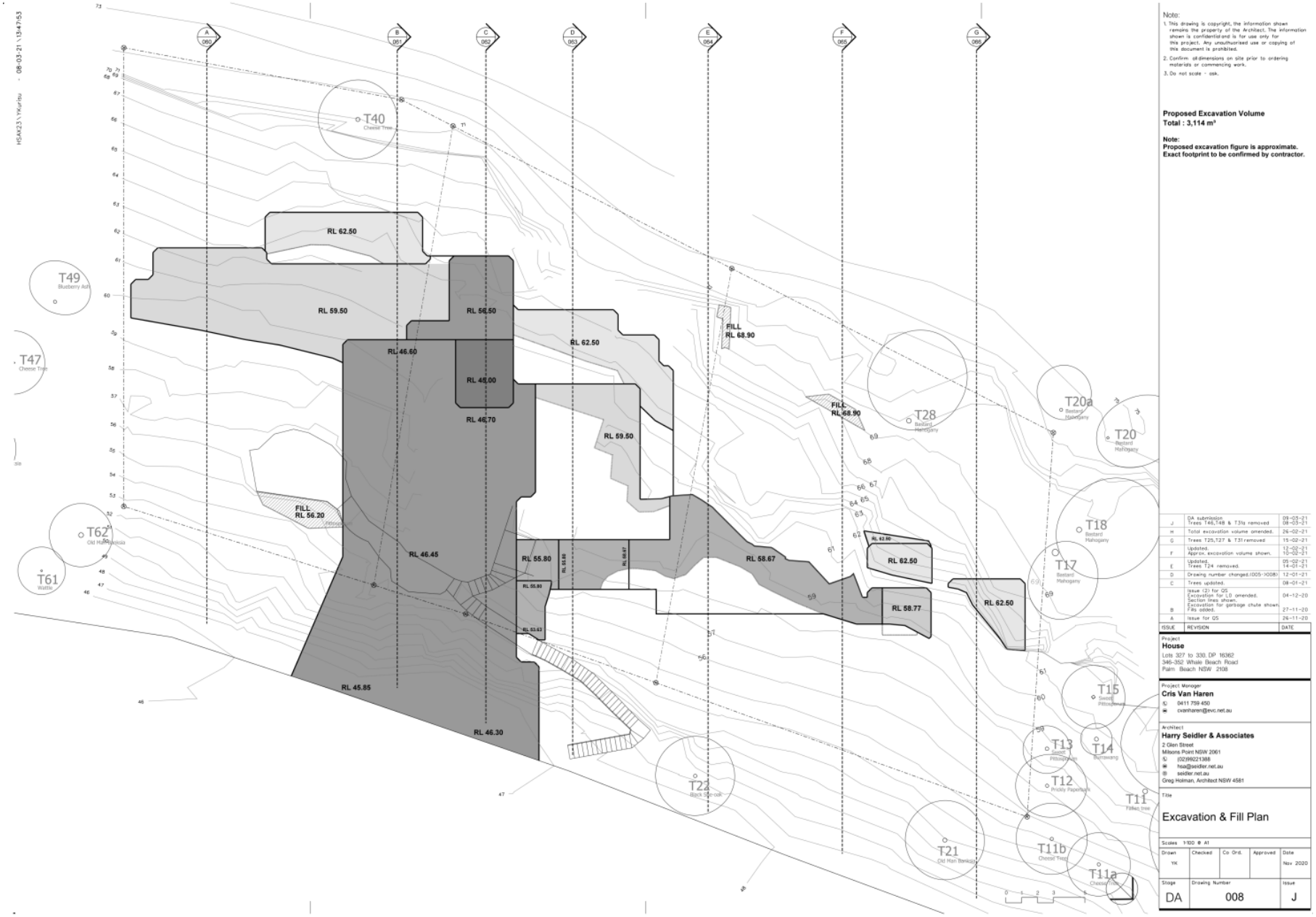
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Title
Demolition Plan

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	007	F


RL 62.50
RL 59.50
RL 56.50
RL 46.60
RL 62.50
RL 46.00
RL 46.70
RL 59.50
FILL
RL 68.90
FILL
RL 68.90
FILL
RL 56.20
RL 46.45
RL 55.80
RL 58.67
RL 62.50
RL 58.77
RL 62.50
RL 45.85
RL 46.30
T40
T49
T47
T62
T61
T28
T20a
T20
T18
T17
T15
T13
T14
T12
T11
T22
T21
T11b
T11a
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Proposed Excavation Volume
Total : 3,114 m³
Note:
Proposed excavation figure is approximate.
Exact footprint to be confirmed by contractor.
J DA submission Trees T46,T48 & T31a removed 09-03-21 08-03-21
H Total excavation volume amended. 26-02-21
G Trees T25,T27 & T31 removed 15-02-21
F Updated. Approx. excavation volume shown. 12-02-21 10-02-21
E Updated. Trees T24 removed. 09-02-21 14-01-21
D Drawing number changed.(005->008) 12-01-21
C Trees updated. 08-01-21
B Issue (2) for QS Excavation for LD amended. Section lines shown. Excavation for garbage chute shown. Fills added. 04-12-20 27-11-20
A Issue for QS 26-11-20
ISSUE REVISION DATE
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Excavation & Fill Plan
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Nov 2020
Stage DA
Drawing Number 008
Issue J



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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission Garbage bins area amended. Hydrant near garbage bins shown.	09-03-21 08-03-21
G	Perimeter wall thickness reduced. Balustrade to stair.	24-02-21 24-02-21
F	Conc. wall to garbage bins area.	16-02-21
E	Info added. Lift shaft width increased.	02-02-21 01-02-21
D	Updated.	27-01-21
C	Drawing number changed. Updated.	22-01-21
B	Updated.	19-01-21
A	Initial issue	23-12-20

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Title
Plan
Level 0 - 1

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	010	H



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LEGEND

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23 Tank Room
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25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
G	DA submission Facade south window amended. Plant room added. Wine cellar RL amended.	09-03-21 05-03-21 03-03-21 02-03-21
F	Perimeter wall thickness reduced. Wine cellar shown.	26-02-21
E	Conc. wall to garbage bins area	16-02-21
D	Info added. Lift shaft width increased.	02-02-21 01-02-21
C	Updated.	27-01-21
B	Drawing number changed. Updated.	22-01-21
A	Initial issue	23-12-20

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Title
Plan
Level 0 - 2

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	011	G



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LEGEND

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29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
G	DA submission Façade south window amended. Water tank room amended.	09-03-21 05-03-21 03-03-21
F	Perimeter wall thickness reduced. Water tank room shown.	26-02-21
E	Conc. wall to garbage bins area	16-02-21
D	Info added. Lift shaft width increased.	02-02-21 01-02-21
C	Updated.	27-01-21
B	Drawing number changed. Updated.	22-01-21
A	Initial issue	23-12-20

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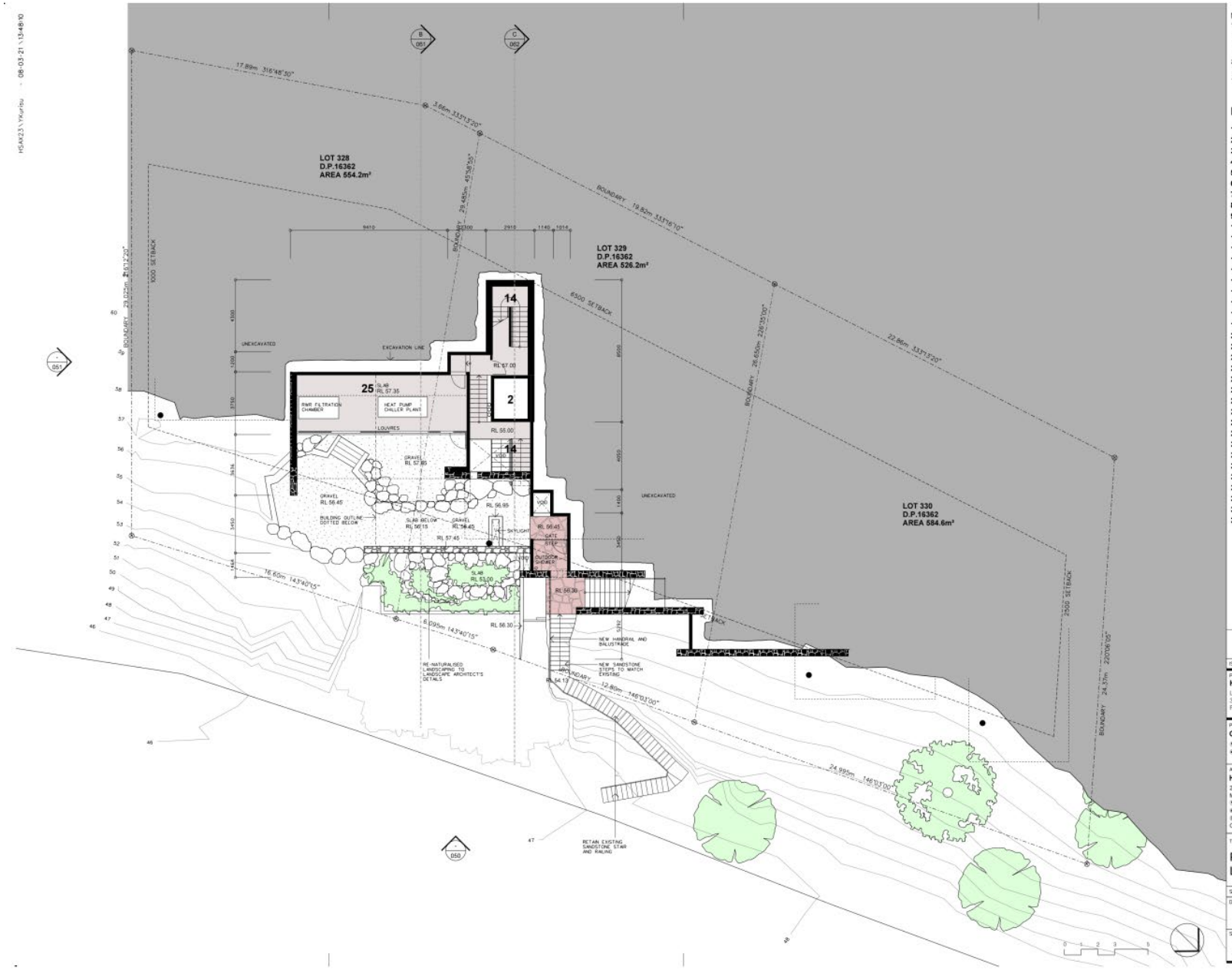
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Title
Plan
Level 0 - 3

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	012	G



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LEGEND

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29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission Trees shown. Plant room enlarged. Gravel area & plant RLs amended. Internal stair to plant amended.	09-03-21 08-03-21 04-03-21 03-03-21

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Title
Plan
Level 0 - 4

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	013	H



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LEGEND

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29 Garage
30 BBQ / Fire
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32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
T	DA submission Trees updated. Hot water system shown.	09-03-21 04-03-21 04-03-21
S	Main stair support side wall	24-02-21
R	Awning & sliding windows shown. Spire wall to main stair. Trees T25,T27 & T31 removed.	19-02-21 16-02-21 15-02-21
Q	Stair to terrace amended.	09-02-21
P	Existing building shown. Info added. Lift shaft width increased.	05-02-21 03-02-21 01-02-21
N	Updated. Garage top area updated.	27-01-21 25-01-21
M	Entry stair extended. Concrete column outside of centre bedroom moved.	21-01-21

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Title
Plan :
Level 1

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	020	T



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LEGEND

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33 Spa
34 Fireplace
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37 Wine Cellar

ISSUE	REVISION	DATE
T	DA submission Trees updated. Hot water system shown.	09-03-21 08-03-21 04-03-21
S	Main stair support side wall Bulkhead to enquiries shown.	24-02-21
R	Rung ladders added.	23-02-21

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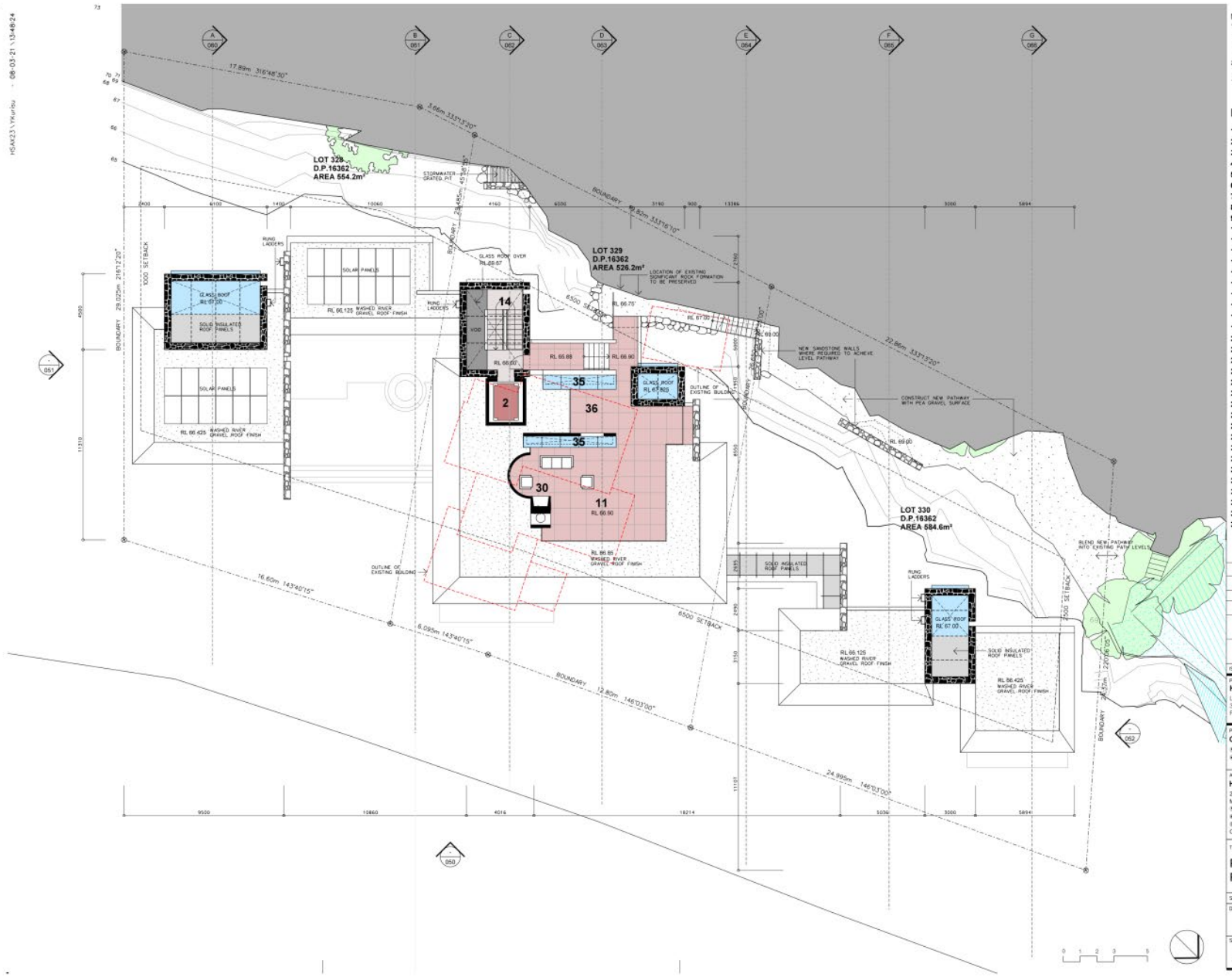
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Title
Plan :
Level 2

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	030	T



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LEGEND

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28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
R	DA submission Stormwater pit shown.	09-03-21 05-03-21
Q	Main stair support side wall. Solid insulated roof panels shown.	24-02-21
P	Rung ladders & Solar panels added.	23-02-21
N	Spine wall to main stair. Trees T25,T27 & T31 removed.	16-02-21 15-02-21
M	Existing building shown, into added. Lift shaft width increased. Roof terrace amended.	05-02-21 03-02-21 01-02-21
L	Glass roof above entry deleted. Roof edge above entry extended. Skylight above kitchen amended. Updated.	29-01-21 28-01-21

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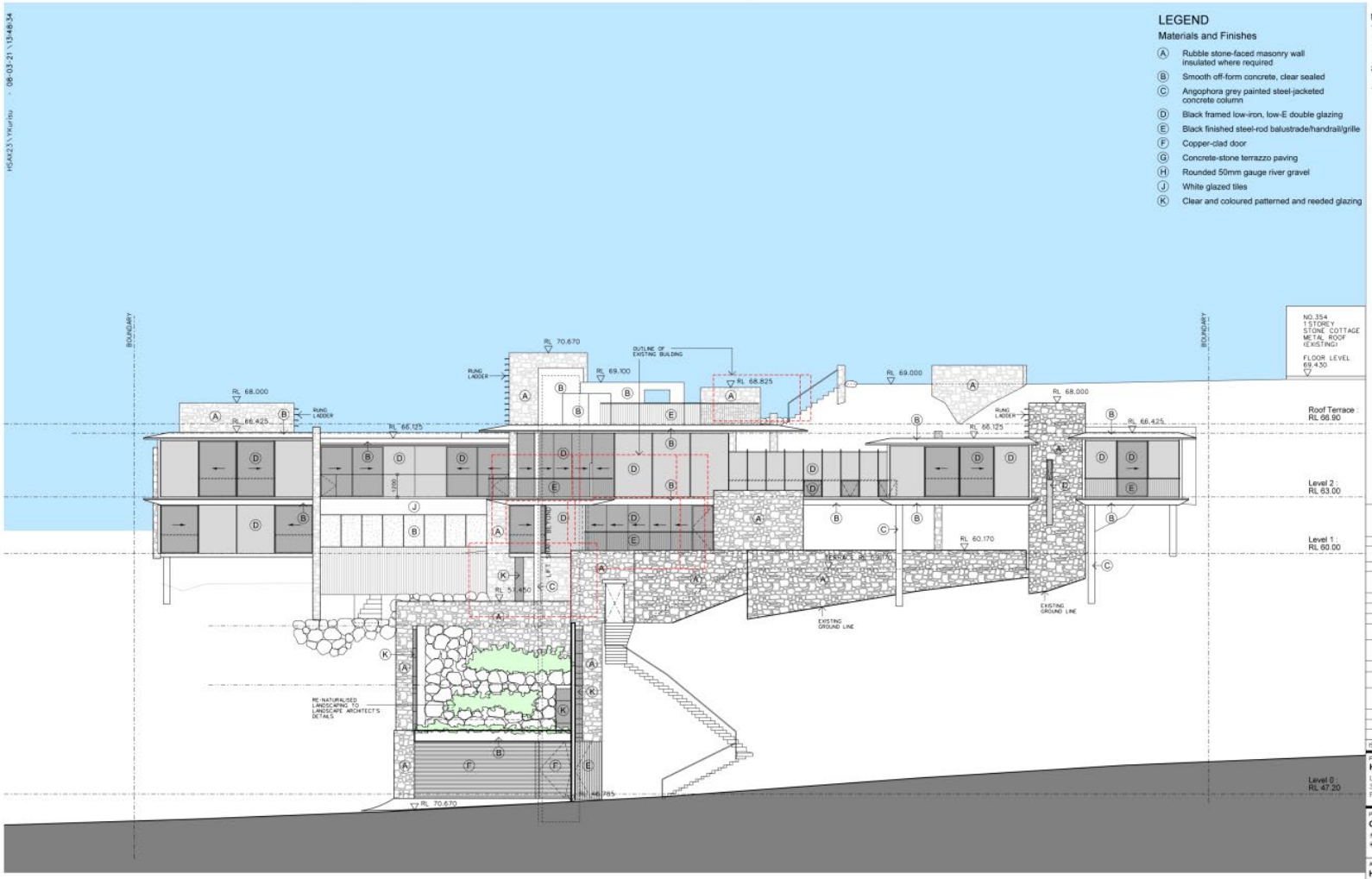
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Title
Plan:
Roof

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Jul 2020

Stage	Drawing Number	Issue
DA	040	R



EAST ELEVATION

ISSUE	REVISION	DATE
R	DA submission Garage front facade south window amended. Plant louvre full width. Garage front facade top raised.	09-03-21 05-03-21 04-03-21
Q	Rung ladders added.	23-02-21
P	Awning & sliding windows shown. Trees T25,T27 & T31 removed.	19-02-21 15-02-21
N	Top part of chimney at roof deleted.	10-02-21
M	Existing building shown. Roof terrace amended. Lift shaft width increased.	08-02-21 01-02-21
L	Roof edge above entry extended.	29-01-21
K	Garage front facade amended.	22-01-21
J	Stair & lift shaft top raised.	20-01-21
H	Lift shaft amended. BBQ deleted.	14-01-21
G	Updated. Tree in front of L1 terrace retained. Existing house north shown.	08-01-21 22-12-20
F	Pool north corner wall amended.	10-12-20
E	Issue (2) for QS Retaining stone wall shown	04-12-20 27-11-20
D	Issue for QS Spa amended. Updated.	26-11-20 24-11-20 12-11-20
C	Tree in front of L1 terrace removed.	09-11-20
B	Updated.	06-11-20
A	Initial Issue	14-10-20

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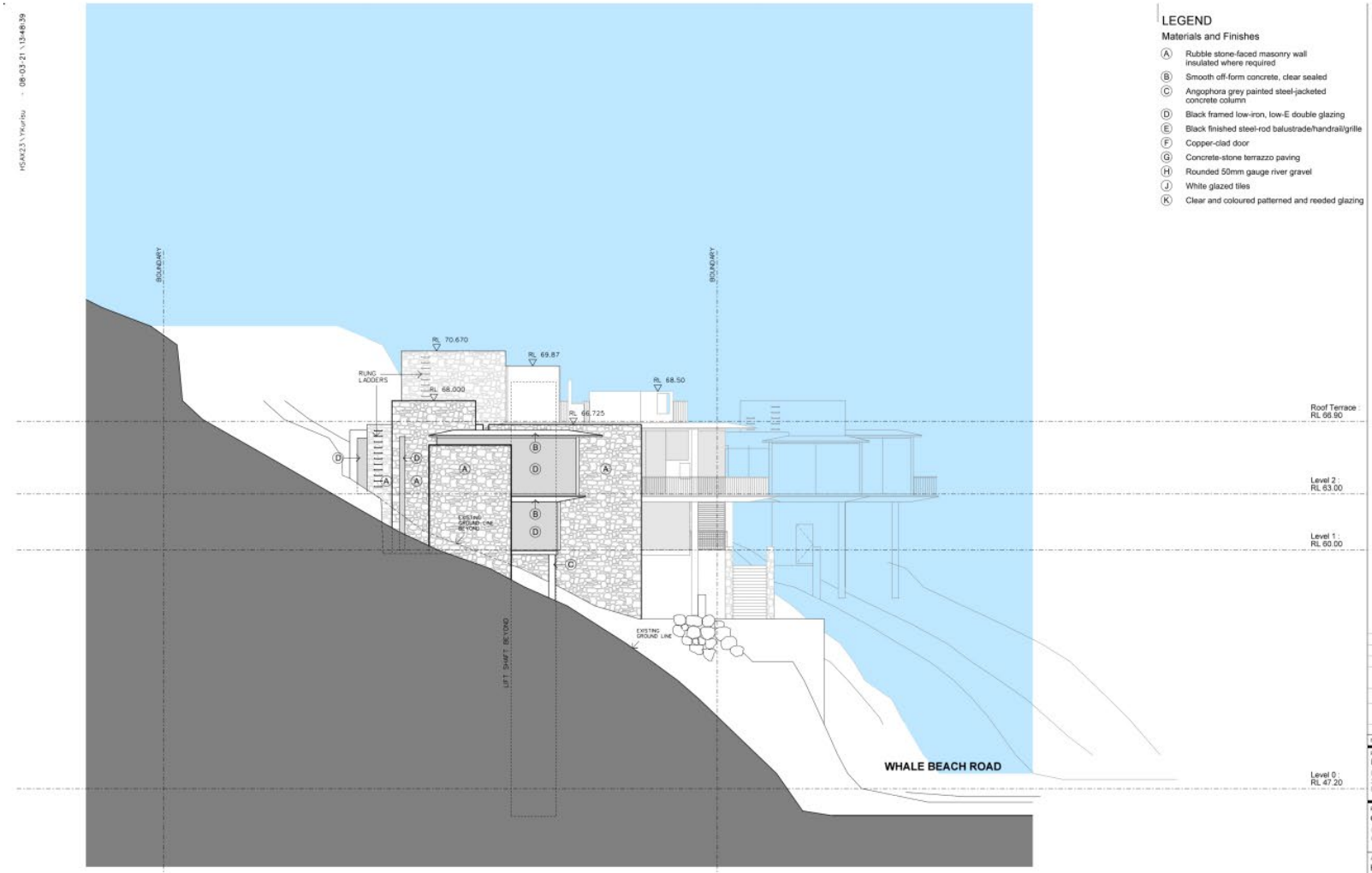
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Title
East Elevation

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Oct 2020

Stage	Drawing Number	Issue
DA	050	R



LEGEND

Materials and Finishes

- (A) Rubble stone-faced masonry wall insulated where required
- (B) Smooth off-form concrete, clear sealed
- (C) Angophora grey painted steel-jacketed concrete column
- (D) Black framed low-iron, low-E double glazing
- (E) Black finished steel-rod balustrade/handrail/grille
- (F) Copper-clad door
- (G) Concrete-stone terrazzo paving
- (H) Rounded 50mm gauge river gravel
- (J) White glazed tiles
- (K) Clear and coloured patterned and reeded glazing

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3. Do not scale - ask.

ISSUE	REVISION	DATE
G	DA submission	09-03-21
F	Rung ladders added.	25-02-21
E	Top part of chimney at roof deleted.	10-02-21
D	Roof terrace amended. Garage top area updated. Stair & lift shaft top raised.	02-02-21 26-01-21 20-01-21
C	Updated. Ground line amended	15-01-21 13-01-21
B	Issue (2) for QS Retaining stone wall shown Finishes shown.	04-12-20 27-11-20
A	Issue for QS	26-11-20

Project
House
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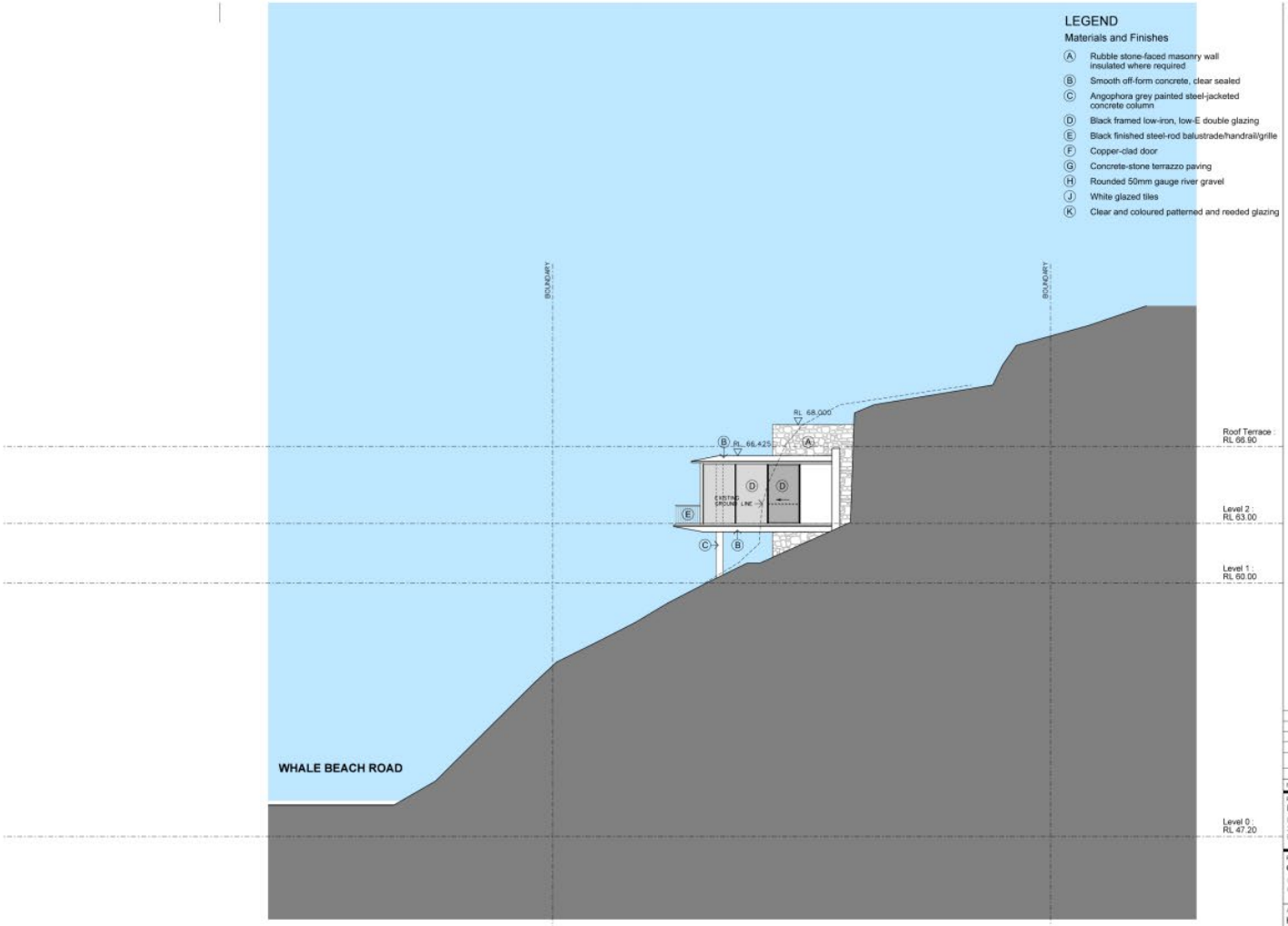
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Title
South Elevation

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	051	G



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ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Updated.	19-02-21
D	Existing ground line shown.	11-02-21
C	Updated.	02-02-21
B	Issue (2) for QS Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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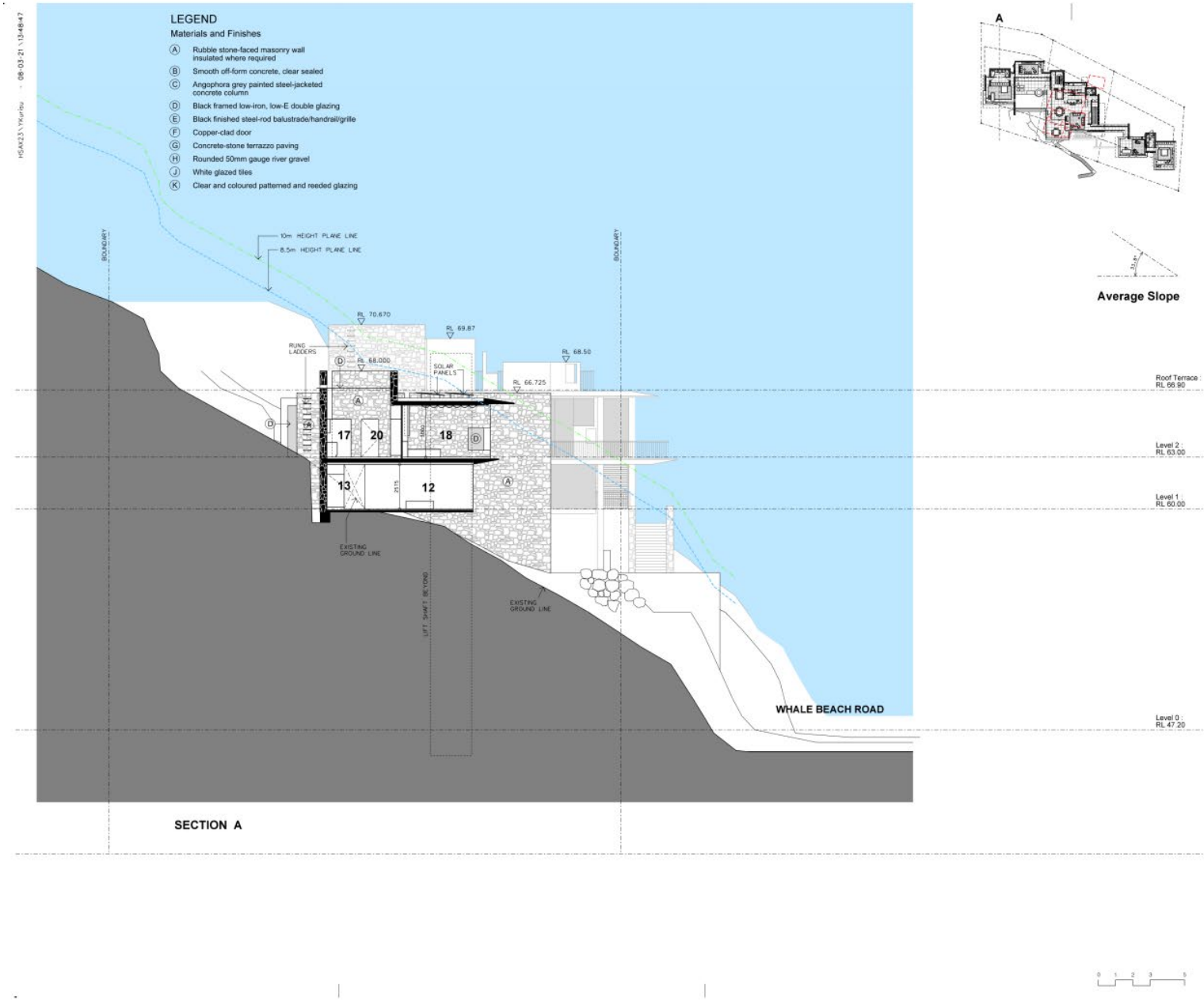
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Title
North Elevation

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Nov 2020

Stage	Drawing Number	Issue
DA	052	F



Average Slope

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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
J	DA submission	09-03-21
H	Rung ladders & Solar panels added.	23-02-21
G	Draped ceiling shown.	18-02-21
F	8.5m & 10m height lines added. Average slope shown. Top pot of chimney at roof deleted. Legend "2" amended.	12-02-21 11-02-21 10-02-21 09-02-21
E	Master bedroom window amended. Roof terrace amended. Garage top area updated.	04-02-21 03-02-21 27-01-21
D	Stair & lift shaft top raised.	20-01-21
C	Updated.	15-01-21
B	Issue (2) for QS Conc col moved. Retaining stone wall shown Finishes shown.	04-12-20 03-12-20 27-11-20
A	Issue for QS	26-11-20

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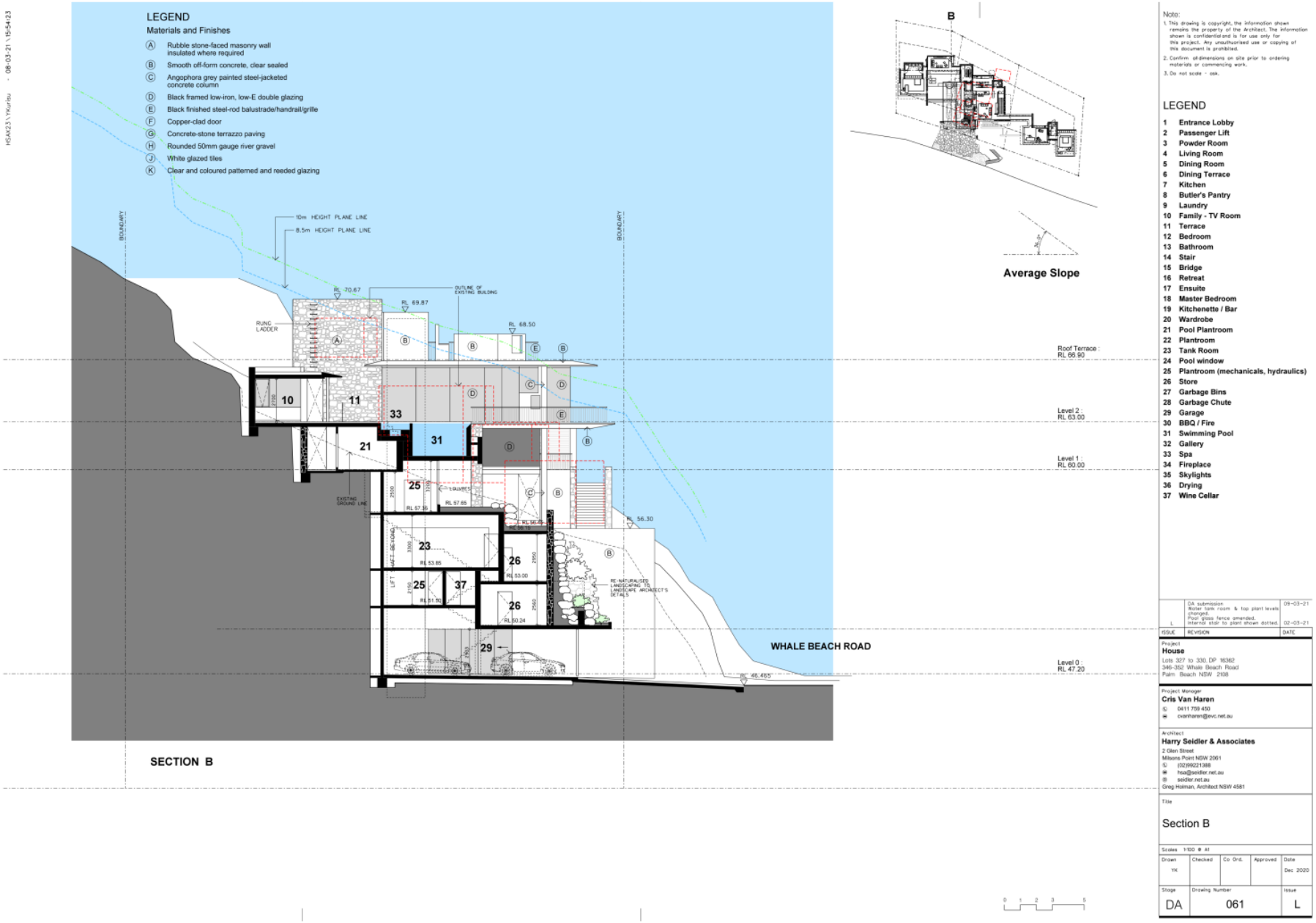
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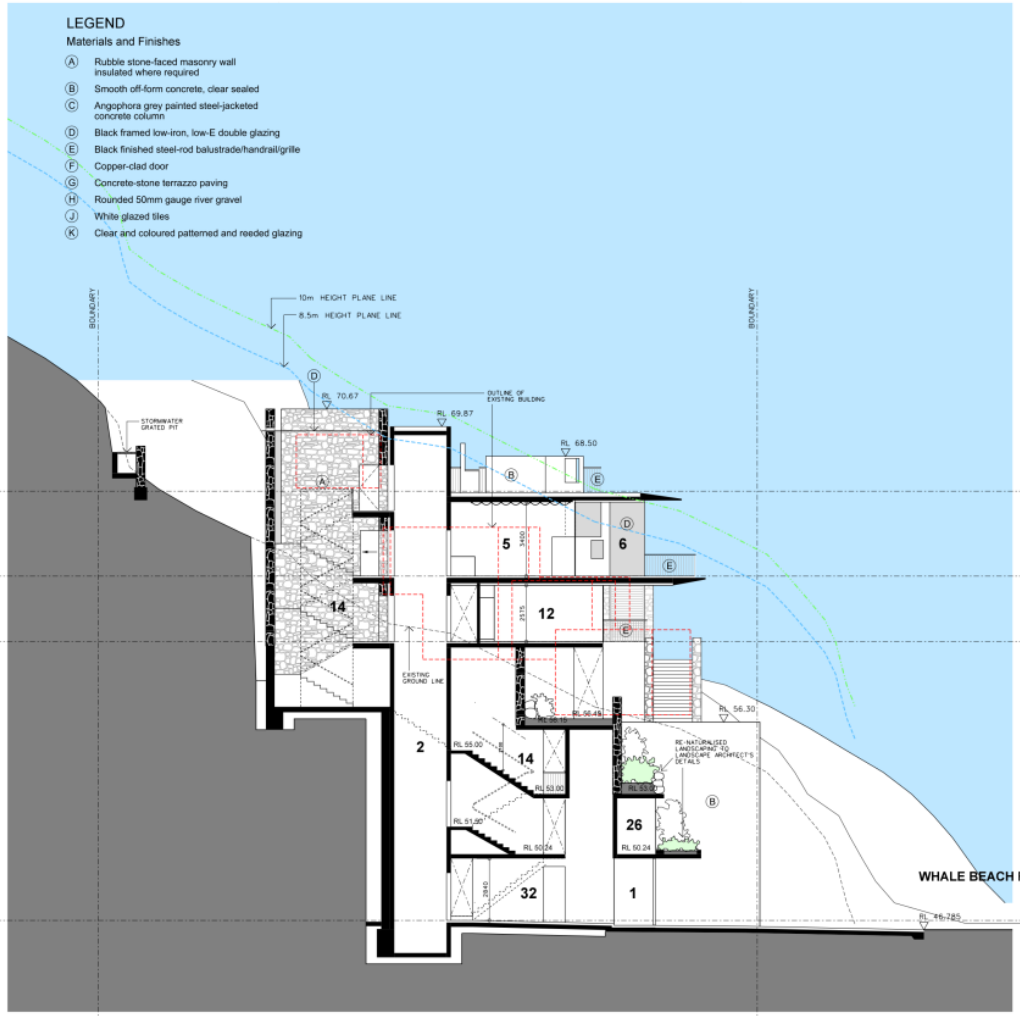
Title
Section A

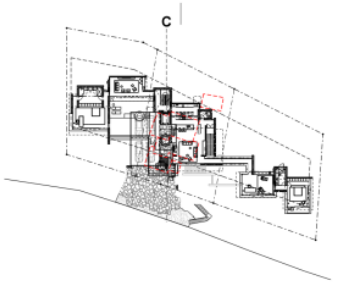
Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Sep 2020

Stage	Drawing Number	Issue
DA	060	J


LEGEND
Materials and Finishes
A Rubble stone-faced masonry wall insulated where required
B Smooth off-form concrete, clear sealed
C Angophora grey painted steel-jacketed concrete column
D Black framed low-iron, low-E double glazing
E Black finished steel-rod balustrade/handrail/grille
F Copper-clad door
G Concrete-stone terrazzo paving
H Rounded 50mm gauge river gravel
J White glazed tiles
K Clear and coloured patterned and reeded glazing
10m HEIGHT PLANE LINE
8.5m HEIGHT PLANE LINE
BOUNDARY
BOUNDARY
RUNG LADDER
OUTLINE OF EXISTING BUILDING
EXISTING GROUND LINE
RE-NATURALISED LANDSCAPING TO LANDSCAPE ARCHITECT'S DETAILS
WHALE BEACH ROAD
Roof Terrace : RL 66.90
Level 2 : RL 63.00
Level 1 : RL 60.00
Level 0 : RL 47.20
SECTION B
B
Average Slope
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LEGEND
1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar
L DA submission 09-03-21
Water tank room & top plant levels changed. 02-03-21
Pool glass fence amended. Internal stair to plant shown dotted.
ISSUE REVISION DATE
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Title
Section B
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Dec 2020
Stage DA
Drawing Number 061
Issue L





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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
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9 Laundry
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17 Ensuite
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24 Pool window
25 Plantroom (mechanicals, hydraulics)
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28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
J	DA submission Stormwater grated pit shown. Level 0-4 gravel area RLs changed.	09-03-21 05-03-21 04-03-21
H	Dropped ceiling shown. Spine wall to main stair.	17-02-21
G	8.5m & 10m height lines added. Top part of chimney of roof deleted. Legend "G" amended.	12-02-21 10-02-21 09-02-21
F	Existing building shown. Roof terrace amended.	08-02-21 02-02-21
E	Updated	25-01-21
D	Drawing number changed. (096->062) Stair & lift shaft top raised.	20-01-21
C	Updated	15-01-21
B	Updated	07-01-21
A	Initial issue	23-12-20

Project
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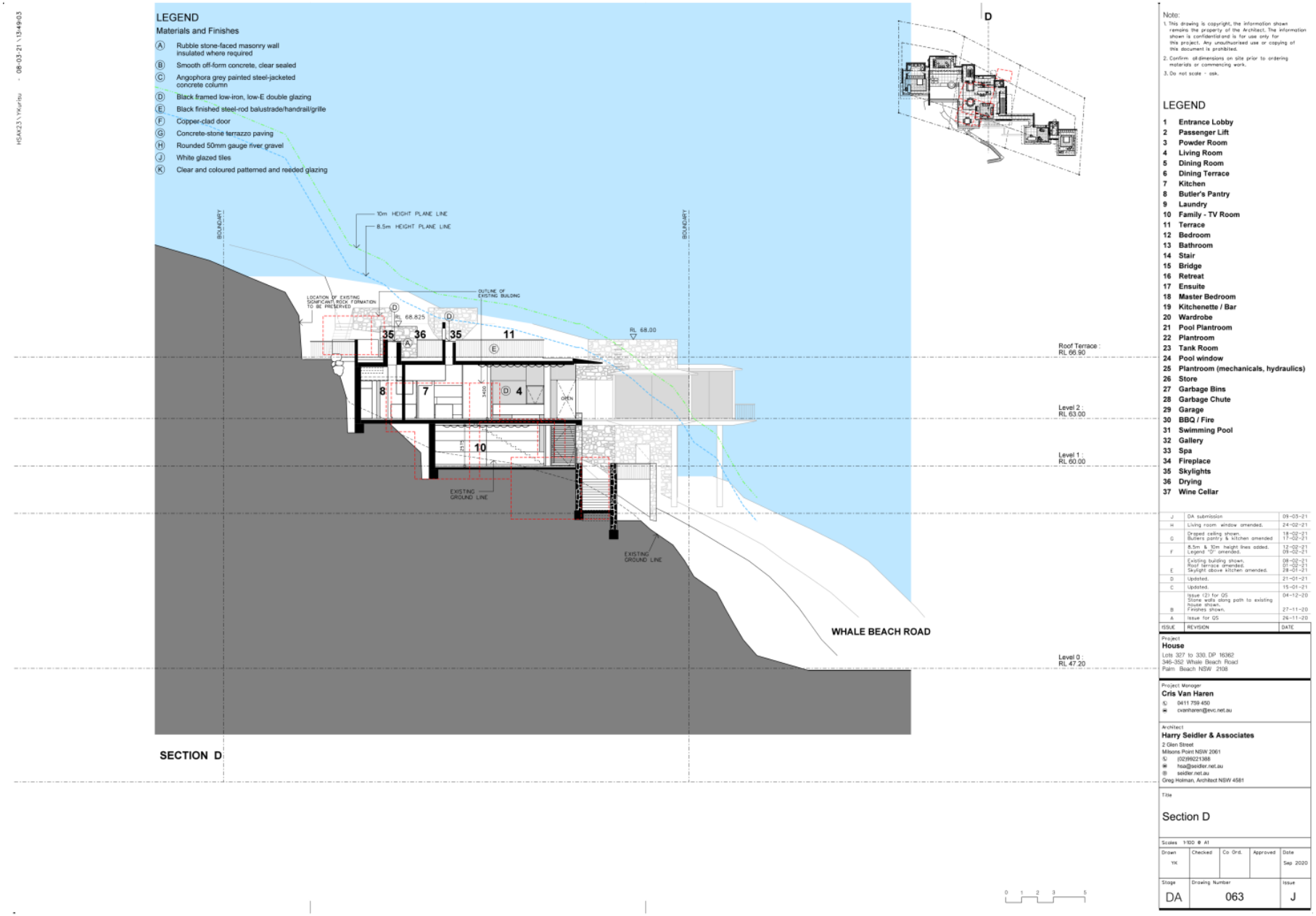
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Title
Section C

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	062	J


LEGEND
Materials and Finishes
A Rubble stone-faced masonry wall insulated where required
B Smooth off-form concrete, clear sealed
C Angophora grey painted steel-jacketed concrete column
D Black framed low-iron, low-E double glazing
E Black finished steel-rod balustrade/handrail/grille
F Copper-clad door
G Concrete-stone terrazzo paving
H Rounded 50mm gauge river gravel
J White glazed tiles
K Clear and coloured patterned and reeded glazing
D
10m HEIGHT PLANE LINE
8.5m HEIGHT PLANE LINE
BOUNDARY
BOUNDARY
LOCATION OF EXISTING SIGNIFICANT ROCK FORMATION TO BE PRESERVED
OUTLINE OF EXISTING BUILDING
RL 68.825
RL 68.00
35
36
35
11
8
7
4
10
OPEN
EXISTING GROUND LINE
EXISTING GROUND LINE
WHALE BEACH ROAD
Roof Terrace : RL 66.90
Level 2 : RL 63.00
Level 1 : RL 60.00
Level 0 : RL 47.20
SECTION D
0 1 2 3 5
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LEGEND
1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
10 Family - TV Room
11 Terrace
12 Bedroom
13 Bathroom
14 Stair
15 Bridge
16 Retreat
17 Ensuite
18 Master Bedroom
19 Kitchenette / Bar
20 Wardrobe
21 Pool Plantroom
22 Plantroom
23 Tank Room
24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar
J DA submission 09-03-21
H Living room window amended. 24-02-21
G Draped ceiling shown. Butlers pantry & kitchen amended 18-02-21 17-02-21
F 8.5m & 10m height lines added. Legend "D" amended. 12-02-21 09-02-21
E Existing building shown. Roof terrace amended. Skylight above kitchen amended. 08-02-21 01-02-21 28-01-21
D Updated. 21-01-21
C Updated. 15-01-21
B Issue (2) for QS Stone walls along path to existing house shown. Finishes shown. 04-12-20 27-11-20
A Issue for QS 26-11-20
ISSUE REVISION DATE
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Section D
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Sep 2020
Stage DA
Drawing Number 063
Issue J
HSAX23\YKurisu - 08-03-21_1349-03



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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
5 Dining Room
6 Dining Terrace
7 Kitchen
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9 Laundry
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13 Bathroom
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27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
H	DA submission	09-03-21
G	Rung ladders added.	23-02-21
F	Updated.	19-02-21
E	8.5m & 10m height lines added. Average slope shown. Legend "5" amended.	12-02-21 11-02-21 09-02-21
D	Updated.	03-02-21
C	Updated.	15-01-21
B	Issue (2) for QS Stone walls along path to existing house shown. Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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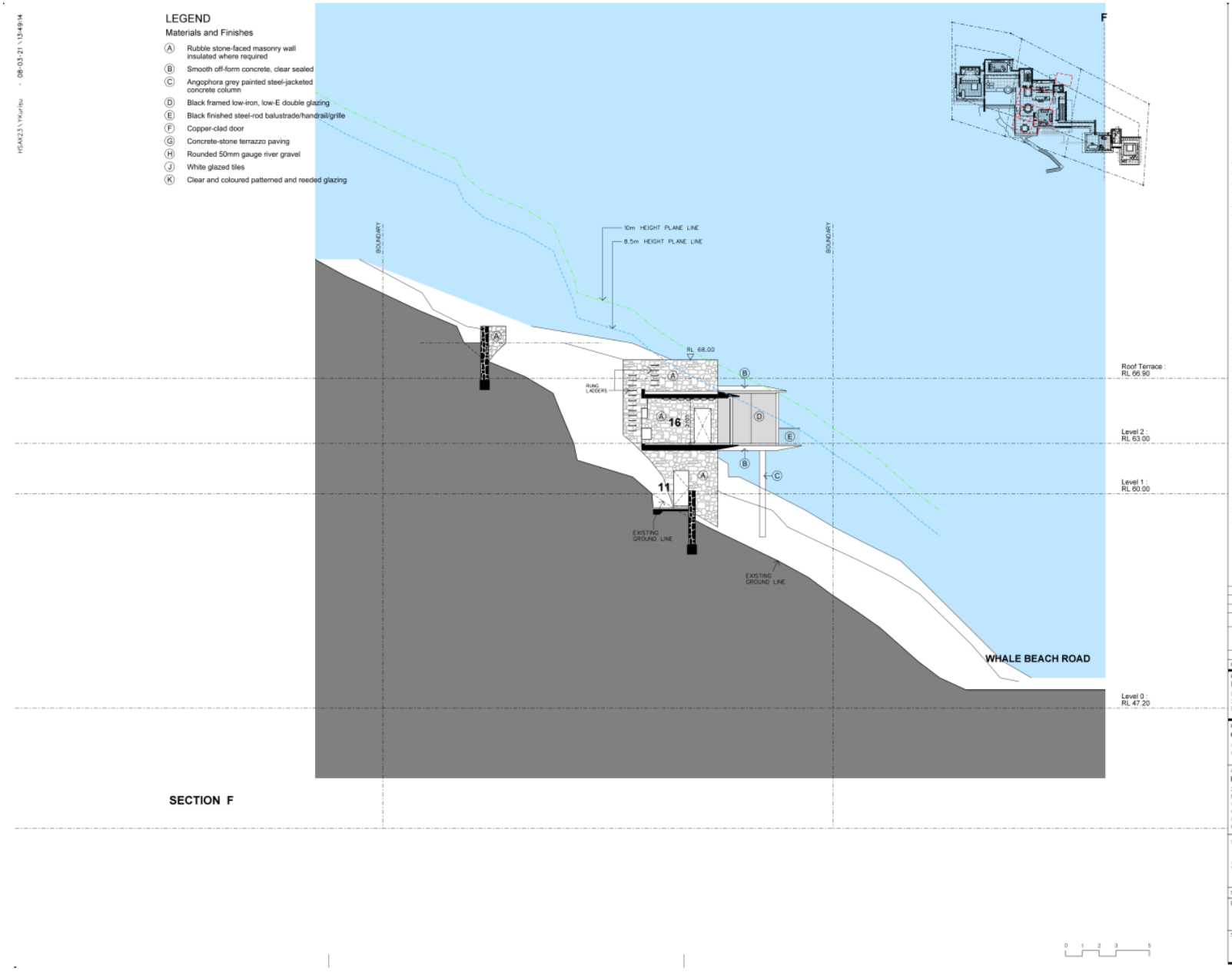
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Title
Section E

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Sep 2020

Stage	Drawing Number	Issue
DA	064	H



SECTION F

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LEGEND

1 Entrance Lobby
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28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Rung ladders added.	23-02-21
D	Draped ceiling shown.	18-02-21
C	8.5m & 10m height lines added. Legend "D" amended.	12-02-21 09-02-21
B	Issue (2) for QS Stone wall along path to existing house shown. Finishes shown.	04-12-20 27-11-20
A	Issue for QS	24-11-20

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Title
Section F

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Oct 2020

Stage	Drawing Number	Issue
DA	065	F

H:\A23\1\Kurisu - 08-03-21_134919

LEGEND

Materials and Finishes

- (A) Rubble stone-faced masonry wall insulated where required
- (B) Smooth off-form concrete, clear sealed
- (C) Angophora grey painted steel-jacketed concrete column
- (D) Black framed low-iron, low-E double glazing
- (E) Black finished steel-rod balustrade/handrail/grille
- (F) Copper-clad door
- (G) Concrete-stone terrazzo paving
- (H) Rounded 50mm gauge river gravel
- (J) White glazed tiles
- (K) Clear and coloured patterned and reeded glazing



SECTION G

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LEGEND

1 Entrance Lobby
2 Passenger Lift
3 Powder Room
4 Living Room
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6 Dining Terrace
7 Kitchen
8 Butler's Pantry
9 Laundry
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24 Pool window
25 Plantroom (mechanicals, hydraulics)
26 Store
27 Garbage Bins
28 Garbage Chute
29 Garage
30 BBQ / Fire
31 Swimming Pool
32 Gallery
33 Spa
34 Fireplace
35 Skylights
36 Drying
37 Wine Cellar

ISSUE	REVISION	DATE
F	DA submission	09-03-21
E	Dropped ceiling shown.	18-02-21
D	8.5m & 10m height lines added. Average slope shown. Legend "G" amended.	12-02-21 11-02-21 09-02-21
C	Ceiling to wardrobe.	02-02-21
B	Issue (2) for QS Finishes shown.	04-12-20 27-11-20
A	Issue for QS	26-11-20

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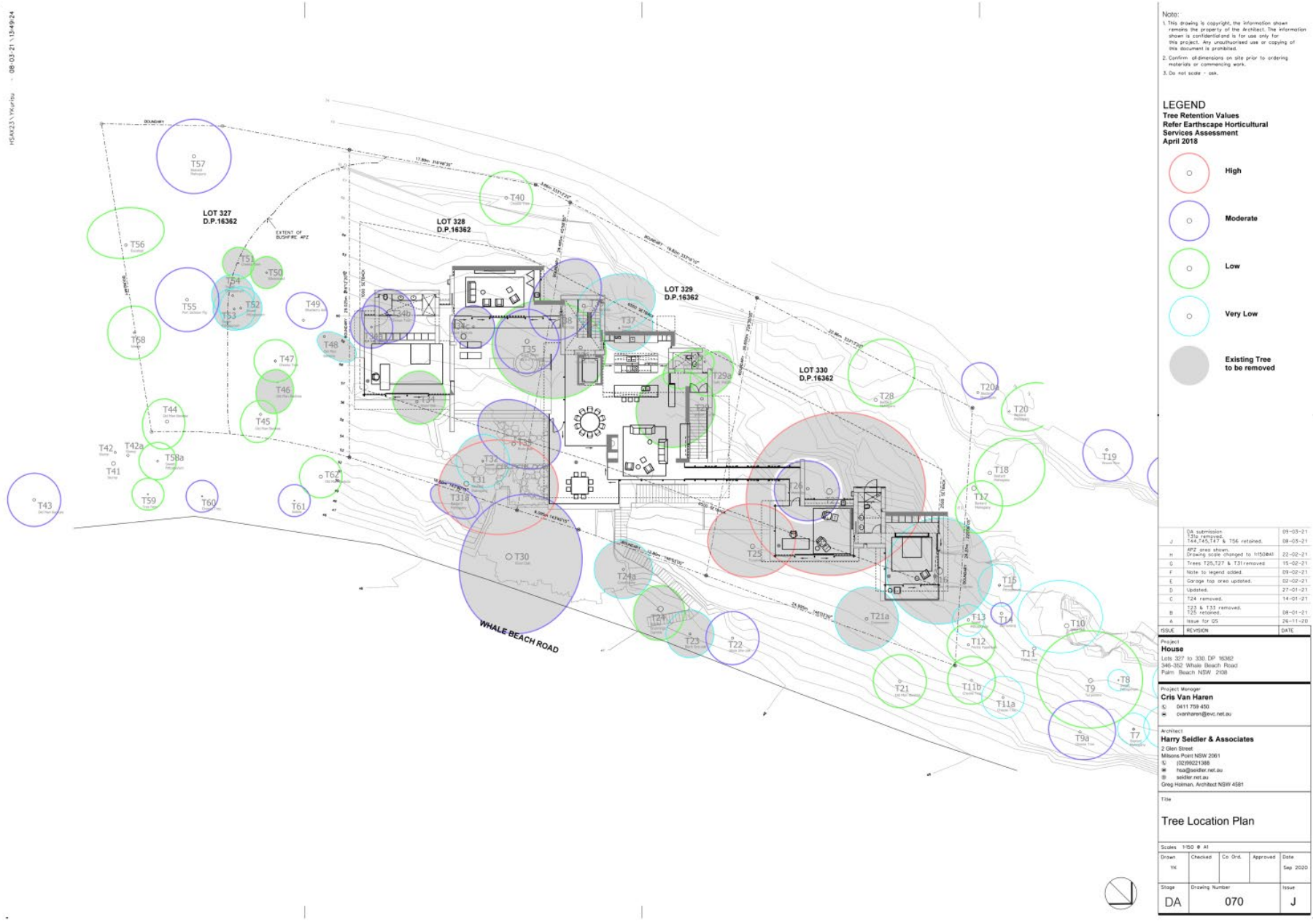
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Title
Section G

Scales 1:100 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Oct 2020

Stage	Drawing Number	Issue
DA	066	F


LOT 327
D.P.16362
LOT 328
D.P.16362
LOT 329
D.P.16362
LOT 330
D.P.16362
WHALE BEACH ROAD
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LEGEND
Tree Retention Values
Refer Earthscape Horticultural Services Assessment April 2018
High
Moderate
Low
Very Low
Existing Tree to be removed
J DA submission T30 removed. T44,T45,T47 & T56 retained. 09-03-21
H APZ area shown. Drawing scale changed to 1:150@A1 22-02-21
G Trees T25,T27 & T31 removed 15-02-21
F Note to legend added. 09-02-21
E Garage top area updated. 02-02-21
D Updated. 27-01-21
C T24 removed. 14-01-21
B T23 & T33 removed. T25 retained. 08-01-21
A Issue for QS 24-11-20
ISSUE REVISION DATE
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Title
Tree Location Plan
Scales 1:150 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Sep 2020
Stage DA
Drawing Number 070
Issue J

H:\AX23\YKurisu - 08-03-21 13:49:30

A



B



D



D

E



F



G



H



L



Schedule of Colours and Finishes

Legend

A Rubble stone-faced masonry wall insulated where required
B Smooth off-form concrete, clear sealed
D Black Aluminium Window Frames
D Black framed low-iron, low-E double glazing
E Black finished steel-rod balustrade/handrail/grille
F Copper-clad door
G Concrete-stone terrazzo paving
H Rounded 50mm gauge river gravel
L Sandstone Paving

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3. Do not scale - ask.

ISSUE	REVISION	DATE
E	DA submission.	09-03-21
D	Materials rearranged alphabetically	15-02-21
C	Updated	11-02-21
B	Updated	08-02-21
A	Initial issue	19-01-21

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Greg Holman, Architect NSW 4581

Title
Finishes Sample

Scales	NTS			
Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

Stage	Drawing Number	Issue
DA	100	E



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ISSUE	REVISION	DATE
C	DA submission. Solar panels shown.	09-03-21 04-03-21
B	Updated.	01-03-21
A	Initial issue	12-02-21

Project
House
Lots 327 to 330, DP 16382
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Palm Beach NSW 2108

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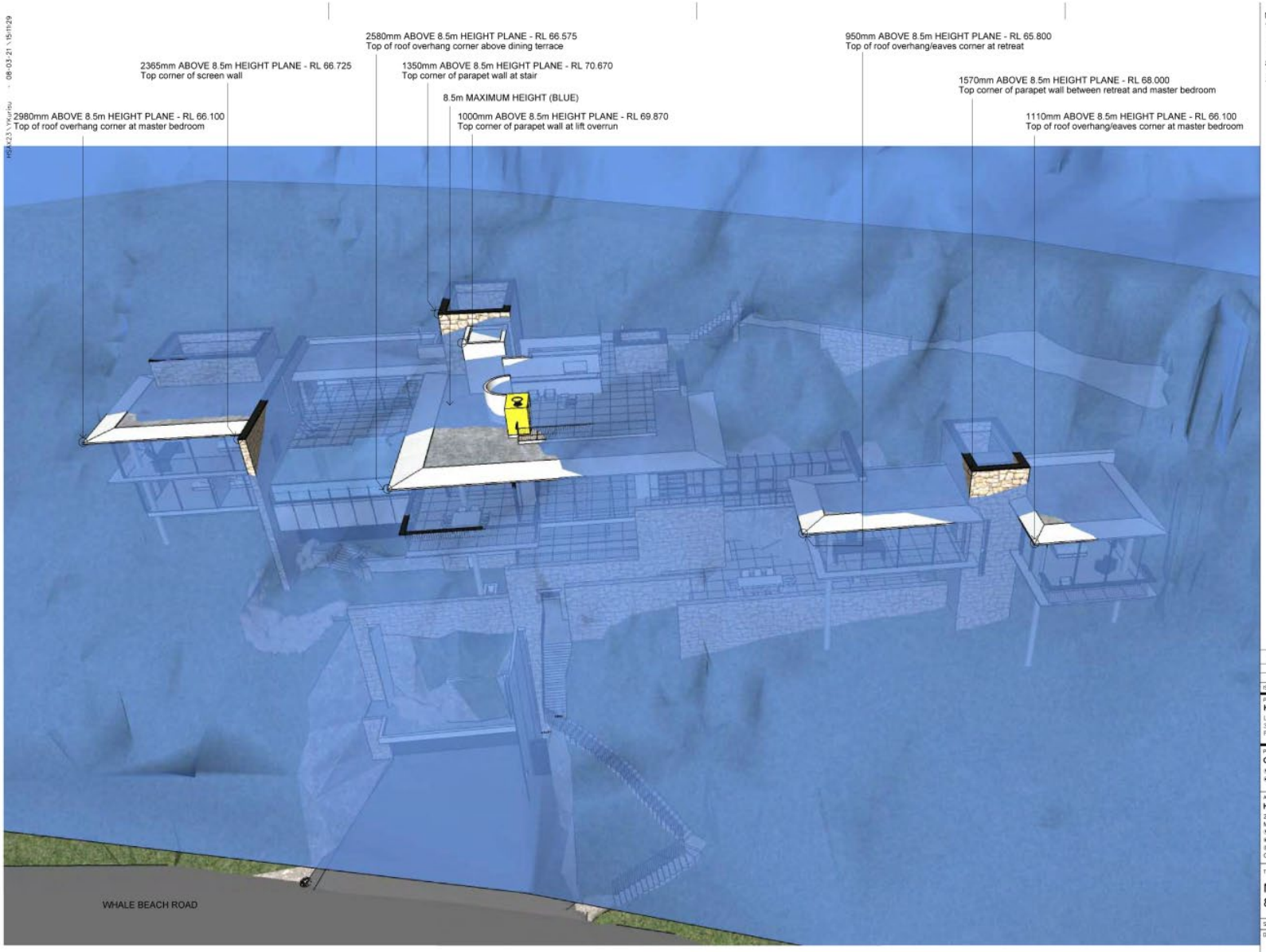
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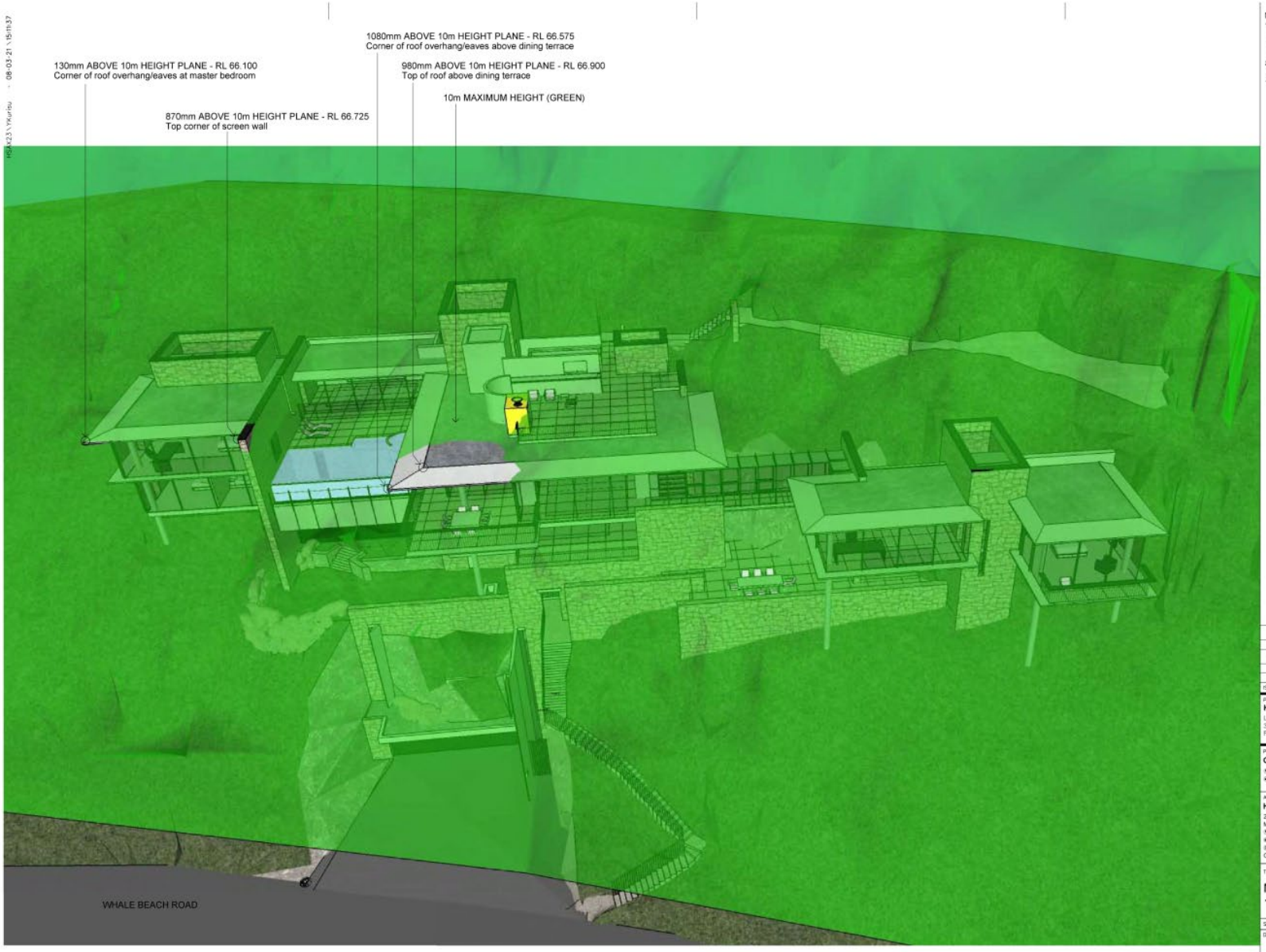
Title
Photomontage 02
Area Overview

Scales N.T.S.

Drawn	Checked	Co Ord.	Approved	Date
YK				Feb 2021

Stage	Drawing Number	Issue
DA	101	C


2980mm ABOVE 8.5m HEIGHT PLANE - RL 66.100
Top of roof overhang corner at master bedroom
2365mm ABOVE 8.5m HEIGHT PLANE - RL 66.725
Top corner of screen wall
2580mm ABOVE 8.5m HEIGHT PLANE - RL 66.575
Top of roof overhang corner above dining terrace
1350mm ABOVE 8.5m HEIGHT PLANE - RL 70.670
Top corner of parapet wall at stair
8.5m MAXIMUM HEIGHT (BLUE)
1000mm ABOVE 8.5m HEIGHT PLANE - RL 69.870
Top corner of parapet wall at lift overrun
950mm ABOVE 8.5m HEIGHT PLANE - RL 65.800
Top of roof overhang/eaves corner at retreat
1570mm ABOVE 8.5m HEIGHT PLANE - RL 68.000
Top corner of parapet wall between retreat and master bedroom
1110mm ABOVE 8.5m HEIGHT PLANE - RL 66.100
Top of roof overhang/eaves corner at master bedroom
WHALE BEACH ROAD
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C DA submission. Chimney excluded. 09-03-21 08-03-21
B RLs shown. 23-02-21
A Initial issue 10-02-21
ISSUE REVISION DATE
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Greg Holman, Architect NSW 4581
Title
Maximum Building Height
8.5m height plane diagram
Scales NTS
Drawn YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 108
Issue C



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ISSUE	REVISION	DATE
E	DA submission. Chimney excluded.	09-03-21 08-03-21
D	RLs shown.	23-02-21
C	Drawing number changed.(009->109) Updated.	10-02-21
B	Updated.	04-02-21
A	Initial issue	12-01-21

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Title
Maximum Building Height
10m height plane diagram

Scales NTS

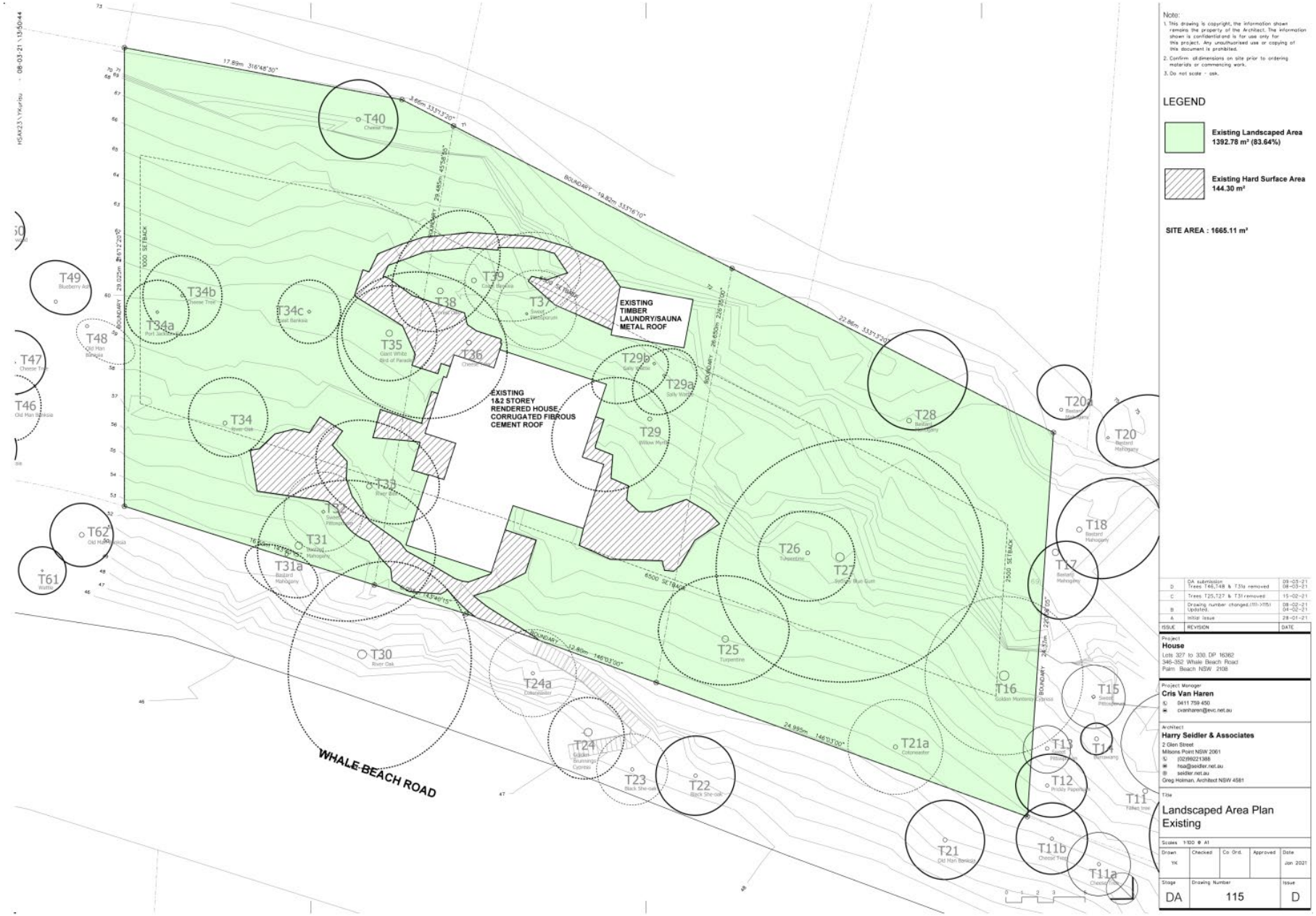
Drawn	Checked	Co Ord.	Approved	Date
YK				Dec 2020

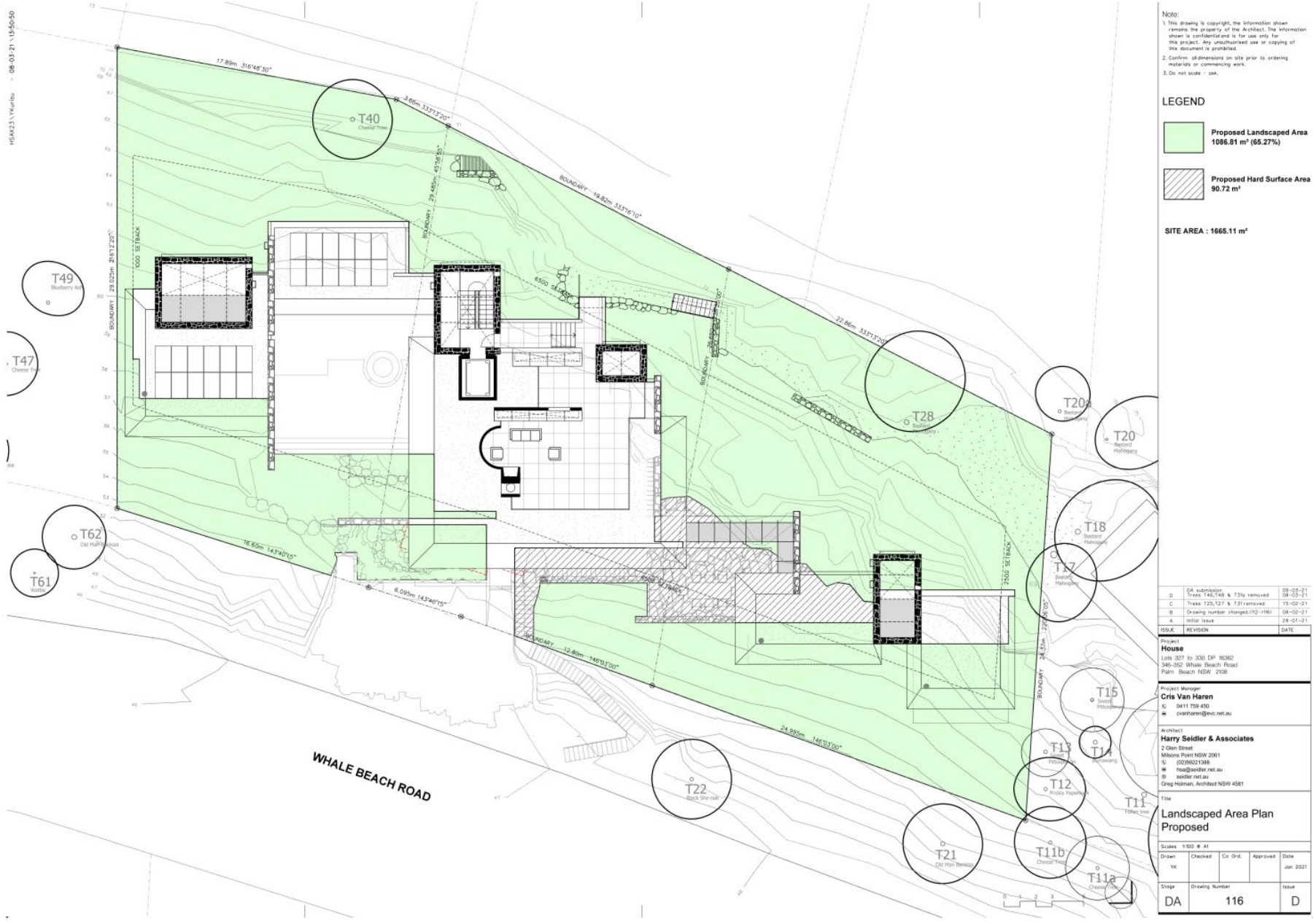
Stage	Drawing Number	Issue
DA	109	E


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No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 9:00AM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 9:00AM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated. Street numbers shown. 12-02-21 09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
Project
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Title
Shadow Diagrams
21 June, 9:00am
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 110
Issue D


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No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 12:00PM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 12:00PM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated. Street numbers shown. 17-02-21 09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
Project
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Title
Shadow Diagrams
21 June, 12:00pm
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 111
Issue D


No.350
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 3:00PM
(EXISTING)
No.344
No.354
WHALE BEACH ROAD
SHADOW DIAGRAM - 21 JUNE, 3:00PM
(PROPOSED)
AREA OF SHADOW CAST BY PORTIONS OF THE BUILDING
WHICH EXTEND BEYOND THE 10 METRE HEIGHT PLANE
Note:
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D DA submission 09-03-21
C Non-compliant portions 23-02-21
B Updated
Street numbers shown 17-02-21
09-02-21
A Initial Issue 08-02-21
ISSUE REVISION DATE
Project
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Shadow Diagrams
21 June, 3:00pm
Scales 1:200 @ A1
Drawn FL/YK
Checked
Co Ord.
Approved
Date Feb 2021
Stage DA
Drawing Number 112
Issue D


EXISTING TIMBER LAUNDRY/SAUNA METAL ROOF
EXISTING 1&2 STOREY RENDERED HOUSE, CORRUGATED FIBROUS CEMENT ROOF
WHALE BEACH ROAD
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LEGEND
Existing Landscaped Area 1392.78 m² (83.64%)
Existing Hard Surface Area 144.30 m²
SITE AREA : 1665.11 m²
D DA submission Trees T46,T48 & T31a removed 09-03-21 08-03-21
C Trees T25,T27 & T31 removed 15-02-21
B Drawing number changed.(111->115) Updated. 08-02-21 04-02-21
A Initial Issue 28-01-21
ISSUE REVISION DATE
Project House
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Title
Landscaped Area Plan Existing
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Jan 2021
Stage DA
Drawing Number 115
Issue D


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LEGEND
Proposed Landscaped Area
1086.81 m² (65.27%)
Proposed Hard Surface Area
90.72 m²
SITE AREA : 1665.11 m²
WHALE BEACH ROAD
T40
T49
T47
T62
T61
T28
T20
T18
T17
T15
T13
T12
T11
T22
T21
T11b
T11a
D DA submission Trees T46,T48 & T31a removed 09-03-21
C Trees T25,T27 & T31 removed 15-02-21
B Drawing number changed.(T12->116) 08-02-21
A Initial issue 28-01-21
ISSUE REVISION DATE
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Greg Holman, Architect NSW 4581
Title
Landscaped Area Plan
Proposed
Scales 1:100 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Jan 2021
Stage DA
Drawing Number 116
Issue D


NO.2
BRICK COTTAGE
NO.4
1 & 2 STOREY
BRICK & CONCRETE
HOUSE
TILE ROOF
FRL 86.07
NO.344
3 STOREY
RENDERED, METAL CLAD,
FIBER BOARD &
TIMBER HOUSE
METAL ROOF
FRL 59.45
FRL 62.29
POOL
NO.354
1 STOREY
STONE COTTAGE
METAL ROOF
HERITAGE LISTED
NO-356
2 & 3 STOREY
WEBOARD HOUSE
METAL ROOF
WHALE BEACH ROAD
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3. Do not scale - ask.
A DA submission 09-03-21
ISSUE REVISION DATE
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Title
Notification Plan
Level 1
Scales 1:200 @ A1
Drawn YK
Checked
Co Ord.
Approved
Date Mar 2021
Stage DA
Drawing Number 130
Issue A



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ISSUE	REVISION	DATE
A	DA submission	09-03-21

Project
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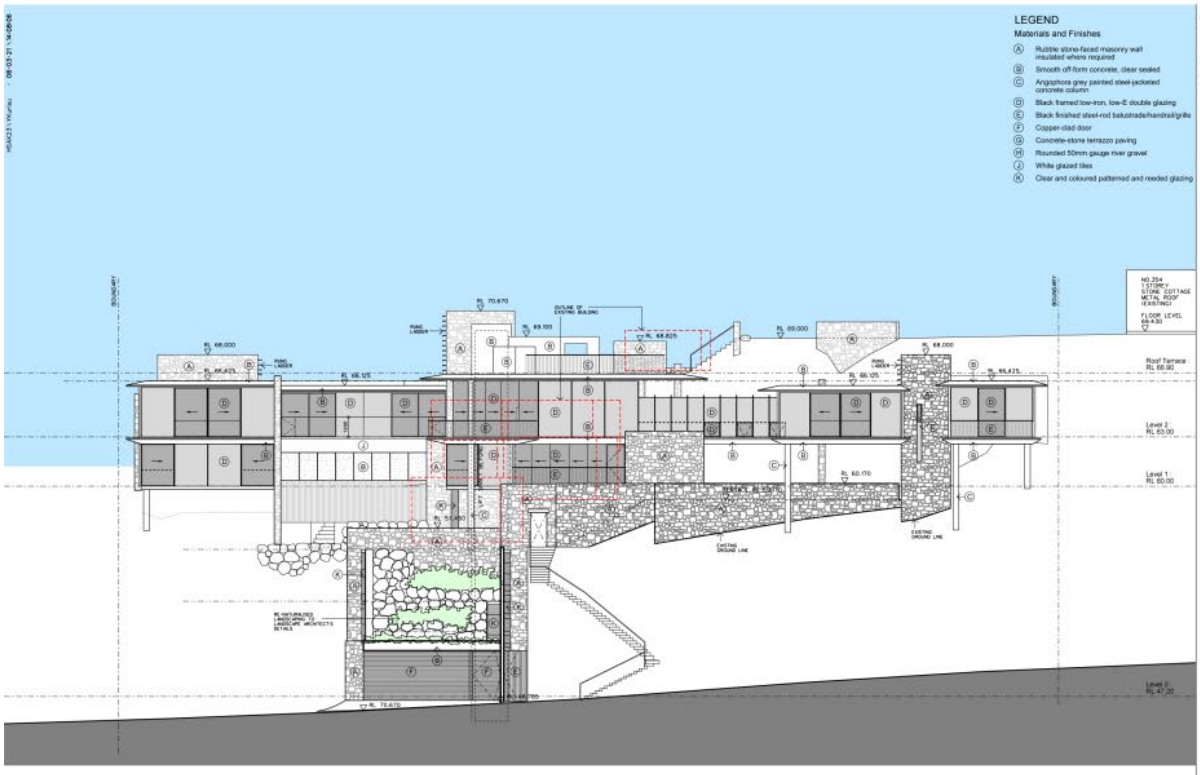
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Greg Holman, Architect NSW 4581

Title
Notification Plan
Level 2

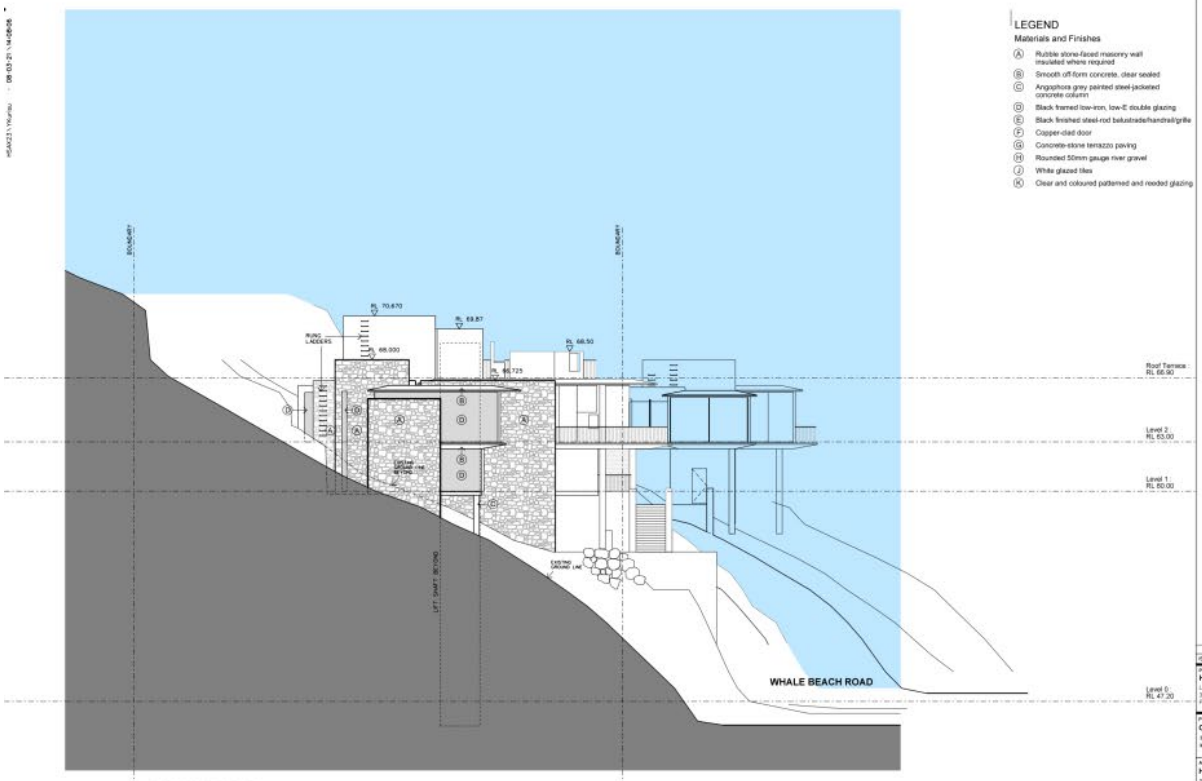
Scales 1:200 @ A1

Drawn	Checked	Co Ord.	Approved	Date
YK				Mar 2021

Stage	Drawing Number	Issue
DA	131	A



EAST ELEVATION



SOUTH ELEVATION

Project
House
Lots 327 to 330 DP 16362
346-352 Whale Beach Road
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Notification Elevations

Scales
Drawn: YK | Checked | Co Ord. | Approved | Date: Mar 2021

Stage: DA | Drawing Number: 132 | Issue: A

APPENDIX 2 - HERITAGE REPORT



Heritage Impact Statement

346-352 Whale Beach Road, Palm Beach

Submitted to Northern Beaches Council
On Behalf of the Applicant

MARCH 2021

REPORT REVISION HISTORY

Revision	Date Issued	Revision Description		
01	25/02/2021	Draft		
		Prepared by	**Reviewed by**	**Verified by**
		Zach Nix *Heritage Consultant*	Kerime Danis *Director, Heritage*	Kerime Danis *Director, Heritage*
02	05/03/2021	Final		
		Prepared by	**Reviewed by**	**Verified by**
		Zach Nix *Heritage Consultant*	Kerime Danis *Director - Heritage*	Kerime Danis *Director - Heritage*

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1. INTRODUCTION

1.1. Background

City Plan Heritage has been engaged by the applicant to prepare the following Heritage Impact Statement (HIS) for the proposed redevelopment of the subject site, located at 346-352 Whale Beach Road in Palm Beach. In summary, the works involve the demolition of the existing residence located on the subject site and the construction of a new residence, with associated basement parking, swimming pool and landscape works.

The subject site is not a heritage listed item under Part 1 of Schedule 5 of the Pittwater Local Environment Plan (LEP) 2014; however, it is located within proximity to the following heritage item.

Environmental Planning and Assessment Act, 1979
Pittwater LEP 2014, Part 1 Heritage items
▪ 'Cox House', 356 Whale Beach Road, (item no. 2270014)

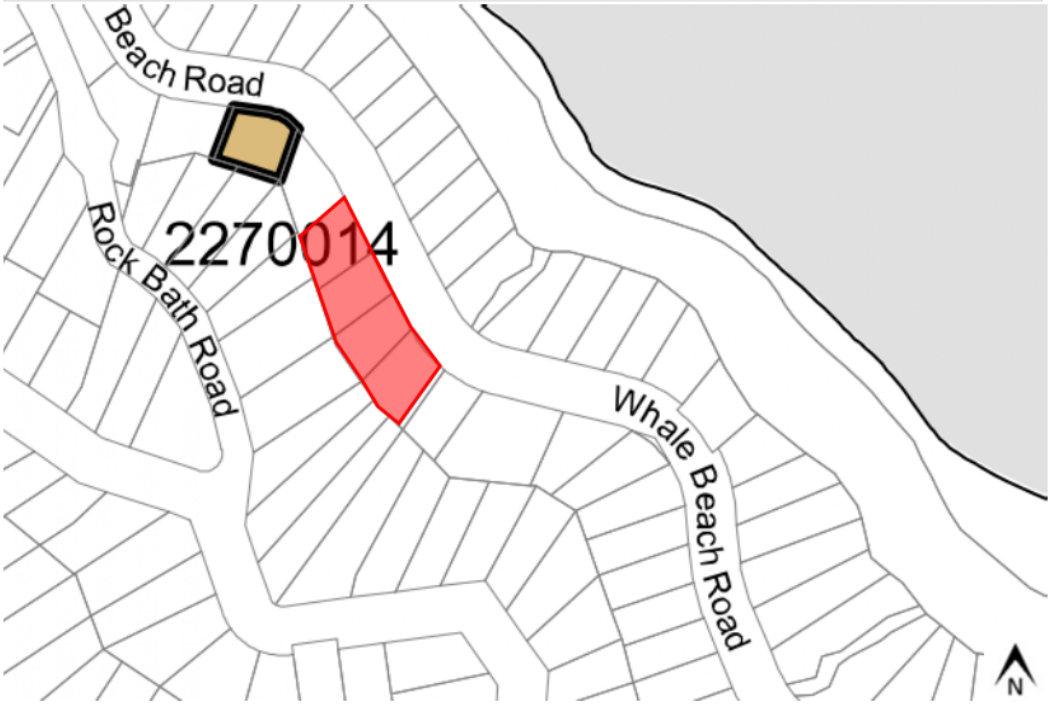


Figure 1: Excerpt from the Pittwater LEP heritage map showing the location of the subject site (indicated in red), in context of heritage environment, nearby heritage item Cox House (item no. 2270014) indicated in gold. (Source: Pittwater LEP Heritage Map Sheet HER_015)

In accordance with the relevant controls regarding heritage contained in the Pittwater LEP 2014 and the Pittwater Development Control Plan (DCP) 2014, this HIS assesses the likely impacts the works will have on the heritage values of the subject site, its relevant setting and heritage items in proximity. All recommendations are made in accordance with statutory requirements and cultural heritage best practice.

1.2. Site Location

The subject site is located on the western side of Whale Beach Road, in the suburb of Palm Beach. The site's frontage to Whale Beach Road, is the principal elevation to which existing building is orientated. For a more detailed description of the site and its context, see *Section 3 Site Context and Description*.

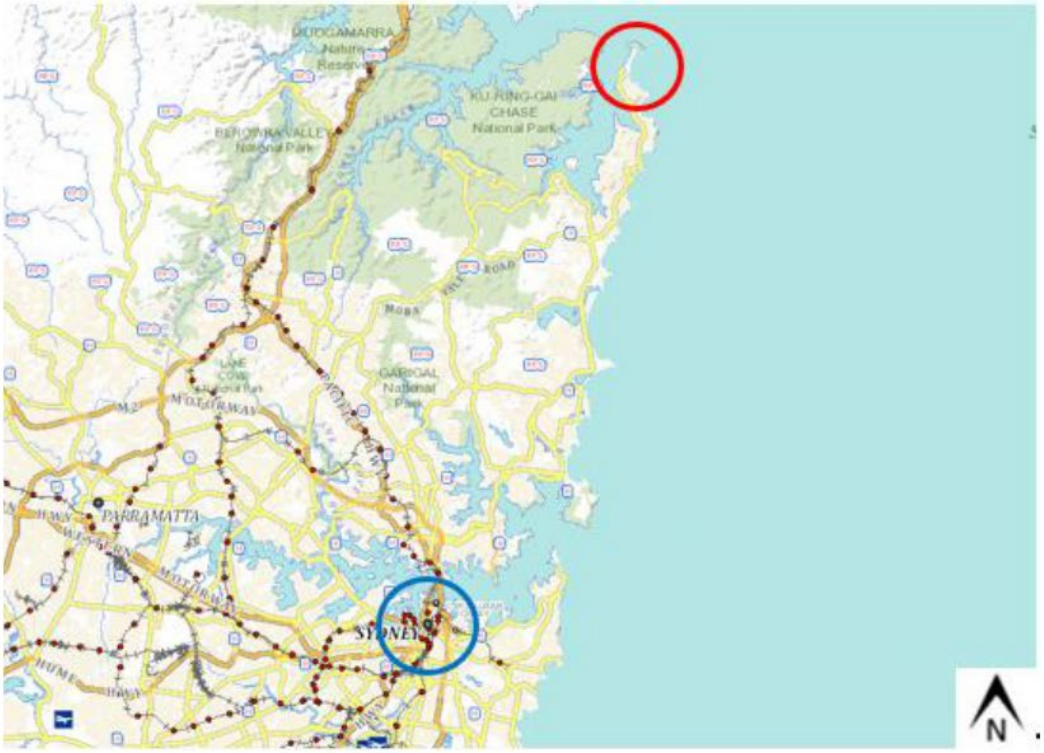


Figure 2: Map showing area of Palm Beach (circled in red) in relation to the area of the Sydney CBD (circled in blue), (Source: SIX Maps, access date 12 September 2018)

1.3. Legal Description

The subject site comprises of Lots 327, 328, 329 and 330 in the Deposited Plan (DP) 16362.

Site Details	
Primary Address	346-352 Whale Beach Road, Palm Beach, NSW 2108
Parish	Narrabeen
County	Cumberland
Local Government Area (LGA)	Pittwater
Local Aboriginal Land Council	Metropolitan

1.4. Methodology

This Heritage Impact Statement has been prepared in accordance with Heritage NSW publications, *Statements of Heritage Impact, 2002* and *Assessing Heritage Significance, 2001*. It is also guided by the philosophy and processes included in The *Bura Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (Burra Charter).

Research for this HIS has adopted a two-stepped approach. Step 1 involving a desktop assessment and Step 2 being a site survey. This document provides a findings and recommendations resulting from this approach.

Step 1

Research into the historical development of the subject site was conducted to obtain a thorough understanding of the place and fabric. Further, the Pittwater LEP 2014 and the NSW Heritage Register were examined to determine the known heritage values of the subject site.

Step 2

An onsite survey of the subject site and the context of its surroundings was conducted by Zach Nix (Assistant Heritage Consultant) and Carole-Lynne Kerrigan (Associate Director - Heritage) on 21 September 2018 with the purpose of photographing and understanding the place. All results are presented in *Section 3 Site Context and Description*.

1.5. Author Identification

The following report has been prepared by Zach Nix (Heritage Consultant) in association with Kerime Danis (Director - Heritage) who has also reviewed and endorsed its content.

1.6. Limitations

- This assessment relates to the proposed works and documentation described in *Section 2 - The Proposal*. It does not relate to any additional or revised documentation by any party;
- This assessment does not include a heritage landscape assessment;
- CPH were not involved in the design process; and
- This assessment does not include for the provision of a title search for the subject site.

2. THE PROPOSAL

The proposed works have been designed by Harry Seidler & Associates. The following is a summary description only of the proposed new works. For specific details reference should be made to the submitted architectural plans.

The proposed works include:

- Demolition of existing 3-storey dwelling and elements of associated landscape;
- Construction of 3-storey above ground dwelling with roof terrace areas and expansion of built footprint;
- New dwelling house is to comprise 348-352 Whale Beach Road, located on lots 328, 329 and 330, these three lots are proposed for consolidation as part of the proposal;
- Construction of 4-storey basement level including garage parking, entrance lobby/gallery area, plant room, store room, wine cellar, stairway and passenger lift;
- Creation of driveway access from Whale Beach Road;
- Construction of a swimming pool and external terraced areas;
- Addition of naturalised landscape works; and
- Lot 327 (346 Whale Beach Road) is also to undergo vegetation management works.

The following plans and elevations provided by Harry Seidler & Associates have been assessed in the preparation of this Heritage Impact Statement. For further discussion, reference should be made to *Section 6 - Heritage Impact Assessment*.

Drawing Title	Drawing No.	Issue.	Date
Photomontage 01 View of Proposal from East	001	B	22.02.21
Site Survey Plan	002	C	12.01.21
Site Analysis Plan	003	D	15.02.21
Site Plan (Level 1)	005	D	15.02.21
Site Plan (Level 2)	006	L	18.02.21
Demolition Plan	007	E	15.02.21
Excavation & Fill Plan	008	G	15.02.21
Plan Level 0 - 1	010	F	16.02.21
Plan Level 0 - 2	011	E	16.02.21
Plan Level 0 - 3	012	E	16.02.21
Plan Level 0 - 4	013	F	16.02.21
Plan : Level 1	020	R	19.02.21
Plan : Level 2	030	Q	19.02.21

Drawing Title	Drawing No.	Issue.	Date
Plan : Roof	040	N	16.02.21
East Elevation	050	P	19.02.21
South Elevation	051	E	10.02.21
North Elevation	052	E	19.02.21
Section A	060	G	18.02.21
Section B	061	H	12.02.21
Section C	062	H	17.02.21
Section D	063	G	18.02.21
Section E	064	F	19.02.21
Section F	065	D	18.02.21
Section G	066	E	18.02.21
Tree Location Plan	070	G	15.02.21
Finishes Sample	100	D	15.02.21
Photomontage 02 Area Overview	101	A	12.02.21
Maximum Building Height 8.5m height plane diagram	108	A	10.02.21
Maximum Building Height 10m height plane diagram	109	C	10.02.21
Shadow Diagrams 21 June, 9:00am	110	B	12.02.21
Shadow Diagrams 21 June, 12:00pm	111	B	12.02.21
Shadow Diagrams 21 June, 3:00pm	112	B	12.02.21
Landscaped Area Plan Existing	115	C	15.02.21
Landscaped Area Plan Proposed	116	C	15.02.21



Figure 3: Render of the proposed development (Source: Harry Seidler & Associates, Drawing No. 101, Issue A).



Figure 4: Render of the proposed development (Source: Harry Seidler & Associated, Drawing No. 001, Issue B).

3. SITE CONTEXT AND DESCRIPTION

3.1. Site Context

The subject site is located on the western side of Whale Beach Road, Palm Beach, approximately 41km north of the Sydney CBD. The suburb takes the form of a large peninsula, covering an area of approximately 2.6km² and is bounded by Broken Bay to the north, the Tasman Sea to the east, Whale Beach, Clareville and Avalon to the south and the Pittwater Bay to the west. The surrounding area of the subject site can be described as a predominantly low-density residential area, occupying hilly terrain, with coastal cliff-face properties and ocean views. The area is densely forested with roads servicing residences, largely based through eastern side of the peninsula, bypassing McKay reserve on the western side of the peninsula. The area surrounding the subject site is also home to heritage item 'Cox House', (item no. 2270014), separated from the subject site by an existing residence at 354 Whale Beach Road.

The following text is a description of the context of the Palm Beach Locality, extracted from the Pittwater DCP.[1]

> *Until the early 1900s, the locality remained a tiny settlement of isolated farms and fishermens cottages. In 1912, land was subdivided and Palm Beach became a popular holiday destination, its popularity increasing with the development of the Palm Beach Golf Course in 1920. The Barrenjoey peninsula remained a popular camping area until it was closed in the 1960s. Residential development and permanent occupation of dwellings increased from the 1960s, although the area still remains a secluded peninsula at the northern point of Pittwater. Barrenjoey Headland at the northernmost point of Pittwater was host to a Customs House from 1843, and Barrenjoey Lighthouse from 1881, which remains today.*
>
> *Since that time, the locality has developed into a predominantly low-density residential area, with dwellings built along the ridges, slopes and lowlands. The locality is characterised mainly by two-storey dwelling houses on 750-1,400 square metre allotments, with allotments of 550-650 square metres (some smaller blocks may exist) adjoining the waterfront to the west. The residential areas are of a diverse style and architecture, a common thread being the landscaped, treed frontages and subdued external finishes. In the vicinity of Ocean Rd, the informal and casual nature of the parking carriageway and pedestrian pathway adds to the relaxed beach character of the locality and should be retained. Medium density housing concentrates around the Palm Beach neighbourhood retail centre on Barrenjoey Road.*
>
> *Residents and visitors are attracted to the Palm Beach Locality by its natural beauty, by the relatively unspoilt nature of the region and by the relaxed seaside atmosphere of the locality. To the west is the Pittwater waterway, to the east the ocean beaches and headlands, with a spur running north south ending in a bluff at the sand isthmus that ties Barrenjoey Headland to the mainland. Here it is an easy walk over the sand dunes from the protected water of Pittwater to the ocean beach. Due to the topography, significant views can be obtained through all points of the compass. Conversely, the slopes and ridge tops of the locality are visually prominent.*
>
> *The locality is serviced by two neighbourhood retail centres at the intersect of Barrenjoey Road and Iluka Avenue, opposite the public wharf, Ocean Road; and the intersection of Whale Beach Road and Surf Road, where the bus service terminates. The public wharf provides a vital link for the Upper Western Foreshore communities, as well as a regular ferry service to these communities and further afield including Patonga and Gosford. The locality also contains Barrenjoey Lighthouse, Palm Beach RSL, Palm Beach SLSC, and recreational facilities including Palm Beach Golf Course, rock baths, beaches, Governor Phillip Park, McKay Reserve and other reserves.*
>
> *Barrenjoey Lighthouse, remnants of Customs House, houses, vegetation, and other structures in the vicinity of Barrenjoey Headland, Barrenjoey Road, Bynya Road, Florida Road, Ocean Road, Northview Road, Palm Beach Road, Pacific Road, Sunrise Road, and beach and waterfront reserves,*

1 Northern Beaches Council, Pittwater 21 DCP 2014, A4.12 Palm Beach Locality

indicative of early settlement in the locality, have been identified as heritage items. Land in Florida Road, Ocean Road, and Sunrise Road, indicative of early subdivision patterns and built form, have been identified as heritage conservation areas.

The Palm Beach locality gives the impression that much of the native vegetation has been retained. Bushland reserves predominate. Native plants proliferate in private gardens. The natural fall of the land has been preserved in most cases with retaining walls and terracing kept to a minimum. A few poor exceptions to this are located at the northern end of Ocean Road. The retention of the natural features and native plants within private gardens should be encouraged and help to reinforce the natural beauty of the area the main characteristic of the locality.

The natural features of the locality result in a high risk of bushfire, landslip, flood, coastal (bluff) hazard, and estuary wave action and tidal inundation.

The major roads within the locality are Barrenjoey Road, Florida Road, Ocean Road, and Whale Beach Road. Barrenjoey Road is the primary access road from the south. Several pedestrian links and pathways exist within the locality.

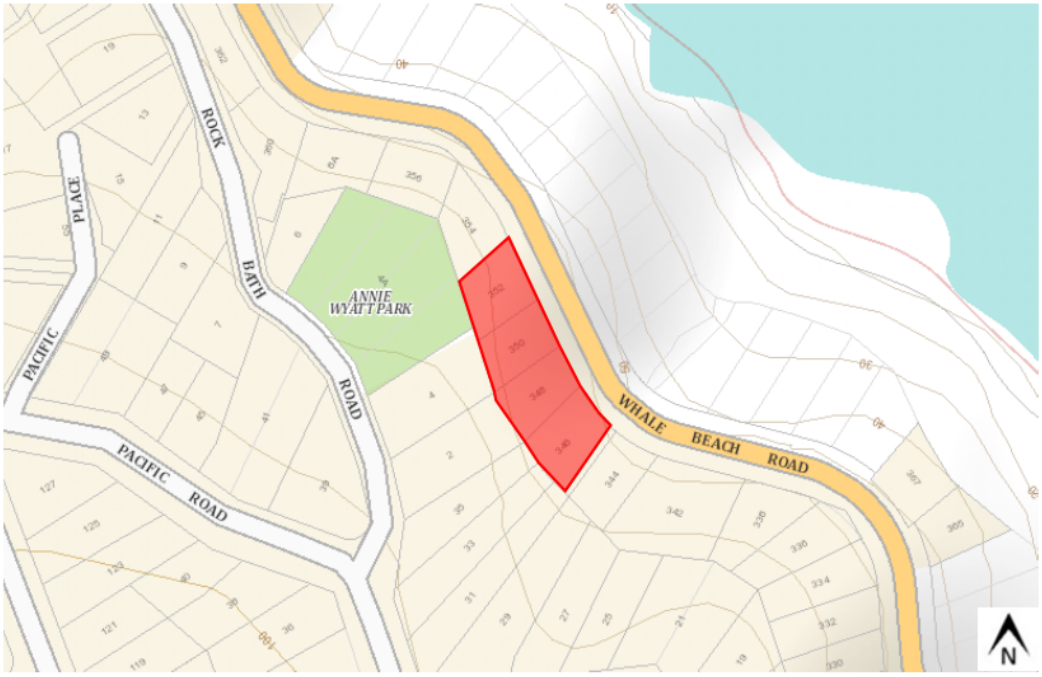


Figure 5: Map of the subject site, (indicated in red), (Source: SIX Maps, accessed 25 February 2021)



Figure 6: Aerial of the subject site, approximate area of subject site indicated in red (Source: Nearmap accessed 25 February 2021)

3.2. Existing Site Description

The subject site is currently occupied by a three-storey dwelling featuring a contemporary Australian residential design. The building's form has been constructed to be consistent with the steep angle of land the property is built on.

The principal elevation of the subject site, facing Whale Beach Road is accessed from the road by a sandstone staircase, partially composed of sandstone blocks and spaces carved into the natural sandstone cliff. The façade of the subject site is heavily obstructed by the site's elevation from the road, and the dense foliage that occupies the property (Figure 7). The façade is irregular in its form, consisting of three floors in a cubic arrangement.

The site is set upon the natural sandstone cliff at a steep gradient with limited cut and fill. The occupying three storey structure is stepped back at each level to form a staggered arrangement. This arrangement allows for the existence of tiled platform above the ground and first floors, providing extensive views that overlook the ocean (Figure 9). The building maintains a white stippled finish on off shutter concrete with large aluminium windows to take advantage of the existing views. The structure is topped by a shallow pitched roof with fibre cement or asbestos roof sheeting. To the rear of the structure at the top of the site a timber sauna/laundry building and decking exists built onto the sandstone cliff (Figure 14).



Figure 7: View from Whale Beach Road looking west towards the subject site (circled in red).



Figure 8: Looking north towards the first and second floor of the subject site.



Figure 9: Looking northeast to the existing balcony of the first floor.



Figure 10: View north to the subject site, geometric form of building and feature windows evident.



Figure 11: The second floor of the subject site, looking west.



Figure 12: From the second floor of the subject site, looking north to the rear of the property.



Figure 13: The cement fibre sheet roofing of the subject site, looking east.



Figure 14: Looking northeast to the external sauna, which sits elevated above the primary structure, incorporated into the rock landscape.



Figure 15: View looking north towards the neighbouring 354 Whale Beach Rd, largely obscured by foliage.



Figure 16: Looking north through Whale Beach Rd from front of the subject site.



Figure 17: View south to subject site obscured by foliage from 354 Whale Beach Road (Source: Karina Dorman, 16.01.19)



Figure 18: View north from level 1 of the subject site (Source: Karina Dorman, 16.01.19)

4. HISTORY

4.1. Suburb History

Indigenous History

The first known inhabitants of the suburb of Palm Beach, were the Garigal people of the Guringai language group. The Garigal people, were known to have lived sustainably within their environment for thousands of years. There is extensive evidence of the Garigal people's inhabitancy of the area with numerous Aboriginal sites recorded to date, including cave art, rock engravings, shelters, middens and grinding grooves.

European Settlement

After European Settlement, the first land grant incorporating the present-day suburb of Palm Beach, was granted to surgeon James Napper, by Governor Macquarie. The 400-acre grant stretched from Palm Beach to Newport Beach. Napper would stay largely uninvolved with the activity on his property, seen through limited development over his ownership.

After the death of James Napper in 1824, development of the area was slow, due to its relative isolation from the rest of Sydney. Fishermen were known to have lived sporadically along the coastal areas of Palm Beach at this time. During the 1830's and 1840's, the area became part of a known smuggling route, which would see cargo arriving through the headland to the western side of the peninsula, in a bid to avoid government scrutiny and taxes. This, in 1843, led the government to establish a customs house, below the headland near current day Barrenjoey Lighthouse.[2] In the 1860's Chinese settlers had moved into the Palm Beach estate, establishing fish drying businesses on the western side of the isthmus. In 1881 the government purchased the headland of Palm Beach and established a the Barrenjoey Lighthouse on the land, from sandstone quarried on the headland.[3]

After years of relatively slow development, in 1900 a consortium of Sydney businessmen purchased the land of the original Palm Beach Estate.[4] The land was then divided into 18 blocks and put up for sale as grazing land. In 1912 after having little success in the first sell off of land, the property was divided into even smaller residential blocks, and marketed as offering 'fishing, sailing, golf and rowing'.[5] This proved successful and all blocks were sold, with development in the area gradually increasing.

Throughout the twentieth century, development of the area gradually increased with improved roads like Barrenjoey Road constructed to service travel to the holiday homes and beach destinations of Palm Beach. Holiday home and permanent residences were gradually constructed throughout the twentieth century and reflect much of the streetscape visible today.

Today the suburb is still associated with the picturesque scenery that inspired its twentieth century holiday home development, known as the location for popular Australian soap opera 'Home and Away'. Palm Beach remains a largely residential suburb with limited services supporting its small population of residents and visitors.

4.2. Site History

This assessment does not include for the provision of a title search for the subject site. As limited historical resources were available on the subject site, the following history of the site has been provided in a table form.

2 The Dictionary of Sydney, Virginia Macleod, Palm Beach, 2008
3 National Parks and Wildlife Service, Barrenjoey Lighthouse, access date: 20 September 2018
4 Francis Pollon, The Book of Sydney Suburbs, 1988, p. 198.
5 The Dictionary of Sydney, Virginia Macleod, Palm Beach, 2008

Date	Event
1930	Original subdivision of the Palm Beach Estate
1994	Subject Site Purchased



Figure 19: Palm Beach subdivision plans, 1930 (Source: State Library NSW, Archives, File No. FL9050353, accessed 20 September 2018)

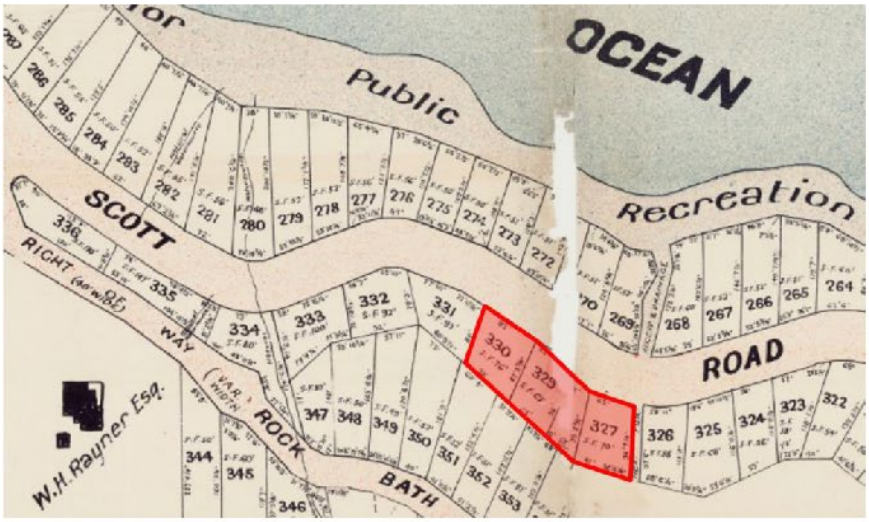


Figure 20: Close up extracted from advertisement of the 1930 subdivision of the Palm Beach Estate, subject site indicated in red.

5. ASSESSMENT OF SIGNIFICANCE

5.1. Assessment of Criteria

The following assessment of significance has been prepared in accordance with the 'Assessing Heritage Significance' guidelines from the *NSW Heritage Manual*.

(a) an item is important in the course, or pattern, of the local area's cultural or natural history

The subject site is within the lands originally inhabited by the Garigal people, whose occupation of the land for thousands of years, carries a permanent historical connection. Due to the primary structure on the site being of relatively recent construction, the site is not physically representative of the historical development of the area.

(b) an item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history

The subject site maintains a broad association with the land's original inhabitants, the Garigal people, and with the first grant holder of Palm Beach, James Napper.

(c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area

The subject site is not clearly visible from the public domain as it is set within a vegetated landscape that integrates well with the character of the suburb of Palm Beach. While the subject is compatible within its setting, it does not demonstrate any aesthetic characteristics that could be considered unique or as being a significant part of its wider setting.

(d) an item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons

The subject site only holds a broad associative significance with the Garigal people, which continues through history. Contemporarily the subject site does not hold a strong or special association with any identifiable community.

(e) an item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history

Due to the relatively recent construction of the subject site, the site carries limited potential to yield information that will contribute to an understanding of the local area's cultural or natural history.

(f) an item possesses uncommon, rare or endangered aspects of the local area's cultural or natural history

The subject site does not feature any known uncommon, rare or endangered aspects of the area's cultural or natural history.

(g) an item is important in demonstrating the principal characteristics of a class of the local area's:

- cultural or natural places; or
- cultural or natural environments

The subject site as a contemporary construction, unreflective of the characteristics common to significant architecture in the area, does not demonstrate any principal characteristics that would define the local areas places or environments.

5.2. Statement of Significance

The existing dwelling at 350 Whale Beach Road, Palm beach, is an example of contemporary Australian residential architecture that integrates well with the character of the suburb of Palm Beach. While it holds a broad association as part of the land of its original inhabitants, the Garigal people, the primary structure occupying the site does not hold historical, associative, aesthetic or social significance to the local area.

6. HERITAGE IMPACT ASSESSMENT

6.1. Statutory Controls

As noted in *Section 3 - Site Context and Description*, the subject site is located in proximity to a heritage item as gazetted under the Pittwater LEP 2014. Therefore, the proposed works are subject to the heritage controls contained within the LEP and the Pittwater DCP 2014.

6.2. Pittwater LEP 2014

The proposal is addressed below in relation to the relevant clauses of the LEP.

Clause 5.10: Heritage Items	
(2) Requirement for consent *Development consent is required for any of the following—* *(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—* *(i) a heritage item,* *(ii) an Aboriginal object,* *(iii) a building, work, relic or tree within a heritage conservation area,* *(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,* *(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,* *(d) disturbing or excavating an Aboriginal place of heritage significance,* *(e) erecting a building on land—* *(i) on which a heritage item is located or that is within a heritage conservation area, or* *(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,* *(f) subdividing land—* *(i) on which a heritage item is located or that is within a heritage conservation area, or*	Although consent for demolition of the existing dwelling and construction of a new dwelling within the vicinity of a heritage item is not required under Clause 5.10 (2), at a meeting with the Northern Beaches Council held on 12 June 2018 (PLM2018/0128) regarding the proposed development, it was noted that a Heritage Impact Statement would be required to accompany the development application (DA) submitted to assess the potential heritage impact of the proposal. This is in line with the requirements of Clause 5.10 (5) (c) as discussed below.

Clause 5.10: Heritage Items	
(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.	
(4) Effect of proposed development on heritage significance *The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).*	This HIS has carefully considered the proposed development and its potential impact on the heritage significance of the subject site and the heritage item in proximity. A detailed assessment has been provided under the Pittwater DCP controls in the following Section 6.3 - Pittwater DCP 2014.
(5) Heritage assessment *The consent authority may, before granting consent to any development:* *(a) on land on which a heritage item is located, or* *(b) on land that is within a heritage conservation area, or* *(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),* *require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.*	This HIS has been prepared in accordance with this clause due to the subject site being located in proximity to the heritage listed item 'Cox House', (item no. 2270014). This HIS follows the methodology in line with the NSW Heritage Manual *'Statement of Heritage Impact'* and *'Assessing Heritage Significance'* guidelines.
(6) Heritage conservation management plans *The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.*	Currently there is no existing conservation management plan in place for the site and given the existing structure is not currently listed or deemed to be of heritage significance, a conservation management plan is not considered necessary at this time.
(7) Archaeological sites *The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies):* *(a) notify the Heritage Council of its intention to grant consent, and* *(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.*	The subject site is not listed as being an archaeological site in the Pittwater LEP, therefore this clause does not apply. An archaeological assessment has not been carried out on the subject site and is beyond the scope of this report. Notwithstanding, should any unexpected finds are discovered during the excavation for the proposed development, a STOP WORK provision under the NSW *Heritage Act 1977* will apply for the

Clause 5.10: Heritage Items	
	assessment and appropriate management of the find by a suitably qualified archaeologist.
(8) Aboriginal places of heritage significance *The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:* *(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and* *(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.*	Investigation into the potential Aboriginal heritage of the subject site is beyond the scope of this report. However, a search of the Department of Premier and Cabinet AHIMS Web Services (Aboriginal Heritage Information Management System) was undertaken for Lots 327, 328, 329 and 330 in DP 16362, which it has shown that with a buffer of 50m: ▪ 0 Aboriginal sites are recorded in or near the location, and; ▪ 0 Aboriginal places have been declared in or near the location. Therefore, no impact on a known Aboriginal place of significance is anticipated.

6.3. Pittwater DCP 2014

The following table addresses the relevant controls of the Pittwater DCP 2014.

Pittwater DCP 2014	This proposal relates to these matters as follows:
B1.2 Heritage Conservation - Development in the vicinity of heritage items, heritage conservation areas, archaeological sites or potential archaeological sites *Any development application involving work likely to impact the heritage significance of a heritage item, heritage conservation area, archaeological site or a potential archaeological site is to be accompanied by a Statement of Heritage Impact prepared by an appropriately qualified heritage professional. Guidance on preparing a Heritage Impact Statement (Statement of Heritage Impact) is available at NSW Office of Environment & Heritage in the NSW Heritage Manual or superseding publication.*	▪ This HIS has carefully considered the proposed development and its potential impact on the context of the subject site and the heritage significance of the nearby heritage item. The assessment of the subject site under the NSW "Assessing Significance Criteria" in Section 5 above concluded that it does not hold any historical, associative, aesthetic or social significance to the local area. ▪ The relationship between the subject site and the heritage item at 356 Whale Beach Road, is significantly interrupted by the presence of an adjacent residence (354 Whale Beach Road), steeply curved landscape contours and dense foliage which covers the three properties, blocking any significant views between the subject site and nearby 'Cox House', (item no. 2270014). ▪ While vegetation will be removed during the redevelopment of the site it is understood with reference to the reviewed Arboricultural Impact Assessment Report prepared for the subject site, that replanting will occur ensuring that dense foliage will continue to obscure the proposed new development from the existing adjacent residence and the heritage listed 'Cox House'.
Developments in the vicinity of a heritage item, heritage conservation area, archaeological site or potential archaeological site are to be designed to respect and complement the heritage significance in terms of the building envelope, proportions, materials, colours and finishes, and building alignment.	▪ The proposed development has been designed so as to integrate appropriately within the current setting and natural form of the land. The design also ensures not to disturb the existing views of the adjacent residence including the nearby heritage listed 'Cox House'. ▪ The proposed new development contains a larger footprint than the existing structure. However, the bulk of the new development has been mitigated by its design which follows generally the topography of the cliffside landscape. This allows it to follow basically the curvature of the landscape without providing significant interruption to the visual character of the area. Efforts to separate the main house structure following the bridge connected residence also works to reduce the visual bulk and scale of the development.

Pittwater DCP 2014	This proposal relates to these matters as follows:
	▪ The proposed envelope and proportions of the new development is generally appropriate in size and footprint, relevant to other residences in proximity. Further, the materials and finishes proposed are sympathetic to the surrounding setting of the site and area, utilising a palette of materials that relates to the raw nature of the surrounding landscape including sandstone, rubble stone-faced masonry, river gravel and terrazzo paving. This selection of natural materials mixed with subtle and contemporary finishes such as smooth off-form concrete and black aluminium window frames helps to create an aesthetic that is easily appreciable as new, while responding appropriately to the surrounding environment. ▪ It is considered that the current design of the subject site is appropriate to the site, in scale, proportions and material, so as not to impact the setting or the adjacent residence and nearby heritage listed 'Cox House'.
Developments in the vicinity of a heritage item, heritage conservation area, archaeological site potential archaeological site are to minimise the impact on the heritage significance by providing an adequate buffer zone, and maintaining and respecting significant views to and from the heritage item, heritage conservation area, archaeological site or potential archaeological site.	▪ While the removal of a number of plantings will occur, replacement planting will take place to provide sufficient coverage of the area as guided by the Arboricultural Impact Assessment prepared for the subject site. This ensures the proposed development also retains a landscaped buffer zone to the adjacent residence and nearby heritage listed 'Cox House'. ▪ The location of the proposed development over the existing footprint, although larger, ensures the retention of a physical and visual buffer zone to the adjacent residence and nearby heritage listed 'Cox House'. ▪ The below ground floor basement structure providing garage parking and relevant amenities as accessed from Whale Beach Road, will be integrated visually into the environmental context using re-naturalised landscaping. This landscaping using natural rock and vegetation will obscure the expanse of the below ground floor structure so that it effectively blends into the environment, avoiding any uninterrupted non-natural spaces. ▪ The stepped nature of the new development in relation to the site contours and retention of aesthetically significant rock formations within the site ensure views to and from the heritage item are not impacted.

Pittwater DCP 2014	This proposal relates to these matters as follows:
B1.3 Heritage Conservation - General *If a property, the subject of a development application, is identified as possibly meeting any of the criteria of the heritage listing (encompassing the four values of the Burra Charter, being historical, aesthetic, scientific and social significance) then additional independent information on the potential heritage significance may be requested. If the property meets the criteria for heritage listing then development control B1.1 of this DCP will apply.*	▪ The subject site, which is the subject of a development application, has been assessed to have no heritage significance to the local area in terms of historical, aesthetic, scientific or social values. The subject site does not meet the criteria for heritage listing as outlined in *Section* 5.1 *Assessment of Criteria and* 5.2 Statement of Significance.
B1.4 Aboriginal Heritage Significance *If a property, the subject of a development application is identified as possibly meeting any of the criteria for being an Aboriginal place or containing an Aboriginal object then additional independent information on the potential heritage significance may be requested.*	As noted under the LEP heritage considerations above, investigation into the potential Aboriginal heritage of the subject site is beyond the scope of this report. However, the search on the AHIMS Web Services (Aboriginal Heritage Information Management System) for Lots 327, 328, 329 and 330 in DP 16362, has returned no Aboriginal sites or places within the buffer of 50m. Therefore, no impact on a known Aboriginal place of significance is anticipated.
If a property, the subject of a development application, is in the vicinity of an identified or potential Aboriginal place of heritage significance or Aboriginal object then additional independent information on the potential heritage significance may be requested.	This matter has been responded to above. No further consideration in relation to the Aboriginal heritage is required.

6.4. 'Statements of Heritage Impact' (NSW Heritage Manual)

The following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:

- The proposed design seeks to create a modern residence which is respectful to its context, topography, nearby residences and the heritage listed 'Cox House' integrating well within the environment of its setting. The proposal utilises a palette of materials and finishes that are sympathetic to the surrounding environmental context, while still being easily identifiable as contemporary work with an architecturally pleasing design. Further, the proposed form and configuration of the new development respects the visual character and inclined topographic nature of the surrounding landscape, allowing it to successfully integrate within the setting and avoid visual impact on the heritage item in proximity.

The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:

- As the proposed design seeks to create a larger footprint than the existing residence on the site, a number of canopy trees will be removed to facilitate the expanded design. However, replacement planting will take place to provide sufficient coverage of the area as guided by the Arboricultural

Impact Assessment prepared for the subject site. This ensures the proposed development is integrated into its surrounding environment, while also retaining a landscaped buffer zone to the adjacent residence and nearby heritage listed 'Cox House'.

- The proposed works will see the introduction of a below ground floor structure incorporating garage space and associated access facilities to upper levels. The introduction of this structure has been designed to utilise natural materials to finish its exterior and will also feature areas of re-naturalised landscaping. This approach using traditional materials and positive landscaping practices will assist in blending in the below ground floor structure and visually integrating the new development into its surrounding environmental context.
- As the scale and height of the proposed works fit generally within the broader scale of the surrounding built environment (influenced by topography), no detrimental impacts can be identified in relation to the surrounding area or the heritage item in proximity. This is further assisted by the proposed design's well considered form and selection of materials that ensure new work remains visually consistent with the unique natural character of the site.

The following sympathetic solutions have been considered and discounted for the following reasons:

- There are no known sympathetic solutions that have been considered and discounted for the current proposed development.

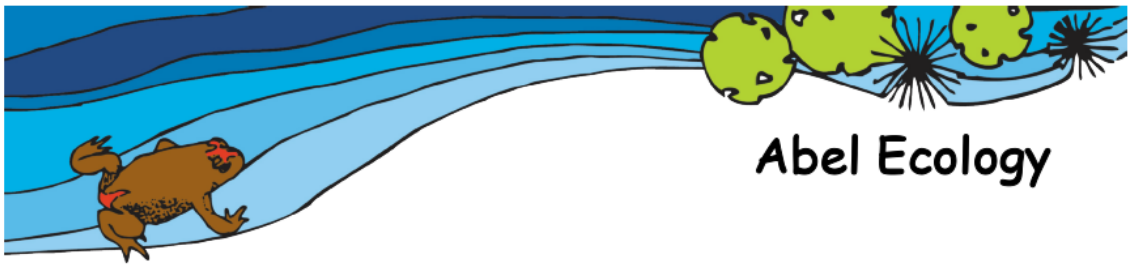
7. CONCLUSION AND RECOMMENDATIONS

In conclusion, it is considered by City Plan Heritage that the proposed works, including the demolition of the existing residence and construction of a new residence, associated lot consolidation and landscaping will result in no impact to the heritage significance of the nearby 'Cox House' (item no. 2270014). The exiting residence on the site has been assessed under the NSW Heritage Manual 'Assessing Significance Criteria' and concluded that it does not meet the criteria for heritage listing as it does not hold any heritage values for the local area. Therefore, its demolition will have no impact on the environmental heritage of Palm Beach and wider Northern Beaches Council LGA.

The proposed building utilises a well-considered design that is respectful to the surrounding setting and sympathetic to the characteristics of the built environment in the area. Through a built configuration which follows the unique topography of the site and curvature of the headland, the development fits into the consistent usage of land seen across the streetscape and wider locality. The design of the residence also utilises a palette of both traditional materials as understated contemporary finishes that together help the development integrate visually within the surrounding environmental context and streetscape. Further, while the removal of a number of plantings will occur, the replacement planting that is to take place will provide sufficient coverage of the area as guided by the Arboricultural Impact Assessment prepared for the subject site. This ensures the proposed development also retains a landscaped buffer zone to the adjacent residence and the nearby heritage listed 'Cox House'.

The proposal demonstrates compliance with the existing controls regarding heritage conservation and is therefore recommended to Council for approval.

APPENDIX 3 - PRESCRIBED ECOLOGICAL ACTIONS REPORT



Prescribed Ecological Actions Report (PEAR)

for

346 – 352 Whale Beach Road, Palm Beach NSW 2108
Lots 327, 328, 329 and 330, DP 16362

Proposed new residential dwelling

Prepared for:	The applicant c/- Harry Seidler & Associates Architects
Report No:	AE21-REP-2233-Draft A
Prepared by:	Abel Ecology
Date:	3 March 2021



Disclaimer

This report has been prepared in accordance with the scope of services described in agreement between Abel Ecology and the Client.

In preparing this report, Abel Ecology has relied upon data, surveys and site inspection results taken at or under the particular time and or conditions specified herein. Abel Ecology has also relied on certain verbal information and documentation provided by the Client and/or third parties, but did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions and recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Abel Ecology assumes no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Abel Ecology.

The findings contained in this report are the result of discrete/specific methods used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site in question. Under no circumstances, however, can it be considered that these findings represent the actual state of the site/sites at all points.

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List of Abbreviations

BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BCR	Biodiversity Conservation Regulation 2017
BDAR	Biodiversity Development Assessment Report
EEC	Endangered Ecological Community
ESD	Ecologically Sustainable Development
LEP	Local Environmental Plan
LGA	Local Government Area

Note regarding maps in this report

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Executive summary

The proposal is to demolish an existing building, remove planted landscapes and construct a new house, swimming pool and gymnasium across Lots 327, 328, 329 and 330 Whale Beach Road, Palm Beach, NSW. Clearing of native vegetation is required to create a defendable space for bushfire and an asset protection zone.

A biodiversity survey was carried out at the site to assess the likely impacts of the proposal on species and ecological communities present on the site and whether the proposal requires a Biodiversity Development Assessment Report (BDAR) because it is a likely trigger to entry into the Biodiversity Offsets Scheme identified in s. 7.4 of the *Biodiversity Conservation Act 2016*.

This report also describes whether there is likely to be any significant effect on any endangered ecological community, endangered population, threatened species or their habitats, as per the listings in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999) (Commonwealth legislation).

The original plant community on site was most likely 'Coastal Enriched Sandstone Dry Forest' with a very small area of 'Coastal Enriched Sandstone Moist Forest' at the southern boundary of the site. Both of these communities occur in the wider area and neither are listed threatened ecological communities. While some native species of each of these communities remain on site, the vegetation has been degraded by loss of larger trees, disturbance accrued by construction and occupation, replacement with exotic gardens and weed invasion.

No threatened flora has previously been recorded from the site and none were detected on site in our surveys. None of the threatened terrestrial fauna species known from the wider locality have any specific requirements that could currently be provided by the site for breeding or other life cycle needs.

The threatened species Grey-headed Flying-fox was detected visiting the site. There is also evidence for two threatened microbat species visiting the site, the Little Bentwing-bat and the Eastern Bentwing-bat (Table 10). It is also likely that the Powerful Owl forages on site (Section 6.1). These species are highly mobile and forage / hunt over wide areas of land. None of them appear to be roosting or nesting on site. The scale of the proposal will modify a small area of potential foraging / hunting area with substantial areas of native vegetation in the surrounding area and will not place any of these species at significant risk of extinction (see 5 part test reports in Appendix 1).

The design of the proposed house appears to enable protection and preservation of the main rock escarpment and rock outcrops on site that are providing habitat to native reptiles.

The following three considerations have been assessed as triggers for entry into the Biodiversity Assessment Method.

1. Threshold 1: The proposal does not exceed the clearing threshold area as described in clause 7.2 of the BC Regulation 2017.

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2. Threshold 2: The proposal does not undertake clearing of native vegetation or any prescribed activities (clause 6.1 of the BC Regulation 2017) on land shaded in the Biodiversity Values Land Map

3. Threshold 3: The proposal is not likely to significantly affect any threatened species or Endangered or Critically Endangered Species or ecological community (BC Act 7.7(2)).

None of these thresholds for entry into the Biodiversity offset Scheme are triggered by the proposal. Therefore, there is no impediment to this proposal in the scope of this report.

A report prepared using the Biodiversity Assessment Method is not recommended.

The provisions of the EPBC Act 1999 do not apply to this proposal and it does not require referral to the Commonwealth.

Recommendation:
A Biodiversity Development Assessment Report (BDAR) is not required.

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Figure 1. Locality map for 346 – 352 Whale Beach Road.

Site location

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Figure 2. Aerial photo of the site and local area.

Key

Site location

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-	FECA	UCA	GFA
Level 0	152.25m²	56.87m²	209.12m²
Level 1	231.41m²	55.28m²	286.69m²
Level 2	360.81m²	54.02m²	414.83m²
Roof	10.38m²	-	10.38m²
Total	754.85m²	166.17m²	921.02m²

Figure 3. Site Plan. Proposed new residence across Lots 328, 329 and 330, numbers 346-350 Whale Beach Road, Palm Beach. Orange line indicates approximate rock faces.
Source. Seidler and Associates Architects.

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Figure 4. Biodiversity values map of the site and area.

Site location

https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap

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Figure 5. Site LEP zone map.

Site location

Land Zoning

- E4 - Environmental Living : (pub. 2014-05-30) — E4
- E2 - Environmental Conservation : (pub. 2014-05-30) — E2
- RE1 - Public Recreation : (pub. 2014-05-30) — RE1

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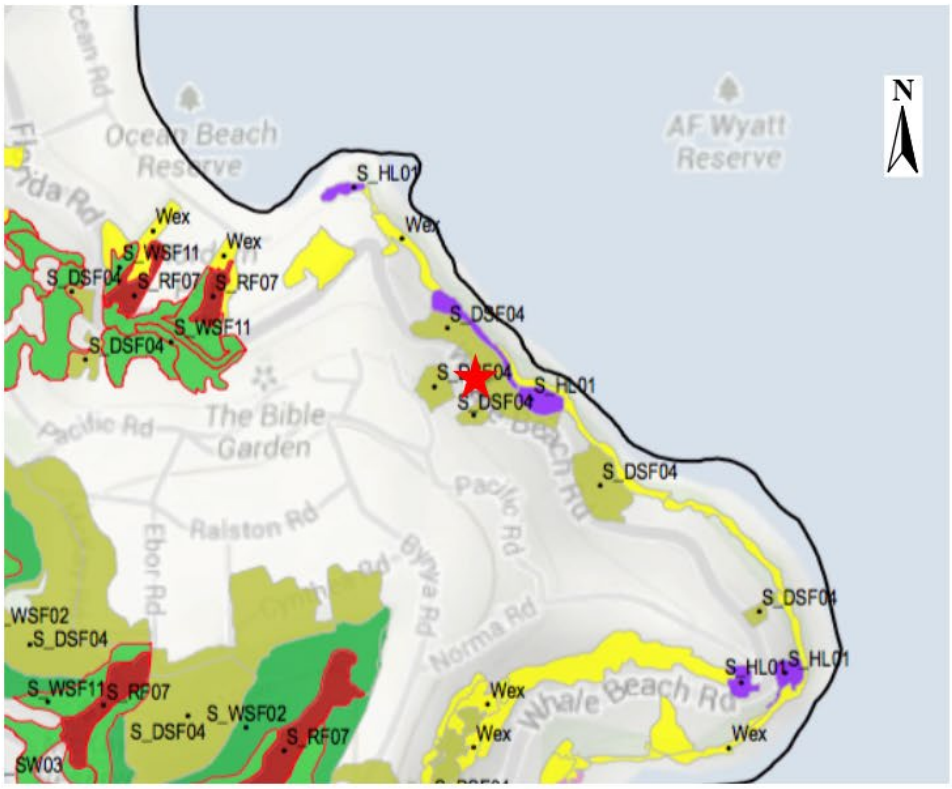


Figure 6. Vegetation Map of the area.

Key

Location of site

S_WSF02 Coastal Enriched Sandstone Moist Forest (NSW PCT No 1841)

S_HL01 Coastal Headland Clay Heath (NSW PCT No 1821)

S_DSF04 Coastal Enriched Sandstone Dry Forest (NSW PCT No 1776)

S_RF07 Coastal Escarpment Littoral Rainforest (NSW PCT No 1833) * #

WEX Weeds and Exotics (NSW PCT No 0)

Source. OEH (2013) The Native vegetation of the Sydney Metropolitan Area Volume 1, Version 2.

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Figure 7. Soil Landscape map pertaining to the site and area.

Key
★ Site location
9130gy = Gymea
9130wn = Watagan
9130ha = Hawkesbury
9130tg = Tuggerah
9130na = Narrabeen
9130ww = Woy Woy

Source. https://www.environment.nsw.gov.au/eSpade2Webapp

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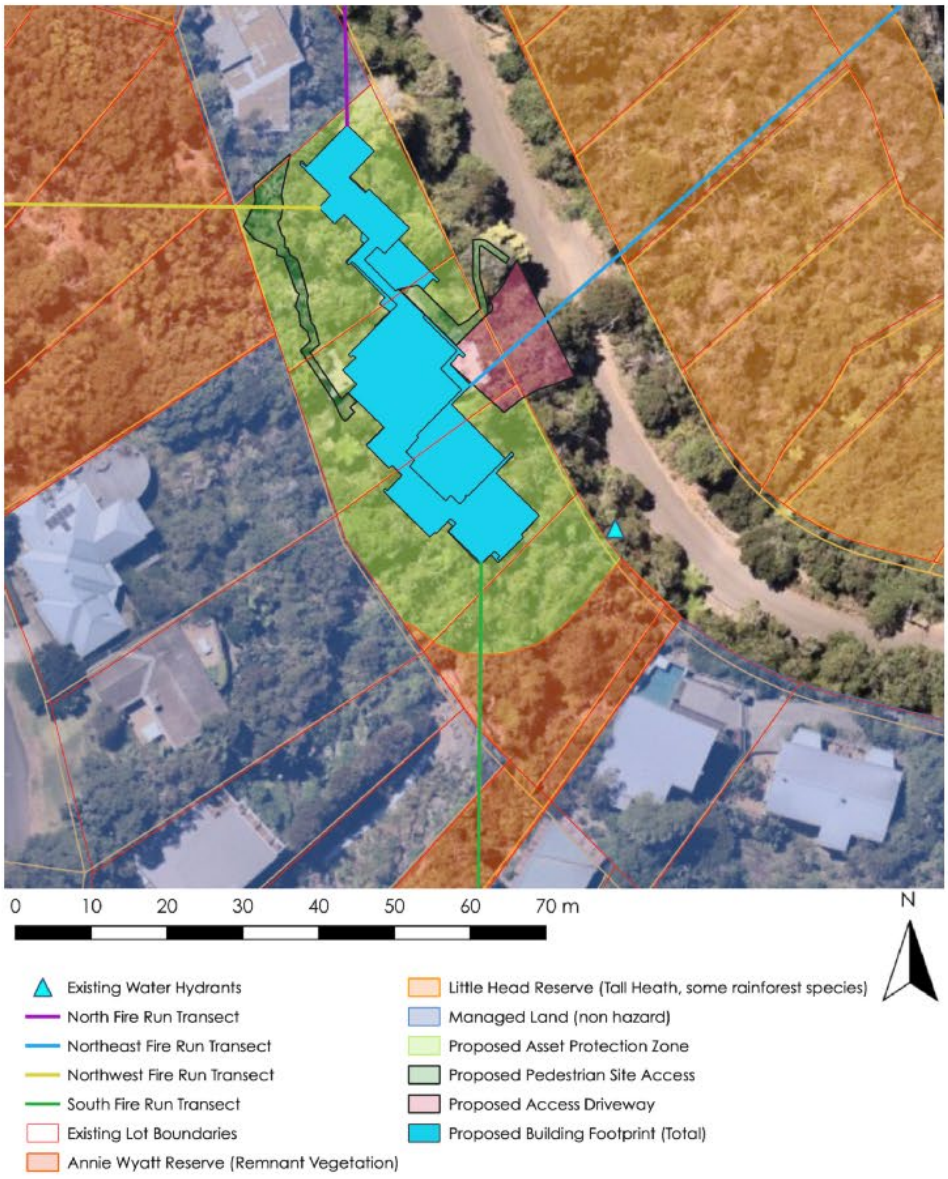


Figure 8. Asset Protection Zone Map

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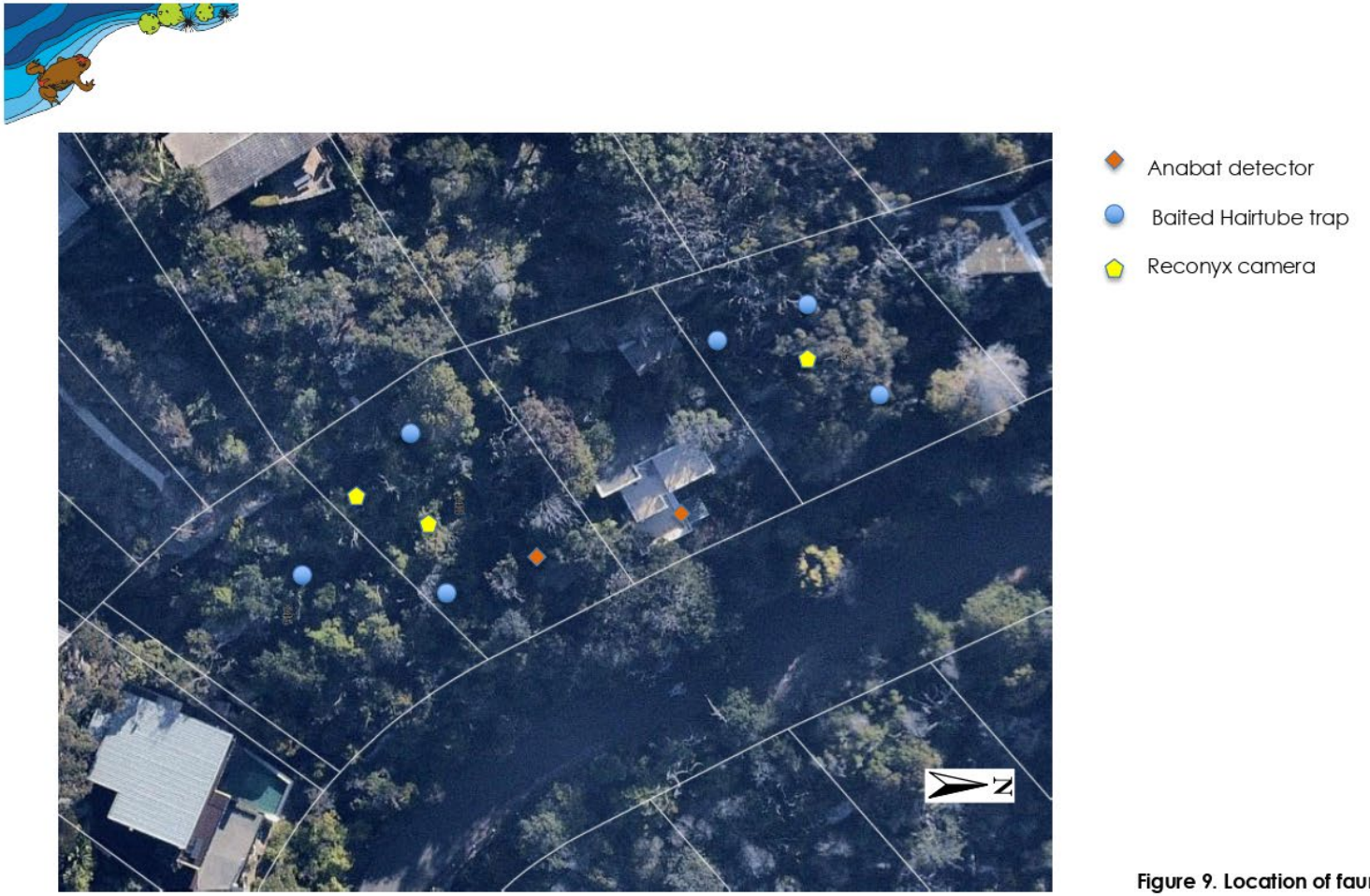


Figure 9. Location of fauna trap and camera stations set up on site.

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Figure 10. LEP Biodiversity Map

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1. Introduction

1.1 Legislative context

This Prescribed Ecological Actions Report (PEAR) meets the requirements of the *Biodiversity Conservation Act 2016* to enable a Council to issue a consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The consent authority (Pittwater Council) must consider the following three Biodiversity Offset Scheme Development Thresholds.

Threshold Trigger 1: Exceeding the clearing threshold on an area of native vegetation.
Threshold Trigger 2: Development or a prescribed activity is carried out on land included in the Biodiversity Values Land Map.
Threshold Trigger 3: A "significant effect" on threatened species or ecological communities.

A biodiversity survey of the proposed development site at 346 – 352 Whale Beach Road, Palm Beach ('the site' – Figure 1) was undertaken on 11th – 13th and 18th – 20th September 2018. This Prescribed Ecological Actions Report (PEAR) investigates whether the impacts of the proposal to knock down an existing dwelling on Lot 328 and build a new home, swimming pool and gym across Lots 327, 328, 329 and 330 will trigger any of the three thresholds to entry into the Biodiversity Offsets Scheme, thereby requiring a Biodiversity Development Assessment Report.

This assessment addresses both 'endangered' and 'vulnerable', as required by the *Biodiversity Conservation Act 2016* (BCA 2016). Throughout this report 'threatened' refers to those species and communities listed as 'endangered' or 'vulnerable' in Schedules 1 & 2 of the BC Act 2016.

If any of the three thresholds are triggered, then a Biodiversity Development Assessment Report (BDAR) must be prepared by an accredited assessor for the Authority to issue a consent or an approval and a calculation of offsetting required.

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1.2 The proposal

The proposal (Figure 3) is to demolish an existing house on Lot 328 and 329, No. 350 Whale Beach Road, Palm Beach and build a new dwelling over Lots 328, 329 and 330, with ancillary works over Lot 327 consisting of:

a) Building on Lots 328, 329 and 330
b) driveway
c) swimming pool
d) outdoor living and landscape areas, including over Lot 327
e) link up to sewage system
f) clearing native vegetation, including over Lot 327
g) bushfire asset protection zone, including over Lot 327
h) utilities within the lots.

Table 1. Details of lot size and size of proposed native vegetation clearing.

Component of site	Area m²	Proportion of the site %
Whole site Lot 327 = 614 m² Lots 328, 329, 330 = 1,665 m²	2279	100%
Extent of proposed native vegetation clearing	~1811	~ 79%

Total APZ = 2,279m².
Note. Calculated extent of clearing comprises the new works construction footprint (~586 m²) plus the Asset Protection Zone (~1580 m²) (Figure 8).
There will be no clearing in the area of the LEP Biodiversity map (Figure 10).

1.3 Sources of information used in this assessment

Literature reviewed in order to assess possible issues relating to this site include:
Air photos (SIX maps and NearMap)
Survey map (supplied by Seidler & Associates Architects)
Vegetation map (OEH 2013 Sydney Metro Veg Mapping)
Schedules to the BC Act 2016
Schedules to the EPBC Act 1999
OEH Atlas of NSW Wildlife

Other biodiversity survey reports in the local area include:

Abel Ecology (2016). LEC Expert Witness for 20 Chiltern Road, Ingleside, Abel Ecology, Springwood.

Abel Ecology (2016). Affidavit of Adrian Daniel Wotherspoon 26 February 2015, 2015 for Pittwater Council v Daniel Ryan in the Land and Environment Court of New South Wales proceedings 40949/2015, King & Wood Mallesons, Sydney, NSW.

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Abel Ecology (2015). Flora and Fauna Report, 9-11 Beaconsfield Road, Newport, Lots 29 & 30 DP 1093125, Abel Ecology, Springwood.

Abel Ecology (2013). Vegetation management plan for 6-8 and part of 10 Macpherson Street, Warriewood, Proposed new retirement village, Abel Ecology, Springwood.

Wotherspoon, A. D. (2006). Flora and Fauna Report for 62 and 85 Hillside Road, Newport, Lot 1, DP 408800 and Lot 2 DP 1036400, Proposed 2 into 8 Lot subdivision, Abel Ecology, Faulconbridge.

Abel Ecology (2006). Flora and Fauna Report for 62 Ingleside Road, Ingleside, Lot 21, DP 11785, Proposed Residential dwelling, Abel Ecology, Faulconbridge.

Abel Ecology (2005). Flora and Fauna Report and Ecological Sustainability Plan for 13 Lane Cove Road, Ingleside, Lot 26 in DP 12115, Proposed dwelling and effluent disposal, Abel Ecology, Faulconbridge.

Wotherspoon, A. D. (2003). Flora and Fauna Report for 63 Therry Street, Avalon, Lot 20, DP 209493, Proposed subdivision and construction of a dwelling, Blue Mountain Wilderness Services Pty. Ltd., Faulconbridge.

Wotherspoon, A. D. (2003). Flora and Fauna Report with Bushfire Assessment for 15-17 Central Road, Avalon, Lot 24, DP 9151 and Lot 7 DP 415579, Proposed SEPP5 Development, Blue Mountain Wilderness Services Pty. Ltd., Faulconbridge.

2. Biodiversity offsets scheme thresholds 1 and 2

2.1 Threshold One: Biodiversity Conservation Regulation 2017 Development area assessment thresholds

Clearing of native vegetation is declared by clause 7.2(1) to exceed the biodiversity offsets scheme threshold if the area proposed to be cleared, is the area set out in Column 2 of the Table to that clause (Table 2 below) opposite the minimum lot size applicable to the land to be cleared in Column 1 of that Table.

Clearing of native vegetation will trigger entry into the offsets scheme if clearing is greater than the assessment threshold. To determine the correct threshold from Table 2 below, the appropriate minimum lot size of land must be selected. The minimum lot size of land can be found on the NSW planning portal https://www.planningportal.nsw.gov.au/find-a-property/property/.

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Table 2: Areas section 7.2(4) Biodiversity Conservation Regulation 2017.

	Land to be considered	Assessment threshold
	Minimum lot size of land	**Area of clearing**
A	Less than 1 hectare	0.25 hectare or more
B	Less than 40 hectares but not less than 1 hectare	0.5 hectare or more
C	Less than 1,000 hectares but not less than 40 hectares	1 hectare or more
D	1,000 hectares or more	2 hectares or more

The four lots of land are zoned E4 (Figure 5) with a minimum lot size for each lot in the zone of 700 m² or 0.07 ha (NSW Planning Portal Minimum Lot Sizes), therefore row A is appropriate for this proposal. The size of the smallest Lot (Lot 329) is approximately 550 m² (i.e. less than the minimum lot size). The proposal consists of four lots which together have a total area of 2,269.6 m² or 0.2269.6 ha. The area of clearing even if all four lots were levelled is therefore less than the threshold of 0.25 hectares.

Conclusion
The proposed clearing does not exceed the threshold and entry into the BC Act offset scheme is not required as a result of clearing.

2.2 Threshold Two: Clearing or prescribed activities as listed in the Biodiversity Conservation Regulation 2017 on land included on the Biodiversity Values Map

No part of the site is included on the Biodiversity Values Map (Figure 4). Thus, threshold two is not breached.

If one or more of particular Prescribed Activities are included directly or indirectly as part of the proposal or proposed activity the Biodiversity Offsets Scheme will apply.

The "prescribed activities" criteria are as follows:

> *(a) the impacts of development on the following habitat of threatened species or ecological communities:*
> *(i) karst, caves, crevices, cliffs and other geological features of significance,*
> *(ii) rocks,*
> *(iii) human made structures,*
> *(iv) non-native vegetation,*

Response
There are no threatened ecological communities on the site.

The site was noted to have sandstone rock outcrops and crevices which may provide habitat for threatened species of fauna that occur in the locality.

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The two possible threatened species that could use rock crevices as shelter are:

1. *Cercartetus nanus* Eastern Pygmy-possum
2. *Petaurus norfolcensis* Squirrel Glider

Neither species was detected on site and have not been recorded north of Avalon since 1990.

These two species prefer tree hollows for shelter, so it is most unlikely that they will be using the rock faces on the site.

The proposal does not affect the existing rock outcrops, so there is no anticipated impact under this criterion.

The existing dwelling is a *human made structure* that is proposed to be demolished. There was no indication during field survey that any microbats or other fauna were using the dwelling for a roost. Similarly, there was no indication that threatened fauna were using the non-native vegetation.

No significant impacts from the proposal will occur on karsts, caves, crevices, cliffs or other geological features of significance, or rocks, human made structures or non-native vegetation that were present on site and could be potential habitat for threatened species or ecological communities.

> *(b) the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range,*

The three possible threatened mammal species that could use the east escarpment for a terrestrial movement corridor are:

1. *Phascolarctos cinereus* Koala
2. *Cercartetus nanus* Eastern Pygmy-possum
3. *Petaurus norfolcensis* Squirrel Glider

None of those species were detected on site and have not been recorded north of Avalon since 1990.

Other mobile or flying species are unlikely to be affected by the proposal.

The proposal is unlikely to have a significant impact on connectivity of habitat for any threatened species.

> *(c) the impacts of development on movement of threatened species that maintains their lifecycle,*

None of the threated terrestrial fauna species in the locality are migratory or have any specific requirements that could be provided by the site for breeding or other life cycle needs.

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The proposal is unlikely to have a significant impact on the movement of threatened species as required for their lifecycle.

> *(d) the impacts of development on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development),*

None of those features occur on the site. The proposal will be constructed to best practice Water Sensitive Urban Design so is not likely to compromise any water quality down slope of the site.

No significant impact from the proposal is anticipated on water quality, water bodies and hydrological processes that sustain threatened species or threatened ecological communities.

> *(e) the impacts of wind turbine strikes on protected animals,*

Wind turbines are not part of the proposal.

> *(f) the impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community.*

No terrestrial threatened species have been recorded north of Avalon since 1990 so it is most unlikely that the proposal will increase road kill. The proposal will not significantly increase vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community.

None of the potential species will be at any greater risk than at present with the existing dwelling.

> *(2) The additional biodiversity impacts prescribed by this clause* (above)*:*
> *(a) are prescribed for the purposes of assessment and biodiversity assessment reports under the Act, but are not additional biodiversity impacts for the purposes of calculating the number and class of biodiversity credits that are required under a biodiversity assessment report to be retired to offset the residual impact on biodiversity values of proposed development, proposed clearing of native vegetation or proposed biodiversity certification of land, and*
> *(b) may be taken into account in the determination of the biodiversity credits required to be retired (or other conservation measures required to be taken) under a planning approval or vegetation clearing approval or under a biodiversity certification of land.*

None of the prescribed biodiversity impacts described above (a, b, c, d, e, or f) are included in the proposal. Any impacts are not significant within the scope of the triggers in this consideration.

Conclusion
The threshold two trigger for entry into the Biodiversity offsets scheme is not activated by the proposal. A Biodiversity Development Assessment Report is not required.

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3. Landscape features of the site and the locality

3.1 Site description

For the purposes of this report, the site (Figure 1) is defined by the property boundaries of lots 327 - 330.

It is 0.2269.6 ha. in size and the elevation is approximately 84 m above sea level.

https://www.planningportal.nsw.gov.au/find-a-property/

The site is on the eastern aspect of a ridge above the ocean with a steep slope of approximately (40 - 60°) down to Whale Beach Road before a further drop through reserve land to a rocky ocean shore.

There are no water bodies or creeks.

Stormwater management is by overland flow to the street.

The adjacent properties (Figure 1) are a mix of Council reserve to the east, a council reserve to the west of a part of the site and residential dwellings to the north, west and south.

The vegetation (Figure 6) is described in detail in Section 5 below and fauna habitat is detailed in Section 5 below.

3.2 Soils

The soil landscapes on site are mapped as Gymea adjoining Watagan (Figure 7).

Gymea soil landscapes are typified by slopes of 10 - 25%, rock outcrops and shallow to moderately deep red to yellow podsols of Hawkesbury sandstone sediment.

Watagan soil landscapes are typified by slopes of more than 25%, occasional sandstone boulders and benches and moderately deep red to yellow podsols of Narrabeen sediment.

Both landscapes are typified by imperfectly drained, non-cohesive soils posing rockfall and sheet erosion hazards with high run-off.

3.3 History of the site

The site is an old residential subdivision with existing improvements comprising a dwelling, landscaping and ancillary structures.

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3.4 Landscape features

3.4.1 Site landscape features

The following landscape features are present on the site (Table 3).

Table 3. Site landscape features.

Vegetation	There is remnant local native tree canopy and understorey vegetation. A variety of exotic landscape planting and various weed species are present on the site.
Non-native vegetation	The landscape has potential for foraging habitat for threatened species of bats and birds.
Human structures	Buildings to be demolished have very little potential as bat roosts.
Wetlands/dams/watercourse	None
Karst, caves, crevices and other geological features of significance	Sandstone rock faces and outcrops.
Roads	Vehicle traffic and road mortality – A native Ring tailed Possum was noted to have been killed by a vehicle on Whale Beach Road opposite the property 19th Sept.

4. Field survey methods

4.1 BioNet Atlas of NSW Wildlife website search

Records from the BioNet Atlas of NSW Wildlife website were accessed using the following search criteria:

Licensed Report of all Valid Records of Threatened (listed on *BC Act 2016*) or Commonwealth listed Entities for a 10 x 10 km square centred on the site (selected area [North: -33.56 West: 151.29 East: 151.39 South: -33.66]). Records since 01 Jan 1990 until 20 Sept 2017 returned a total of 356 records of 42 threatened flora and fauna species.

Data used is from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°; ^^ rounded to 0.01°). Copyright the State of NSW through the Office of Environment and Heritage.

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These species (Table 4) were considered in designing field survey targets and methods. Unsuitable candidates were eliminated on the basis of habitat requirements (Appendix 4 and Appendix 5).

Table 4: BioNet threatened flora & fauna species records for a 5 km radius of the site since 1 Jan 1990.

Scientific Name	Common Name	NSW status	Comm. status
Callocephalon fimbriatum	Gang-gang Cockatoo	V	
Glossopsitta pusilla	Little Lorikeet	V	
Ninox connivens	Barking Owl	V	
Ninox strenua	Powerful Owl	V	
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Mormopterus norfolkensis	Eastern Freetail-bat	V	
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V	
Scoteanax rueppellii	Greater Broad-nosed Bat	V	
Callistemon linearifolius	Netted Bottle Brush	V	

Species for which suitable habitat occurs on the site within the range of the species but which did not appear in the Atlas record were added to Appendix 4 and Appendix 5.

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4.2 Field work effort

Over seval days of fieldwork a total of 32.75 hours were spent undertaking survey work on the site and surrounding habitat areas.

Table 5. Survey dates and weather conditions.

Date	Time	Temperature (°C)	Task	Hours (hrs x no. people)
11 Sep 18	14:30 - 19:00	19 - 22	Some veg survey; Baits, Hairtube traps, Anabat recorder and camera set up.	4.5 x 2 = 9
12 Sep 18	08:00 - 15:30	20 - 26	Vegetation survey, Anabat recorded set up.	7.5 x 2 = 15
13 Sep 18	0800 - 0830	17	Reptile survey, collect Anabat and Reconyx cameras.	0.5 x 1 = 0.5
18 Sep 18	10:30 – 14:30	19 - 24	Reptile survey, install Anabat and Reconyx cameras, funnel trap, pipe trap.	4 x 1 = 4
19 Sep 18	17:30-18:45	15-18	Reptile survey, Anabat and Reconyx cameras, funnel trap, pipe trap, hair tubes, spotlighting.	1.25 x 1 = 1.25
20 Sep 18	08:00-09:30	17-19	Collect Anabat and Reconyx cameras, funnel trap, pipe trap, hair tubes.	1.5 x 1 = 1.5
28 Jan21	15:15 – 16:39	20	Review site conditions	1.5 x 1 = 1.5
			Total	32.75

Survey effort was concentrated within the site boundaries, although adjacent surrounding vegetation was noted.

4.3 Flora survey method, vegetation community and habitat classification

A flora survey was conducted to compile vegetation descriptions and species lists for the site.

The vegetation community on site was derived from the site flora list and vegetation mapping of the area.

Vegetation quality is assessed as described below (Section 4.4). The plant community/communities on site were classified according to the NSW VIS.

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4.4 Simplified vegetation integrity assessment

On-site vegetation may be described according to a simplified vegetation integrity classification for each vegetation zone / habitat type. The simplified vegetation integrity assessment is based upon a modified version of the vegetation integrity assessment described in the NSW Biodiversity Assessment Method (BAM) 2017. This simplified assessment is based upon a qualitative assessment; no quantitative assessment was undertaken and no vegetation integrity score is calculated. The assessment requires the assessor to compare the observed vegetation with the vegetation type presumed to be present prior to 1750 (high quality native vegetation). Vegetation with good or moderate integrity usually provide higher quality habitat for a diverse range of indigenous species.

Four main qualitative classes of vegetation integrity are recognised. There is variation within each class, and in addition the class boundaries are somewhat fluid where one grades into the other.

Good integrity vegetation
Characteristics: Relatively high indigenous species diversity, diversity of flora species growth form (mix of trees, shrubs and groundcovers etc), diversity of tree size, canopy layer regeneration observed, fallen logs present on the ground, dead vegetative litter (leaves, twigs etc) cover present, weed invasion absent or minimal

Moderate integrity vegetation
Characteristics: Remnants and regenerating areas that have experienced disturbance but appear to retain the capability of recovery. Weed invasion may be moderate.

Poor integrity vegetation
Characteristics: The vegetation is highly disturbed. It typically consists of scattered trees/shrubs or clumps of trees and shrubs. Tree size diversity significantly reduced. The groundcover layer is comprised of a mix of indigenous species and exotic species. Fallen logs rare to absent, ground vegetative litter lacking.

Cleared class
Characteristics: Indigenous canopy species are absent and the indigenous understorey (shrubs/climbers/scramblers/groundcovers) are approximately less than 50%.

Note: some vegetation types naturally lack some of the characteristics. For example, trees are rare to absent in saltmarshes, sedge swamps, alpine herbfields and arid shrublands. However, providing the other characteristics are consistent with a natural undisturbed area of the same vegetation type then these vegetation types are classified as having "good integrity".

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4.5 Fauna survey method

The methods of survey undertaken to detect the various faunal groups or their habitat are outlined below. Locations for specific survey methods are shown in Figure 8. Targeted surveys were made for threatened species based on records of sightings from the BioNet Atlas website, and the Ecologist's knowledge.

From this survey nine hair samples and one owl pellet, not easily identifiable in the field were sent to Barbara Triggs for analysis.

Roads and road verges were searched for road-kill fauna. Surveys for mammals, reptiles and frogs are generally run concurrently.

Dates, weather and temperatures of all fieldwork were recorded and are tabulated in Table 5 above.

4.5.1 Diurnal fauna searches

Searching, opportunistic observations and call recording provides an indication of types of species using a site. These methods are used to identify and record live animals, or record indirect evidence of animal presence on the site. On occasions, specific surveys may be conducted for a targeted group or species, such as searching the margins of a dam for frogs. Generally though, birds, reptiles, frogs and mammals, or evidence of them, may all be present in the same habitat at the time of survey, therefore searching for these faunal groups is generally run concurrently. This involved:

a) Searching shelter sites, basking sites, opportunistic observation, and assessment of shelter site diversity suitability for reptiles.
b) Opportunistic observations and identification of calls of species, and search for indirect evidence such as nests, feathers, scratchings and feeding signs for birds.
c) Searching for indirect evidence, such as diggings, droppings, runways and burrows, and opportunistic observations for mammals.

While rigorous surveys are likely to find more species, high species richness for birds can be recorded in a relatively short amount of time. Bird surveys are used as a simple indicator of other parameters, such as biodiversity and the functioning of the ecosystem.

4.5.2 Trapping

Hair-tube trapping targets small and medium-sized mammals. Six trap stations were placed on the site (Figure 8). Three hair tubes were placed at each trap station, one with oat bait at ground level, one with oat bait, tree mounted, and one with fish bait alternating at ground level and tree mounted. Oat bait was a mixture of rolled oats, honey, truffle oil, fish oil and sesame oil. These were left out for nine nights.

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4.5.3 Reconyx Wildlife camera

Two cameras were positioned on site, one in the approximate centre of Lot 329 and another in the approximate centre of Lot 327 (Figure 8). These were left out overnight 11th and 12th Sept and 18th and 19th Sept totalling four nights of camera survey.

4.5.4 Nocturnal fauna searches

Nocturnal search was undertaken by one person for a total of 1.25 hours on 19th of September.

Nocturnal searches may encompass all the surveying methods used during the day, but generally consist of either locating a live animal or recording its call. Nocturnal species, such as arboreal mammals, large forest owls and flying-foxes are specifically targeted. Survey methods for microbats are outlined below in 3.4.7.

4.5.5 Microbat ultrasonic call recording

The method for identifying free-flying bats by their species-specific echolocation calls is one that has become standard in the last two decades (Richards 2001). Insectivorous bats were surveyed on this site by Anabat recordings directly to cf storage zcaim, over five nights (Duffy et al. 2000). Any other bat survey methods, such as tape recorded calls, and brief survey time, is certain to miss bat species scheduled by the BC Act 2016. Scheduled species are recorded on average within 1.5 hours (94 ±64 minutes) of recording but up to four hours is required to record all threatened species present (Richards 2001). Of the eight threatened species in the Sydney Bioregion, Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris* has the largest home range and takes up to four hours to reliably appear at any point in its range. For a small site, any bats that appear in the first half hour are likely to be roosting nearby, with probability of recording 57% in the first half hour and 68% in the first whole hour (Richards 2001). Storage to zcam provides high quality call recordings with very little noise, enabling high reliability in call identification, as opposed to storage to magnetic tape. Anabat recordings were analysed by Dr Daniel McDonald.

Table 6. Anabat recording dates and weather conditions.

Date	Times	Temperatures (°C)	Weather
11 Sept 2018	18:30 – 08:00	12 – 19	Clear, light breeze
12 Sept 2018	15.30 – 07:00	13 - 12	Clear, light breeze
18 Sept 2018	14:30 – 07:00	12 - 19	Clear, light breeze
19 Sept 2018	18:30 – 08:00	12 - 17	Clear, light breeze

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4.6 Species likely to occur

Species to be listed as 'likely to occur' or 'expected' (see Appendix 3), are common species generally found in the region, which are likely to occur on site if suitable habitat is present.

Native flora may include species local to the area (occurring in local remnants). Structure and species composition will depend upon locally occurring communities.

Expected species are common and, by definition, are not threatened species.

4.7 Limitations of the survey

This survey was conducted in early Spring. The weather conditions were mild and clear with a light coastal breeze.

Species that may use the site were not detected during the survey for the following reasons:

a) The species was present during the survey but was not detected due to dormancy, inactivity or cryptic habits.
b) The species use the site at other times of the year, but was not present during the survey due to being nomadic or migratory.

4.8 Staff associated with the field work

Table 7. Staff associated with field work and analysis of field work.

Field work	Analysis of field work
Dr Danny Wotherspoon	Barbara Triggs
Dr Daniel McDonald	Dr Daniel McDonald
Dr Alison Hewitt	Mark Sherring

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5. Survey Results: Vegetation and habitat description

5.1 Site vegetation

Site vegetation comprises rambling gardens to the house and areas in and around numerous rock outcrops on site with exotic plants such as *Cupressus*, *Strelitzia*, *Hibiscus* and *Cycads*. Many small *Cactus* varieties, *Clivea*, *Agave*, potted orchids and varied exotic shrubs are also being grown interspersed across the gardens and rock areas on site.

Native *Glochidion ferdinandi*, *Elaeocarpus reticulatus* and *Pittosporum undulatum* are the most common small trees occurring on site in low abundance. There are also two small *Ficus rubiginosa*, and *Livistona australis* with native ferns (*Todea barbara*, *Pteridium esculentum* and *Cyathea cooperi*) and vines (*Genoplesium cymosum*, *Pandorea pandorana* and *Smilax glyciphylla*) more common at the southern boundary area where a watercourse gully provides a wetter and more sheltered microclimate.

There is one *Eucalyptus saligna* (planted) on Lot 327 northern area of the site, one large *Eucalyptus scias* in front of the existing house, several *Syncarpia glomulifera* (native Turpentine) and scattered *Xanthorrhoea media* across the site. Several established *Casuarina cunninghamiana* trees have also been planted closer to the road / steps on site.

Weedy species in highest abundance on site include **Asparagus aethiopicus* (Asparagus fern), **Nephrolepis cordifolia* (Fishbone fern) and **Hedychium gardnerianum* (Ginger lily).

A total of 150 plant species were recorded on site during field surveys, with approximately one third (56) of these native. All plant species recorded on site are presented in Appendix 2.

In determining the most likely original native vegetation community present on site, all native plant species recorded pertaining to nearby mapped vegetation units (Figure 6) are given in Table 8 below.

Table 8. Vegetation community type species indicators.

S_DSF04 Coastal Enriched Sandstone Dry Forest	S_DSF06 Coastal Sandstone Foreshores Forest	S_WSF02 Coastal Enriched Sandstone Moist Forest
Acacia suaveolens	*Acacia longifolia*	*Ceratopetalum gummiferum*
Acacia ulicifolia	*Banksia integrifolia*	*Dianella caerulea*
Banksia serrata	*Commelina cyanea*	*Dodonaea triquetra*
Caesia parviflora	*Dianella caerulea*	*Elaeocarpus reticulatus*
Cassytha pubescens	*Dodonaea triquetra*	*Glochidion ferdinandi*
Ceratopetalum gummiferum	*Elaeocarpus reticulatus*	*Livistona australis*
Dianella caerulea	*Ficus rubiginosa*	*Lomandra longifolia*
Dodonaea triquetra	*Glochidion ferdinandi*	*Notelaea longifolia*

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S_DSF04 Coastal Enriched Sandstone Dry Forest	**S_DSF06 Coastal Sandstone Foreshores Forest**	**S_WSF02 Coastal Enriched Sandstone Moist Forest**
Elaeocarpus reticulatus	*Lomandra longifolia*	*Pandorea pandorana*
Glochidion ferdinandi	*Notelaea longifolia*	*Pittosporum undulatum*
Imperata cylindrical var. major	*Omalanthus nutans*	*Platylobium formosum*
Lomandra longifolia	*Oplismenus aemulus*	*Pteridium esculentum*
Notelaea longifolia	*Pandorea pandorana*	*Smilax glyciphylla*
Pandorea pandorana	*Pittosporum undulatum*	*Syncarpia glomulifera*
Pittosporum undulatum	*Platylobium formosum*	*Todea barbara*
Platylobium formosum	*Pteridium esculentum*	
Smilax glyciphylla	*Smilax glyciphylla*	
Syncarpia glomulifera		
Themeda australis		
Total = 19	**Total = 17**	**Total = 15**

In considering each of these three possible vegetation communities it is noted that Coastal Enriched Sandstone Dry Forest and Coastal Enriched Sandstone Wet Forest fail to achieve the minimum number of positive diagnostic species for 95% confidence in assigning a vegetation community:

- The minimum number of species required to diagnose S_DSF04 Coastal Enriched Sandstone Dry Forest with 95% confidence is 21 of a minimum 38 or more native species.
- The minimum number of species required to diagnose S_DSF06 Coastal Sandstone Foreshore Forest with 95% confidence is 14 of a minimum 28 or more native species.
- The minimum number of species required to diagnose S_WSF02 Coastal Enriched Sandstone Moist Forest with 95% confidence is 17 of a minimum 33 or more native species.

We conclude that the low numbers of native species recorded to enable assignment of a vegetation community with high confidence is reflective of the disturbed nature of the site.

It should also be noted that these vegetation community diagnoses are ordinarily made based on sampling data obtained from a 400 m² quadrat, randomly placed on site, while we employed a census of the whole site. This was because of the steep rock outcrops across large areas of the site and the disturbed areas across the entirety of the site, which made it difficult to randomly select representative points.

In attempting to assign an original native vegetation community to the site we note that:

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1. There are nineteen positive diagnostic species on site for Coastal Enriched Sandstone Dry Forest. Species include some of the trees on site that are listed as positive diagnostic indicators for this community, namely *Syncarpia glomulifera, Glochidion ferdinandi* and *Elaeocarpus reticulatus*. The site also has the aligning soils for this community, in terms of clay enrichment to the sandstone (Figure 7). Mapping by Sydney Metro (2013) also supports the assignment of this vegetation community (Figure 6. Vegetation Map of the area).
2. There are a lesser number (seventeen) positive diagnostic species on site for Coastal Sandstone Foreshores Forest including *Ficus rubiginosa*, *Elaeocarpus reticulatus* and *Glochidion ferdinandi*. However, the site perhaps lacks the more protected location and the more minor shale enrichment to sandstone soils that support this vegetation community.
3. There are fourteen positive diagnostic species on site for Coastal Enriched Sandstone Moist Forest. It is noted that these all tend to occur in the southern area of the site (Lot 330), which is also consistent in that it borders a slightly more sheltered sandstone gully enriched by clay. This area of the site may therefore be closer to an intergrade to Coastal Enriched Sandstone Moist Forest.

We therefore conclude that the original vegetation on site was, for the most part, closest in assemblage to Coastal Enriched Sandstone Dry Forest with a very small area of Coastal Enriched Sandstone Moist Forest at the southern boundary of the site.

Neither of these vegetation communities are threatened ecological communities and both are represented within nearby reserve areas in the Pittwater LGA.

In some areas of the site there are old tree stumps and coarse litter.

Hollow bearing trees are absent across the site.

The site was noted to have sandstone escarpment, outcrops and crevices which can provide habitat for fauna.

Important habitat features that have significance for fauna occupation of the site are discussed below (Table 9). These include both site disturbance and natural features.

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Table 9. Significant features and observations for this zone.

Significant features	Observations
Frequency of large trees (approx. > 80 cm DBH)	Absent
Tree regeneration and Tree stem-size diversity	Tree regeneration appears absent
Logs, woody debris and litter cover	Logs, woody debris and leaf litter – moderate
Rock outcrops, crevices	Large areas of escarpment along the entire western edge of the site.
Food resources	Eucalyptus, Ficus, Glochidion and Acacia provide food resources of fruits, blossoms and seeds.

5.2 Biodiversity Significance

The southern portion of Lot 327 (346 Whale Beach Road) is indicated as containing an area of Biodiversity Significance as indicated on Council's Biodiversity Map forming part of the PDCP 2014. This is most likely the very small area of Coastal Enriched Sandstone Moist Forest at the southern boundary of the site.

6. Survey Results: Fauna

6.1 Fauna results

A total of 23 species were detected, including 13 mammals, six birds and four reptiles.

Species listed as 'likely to occur' in the area are presented in Appendix 4. Note that the majority of the 'Expected Species' would occur on the site due to the presence of habitat. All the species listed as 'likely to occur' are common throughout the locality and the region. It is unlikely that protected species will be affected at a local, regional or state-wide scale by the proposal.

The habitats for threatened species that occur in the area are tabulated in Appendix 5.

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Table 10. List of fauna detected on the site.

Reptiles			
Broad Tailed Gecko	*1. Phyllurus platurus*		
Scaly-foot Lizard	*1. Pygopus lepidopodus*		
Red-throated Skink	*1. Acritoscincus platynota*		
Fence Skink	*1. Cryptoblepharus virgatus*		O
Coppertail Skink	*1. Ctenotus taeniolatus*		
Three-toed yellow-bellied Skink	*1. Saiphos equalis*		O
Eastern Water-skink	*1. Eulamprus quoyii*		
Dark-flecked Garden Sunskink	*1. Lampropholis delicata*		O
Pale-flecked Garden Sunskink	*1. Lampropholis guichenoti*		
Weasel Skink	*1. Saproscincus mustelinus*		
Eastern Blue-tongued Skink	*1. Tiliqua scincoides*		
Jacky Lizard	*1. Amphibolurus muricatus*		
Bearded Dragon	*1. Pogona barbata*		
Eastern water dragon	*1. Intellagama (Physignathus) lesueurii*		O
Red Bellied Black Snake	*1. Pseudechis porphyriacus*		
N=	4		

Birds			
Australian Wood Duck	*1. Chenonetta jubata*		
Pacific Black Duck	*1. Anas superciliosa*		
White-faced Heron	*1. Egretta novaehollandiae*		
Australian White Ibis	*1. Threskiornis molucca*		
Collared Sparrowhawk	*1. Accipiter cirrocephalus*		
Brown Goshawk	*1. Accipiter fasciatus*		
Grey Goshawk	*1. Accipiter fasciatus*		O
Nankeen Kestrel	*1. Falco cenchroides*		
Purple Swamphen	*1. Porphyrio porphyrio*		
Dusky Moorhen	*1. Gallinula tenebrosa*		
Eurasian Coot	*1. Fulica atra*		
Masked Lapwing	*1. Vanellus miles*		
Rock Dove*	*1. Columba livia*		
Spotted Turtle-dove*	*1. Streptopelia chinensis*		
Crested Pigeon	*1. Ocyphaps lophotes*		
Glossy Black-cockatoo	*1. Calyptorhynchus lathami*		
Yellow-tailed Black-cockatoo	*1. Calyptorhynchus funereus*		
Galah	*1. Eolophus roseicapilla*		

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Birds			
Long-billed Corella	*1. Cacatua tenuirostris*		
Sulphur-crested Cockatoo	*1. Cacatua galerita*		
Gang-gang Cockatoo	*1. Callocephalon fimbriatum*		
Scaly-breasted Lorikeet	*1. Trichoglossus chlorolepidotus*		
Rainbow Lorikeet	*1. Trichoglossus haematodus*		O, W
Musk Lorikeet	*1. Glossopsitta concinna*		
Australian King-parrot	*1. Alisterus scapularis*		
Crimson Rosella	*1. Platycercus elegans*		
Eastern Rosella	*1. Platycercus eximius*		
Asian Koel	*1. Eudynamys scolopaceus*		
Channel-billed Cuckoo	*1. Scythrops novaehollandiae*		
Southern Boobook	*1. Ninox novaeseelandiae*		
Tawny Frogmouth	*1. Podargus strigoides*		
Laughing Kookaburra	*1. Dacelo novaeguineae*		
Sacred Kingfisher	*1. Todiramphus sanctus*		
Dollarbird	*1. Eurystomus orientalis*		
Satin Bowerbird	*1. Ptilonorhynchus violaceus*		
Superb Fairy-wren	*1. Malurus cyaneus*		
Variegated Fairy-wren	*1. Malurus lamberti*		
Spotted Pardalote	*1. Pardalotus punctatus*		
White-browed Scrubwren	*1. Sericornis frontalis*		
Brown Gerygone	*1. Gerygone mouki*		
White-throated Gerygone	*1. Gerygone albogularis*		
White-throated Treecreeper	*1. Cormobates leucophaea*		
Brown Thornbill	*1. Acanthiza pusilla*		
Yellow Thornbill	*1. Acanthiza nana*		
Striated Thornbill	*1. Acanthiza lineata*		
Buff-rumped Thornbill	*1. Acanthiza reguloides*		
Red Wattlebird	*1. Anthochaera carunculata*		
Little Wattlebird	*1. Anthochaera chrysoptera*		
Noisy Friarbird	*1. Philemon corniculatus*		
Bell Miner	*1. Manorina melanophrys*		
Noisy Miner	*1. Manorina melanocephala*		
Lewin's Honeyeater	*1. Meliphaga lewinii*		
Yellow-faced Honeyeater	*1. Lichenostomus chrysops*		
White-plumed Honeyeater	*1. Lichenostomus penicillatus*		
White-naped Honeyeater	*1. Melithreptus lunatus*		
New Holland Honeyeater	*1. Phylidonyris novaehollandiae*		

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Birds			
Eastern Spinebill	*1. Acanthorhynchus tenuirostris*		
Eastern Yellow Robin	*1. Eopsaltria australis*		
Eastern Whipbird	*1. Psophodes olivaceus*		
Golden Whistler	*1. Pachycephala pectoralis*		
Rufous Whistler	*1. Pachycephala rufiventris*		
Grey Shrike-thrush	*1. Colluricincla harmonica*		
Magpie-lark	*1. Grallina cyanoleuca*		O
Rufous Fantail	*1. Rhipidura rufifrons*		
Grey Fantail	*1. Rhipidura fuliginosa*		
Willie Wagtail	*1. Rhipidura leucophrys*		
Olive-backed Oriole	*1. Oriolus sagittatus*		
Black-faced Cuckoo-shrike	*1. Coracina novaehollandiae*		
Grey Butcherbird	*1. Cracticus torquatus*		
Australian Magpie	*1. Cracticus tibicen*		
Pied Currawong	*1. Strepera graculina*		
Australian Raven	*1. Corvus coronoides*		
House Sparrow	*1. Passer domesticus*		
Red-browed Finch	*1. Neochmia temporalis*		
Welcome Swallow	*1. Hirundo neoxena*		
Silvereye	*1. Zosterops lateralis*		
Common Blackbird*	*1. Turdus merula*		
Common Starling*	*1. Sturnus vulgaris*		
Common Myna*	*1. Sturnus tristis*		
White-bellied Sea Eagle	*Haliaeetus leucogaster*		O
Silver Gull	*Chroicocephalus novaehollandiae*		O
Powerful Owl	*Ninox strenua*	Sch. 2, Vul.	P - Po
N =	6		

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Mammals			
Brown Antechinus	*1. Antechinus stuartii*		
Long-nosed Bandicoot	*1. Perameles nasuta*		RC
Common Wombat	*1. Vombatus ursinus*		
Sugar Glider	*1. Petaurus breviceps*		
Common Ringtail Possum	*1. Pseudocheirus peregrinus*		O, RC 10:52 pm H - C
Common Brushtail Possum	*1. Trichosurus vulpecula*		S, RC
Eastern Grey Kangaroo	*1. Macropus giganteus*		
Swamp Wallaby	*1. Wallabia bicolor*		
Grey-headed Flying-fox	*1. Pteropus poliocephalus*		W
Yellow-bellied Sheathtail-bat	*1. Saccolaimus flaviventris*		
White-striped Freetail-bat	*1. Austronomus australis*		
Eastern Freetail-bat	*1. Mormopterus norfolkensis*		
White-striped Mastiff-bat	*1. Tadarida australis*		A - C
Large-eared Pied Bat	*1. Chalinolobus dwyeri*		
Gould's Wattled Bat	*1. Chalinolobus gouldii*		A - C
Chocolate Wattled Bat	*1. Chalinolobus morio*		A – P
Eastern False Pipistrelle	*1. Falsistrellus tasmaniensis*		
Golden-tipped Bat	*1. Kerivoula papuensis*		
Little Bentwing-bat	*1. Miniopterus australis*	Sch. 2, Vul.	A - P
Eastern Bentwing-bat	*1. Miniopterus schreibersii oceanensis*	Sch. 2, Vul.	A - Po
Southern Myotis	*1. Myotis macropus*		
Lesser Long-eared Bat	*1. Nyctophilus geoffroyi*		
Gould's Long-eared Bat	*1. Nyctophilus gouldi*		
Eastern Horseshoe bat	*1. Rhinolophus megaphyllus*		A - C
Greater Broad-nosed Bat	*1. Scoteanax rueppellii*		
Eastern Broad-nosed Bat	*1. Scotorepens orion*		
Large Forest Bat	*1. Vespadelus darlingtoni*		
Eastern Forest Bat	*1. Vespadelus pumilus*		
Southern Forest Bat	*1. Vespadelus regulus*		A - Po
Large Forest Eptesicus	*1. Vespadelus darlingtoni*		A - Po
Little Forest Eptesicus	*1. Vespadelus vulturnus*		
Little Forest Bat	*1. Vespadelus vulturnus*		A - Po
Bush Rat	*1. Rattus fuscipes*		
House Mouse*	*1. Mus musculus*		
Black Rat*	*1. Rattus rattus*		RC 12:25 am
Dog*	*1. Canis lupus familiaris*		
Fox*	*1. Vulpes vulpes*		
Cat*	*1. Felis catus*		

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Rabbit*	*1. Oryctolagus cuniculus*		
Mammals			
Brown Hare*	*1. Lepus capensis*		
Horse*	*1. Equus caballus*		
N=	13		

Chalinolobus gouldii - confident
Chalinolobus morio - probable
Miniopterus australis - probable
Minitopterus schreibersii oceanensis / Vespedelus darlingtonii - possible
Rhinolophus megaphyllus - confident
Tadarida australis - confident
Vespadelus regulus - possible
Vespedelus darlingtonii - possible
Vespedelus vulturnus - probable

Key

*	=	Introduced fauna
A – P	=	Anabat – Probable
A – C	=	Anabat – Confident
A – Po	=	Anabat – Possible
H – P	=	Hair Tube – Probable
H – C	=	Hair Tube – Confident
H – Po	=	Hair Tube – Possible
P – Po	=	Pellet - Possible
O	=	Observed
R	=	Road kill
RC	=	Reconyx wildlife camera
S	=	Scats
W	=	Calls heard

6.2 Fauna Summary

The number of species from each faunal group, listed as 'likely to occur' can be seen in Appendix 3.

Mammals

Mammal species detected on the site totalled 13.
Reconyx wildlife cameras captured Long-nosed Bandicoot, *Black rat, Ringtail and Brushtail possum.
Anabat detectors call analysis identified nine species of bat, including two Vulnerable species: Little Bentwing Bat and Eastern Bentwing Bat.
A Ringtail Possum was also identified in hair tube trap analysis, scats, spotlighting and roadkill.

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Reptiles

Reptile species detected on the site totalled four, being three species of locally occurring skink and the more conspicuous Eastern Water Dragon.

Frogs

No frog species were detected on the site.

Birds

Bird species detected on the site totalled six.

The sea birds amongst these (White-bellied Sea Eagle and Silver Gull) were noted off shore on the wing to nearby headland visible from the site.

An owl pellet was collected on site. This was sent away for analysis. The content results were hair, dentaries and other bones of **Rattus rattus*. This does not enable identification of the owl however given the many nearby records of Powerful Owl (*Ninox strenua*) and the confirmed presence on site of its preferred prey (Brushtail and Ringtail possums) it is a possible likely candidate. As a precautionary approach Powerful Owl is included in the five-part test assessment.

6.3 Microbats

Seven common bat species and two listed Vulnerable bat species were detected. Where calls were easily identifiable to species, they were classed as Confident. Where the calls were most likely to represent a particular species, they were classed as Probable. Where calls were likely to belong to a species but the quality or length of the call precluded a confident identification, they were classed as Possible. Where the calls could have belonged to two or more species, they were classified into a species group. Any calls of very poor quality, which could not be reliably placed into any species or species group category, were classified as Unknown. Many of the calls were of good quality and the poor ones most likely represented bats flying just within the bat detector's outer detection limits.

The most common microbat species detected on the site was the Gould's Wattled Bat. Calls from this species represented more than approximately 95% of the analysed microbat calls.

Foraging Habitat

This site provides potentially suitable foraging habitat for eight of the nine possible threatened species. *Myotis macropus* (syn. *Myotis adversus*) has no suitable foraging habitat in the form of open water bodies on or adjacent to the site. *Myotis macropus* is not known to forage over the ocean. Presumably the water surface is too rough. *Kerivoula papuensis* is only likely to forage in areas within a few kilometres of rainforest or rainforest gullies. It was not detected during the site survey.

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However, a precautionary approach has been taken and this species is included in the five-part test assessment. Some of the vegetation in the locality has a structure similar to rainforest.

Roosting Habitat

This site has no tree hollows that provide suitable roosting habitat for *Falsistrellus tasmaniensis, Mormopterus norfolkensis, Scoteanax rueppellii, Myotis macropus, Miniopterus australis* and *Saccolaimus flaviventris*. This site has no caves, culverts, or bridges, but does have buildings and other suitable (often human-made) structures that provide potentially suitable roosting habitat for *Chalinolobus dwyeri, Miniopterus schreibersii oceanensis, Myotis macropus*. *Kerivoula papuensis* normally roosts in hanging bird nests or trees in rainforest gullies so is very unlikely to roost in the surveyed site.

Rock outcrops are common on the site. There are fissures and small opening between the rocks that are possibly suitable for occasional use by one or a few cave-dwelling bats. However, there was no evidence any of the rock outcrops provided roosting habitat for any larger group of microbats.

7. Discussion of results

The site comprises steep rocky hillside along Whale Beach Road, Palm Beach.

The original plant community present on site was most likely Coastal Enriched Sandstone Dry Forest with a very small area of Coastal Enriched Sandstone Moist Forest at the southern boundary of the site. While some native species of these communities remain on site, the vegetation has been degraded by loss of larger trees, disturbance by construction and occupation, replacement with exotic gardens and weed invasion.

The site is in poor - moderate condition with weed invasion evident, larger dead trees and stumps. Despite a high disturbance regime on the site, smaller native trees like *Eucalyptus scias, Glochidion ferdinandi*, *Ficus rubiginosa* and *Elaeocarpus reticulatus* would provide blossom and fruit for native birds. Native bats would occasionally forage on site. The rock outcrops on site provide habitat for native lizards and skinks.

There is evidence of threatened species of bats, Grey-headed Flying-fox and possibly Powerful Owl visiting the site. None of the threatened terrestrial fauna species in the locality have any specific requirements that could be provided by the site for breeding or other life cycle needs. Mobile or flying species are unlikely to be affected by the proposal. The proposal is unlikely to have a significant impact on threatened species.

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8. Impact on biodiversity: Threshold 3

8.1 Threshold 3: Five-part test summary

Habitat requirements for locally occurring threatened faunal species, and the presence or absence of such habitat on the site, is tabulated in Appendix 4. Threatened plant species, listed in the BC Act and the EPBC Act, are shown in Appendix 5.

Under Section 7.3 of the *Biodiversity Conservation Act* several factors (listed in Appendix 1) need to be considered in deciding whether there is likely to be a Significant effect on threatened species, populations or ecological communities, or their habitats. If there is likely to be a significant effect on threatened species, the proposal must be accompanied by a Biodiversity Development Assessment Report (BDAR).

While the overall proposal incorporates mitigating considerations and offsets, these are not taken into account in determining the outcome of the five-part tests.

Table 11. Summary of the five-part tests shown in full in Appendix 1.

Species/Communities	Recorded on site	State listing BC Act '16	C-wealth listing EPBC Act '99	Result
Diurnal raptors				
Little Eagle *Hieraaetus morphnoides*	No	Sch 2, Vul.	-	No significant effect
Square-tailed Kite *Lophoictinia isura*		Sch 2, Vul.	-	
Forest birds				
Gang-gang Cockatoo *Callocephalon fimbriatum*	No	Sch 2, Vul.	-	No significant effect
Little Lorikeet *Glossopsitta pusilla*		Sch 2, Vul.	-	
Large Forest Owls				
Barking Owl *Ninox connivens*	Possibly	Sch 2, Vul.	-	No significant effect
Powerful Owl *Ninox strenua*		Sch 2, Vul.	-	
Masked Owl *Tyto novaehollandiae*		Sch 2, Vul.	-	
Sooty Owl *Tyto tenebricosa*		Sch 2, Vul.	-	
Mammals				
Grey-headed Flying-fox *Pteropus poliocephalus*	Yes	Sch. 2, Vul.	Vulnerable	No significant effect

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Species/Communities	Recorded on site	State listing BC Act '16	C-wealth listing EPBC Act '99	Result
Insectivorous bats				
Eastern Freetail-bat *Mormopterus norfolkensis*	Yes	Sch. 2, Vul.	-	No significant effect
Large-eared Pied Bat *Chalinolobus dwyeri*		Sch. 2, Vul.	Vulnerable	
Eastern False Pipistrelle *Falsistrellus tasmaniensis*		Sch. 2, Vul.	-	
Little Bentwing-bat *Miniopterus australis*		Sch. 2, Vul.	-	
Eastern Bentwing-bat *Miniopterus schreibersii oceanensis*		Sch. 2, Vul.	-	
Greater Broad-nosed Bat *Scoteanax rueppellii*		Sch. 2, Vul.	-	
Golden –tipped Bat *……Kerivoula papuensis*		Sch. 2, Vul.	-	
Plants				
Callistemon linearifolius	No	Sch. 2, Vul.		No significant effect
Prostanthera densa		Sch. 2, Vul.	Vulnerable	

There is no significant effect so a Biodiversity Development Assessment Report is not required.

9. Planning Instruments

The site is zoned E4 - Environmental Living.

Objectives of this zone are:
• To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
• To ensure that residential development does not have an adverse effect on those values.
• To provide for residential development of a low density and scale integrated with the landform and landscape.
• To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.

Additional planning instruments which would apply at this site include:
Pittwater council Local Environmental Plan 2014;
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017;
Planning for Bushfire Protection 2006.

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9.1 *Environment Protection and Biodiversity Conservation Act 1999*

9.1.1 Protected matters

The Protected Matters Search Tool was used to find relevant Matters of National Environmental Significance (MNES) on or near the site. The outputs are shown in Appendix 6 and summarised below (Table 12).

Table 12. Results from Protected Matters Search.

World Heritage Properties	Nil
National Heritage Places	Nil
Wetlands of International Importance	Nil
Commonwealth Marine Areas	Nil
Commonwealth Land	Nil
Critical Habitats/ Areas of Outstanding Biodiversity Value	Nil
Australian Marine Parks	Nil
Commonwealth Terrestrial Reserves	Nil
Listed Threatened Ecological Communities	Three
Listed Migratory Species	Fifty six
Listed Threatened Species	Sixty three

The three Listed Threatened Ecological Communities recorded in the area are:
1. Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland;
2. Coastal Upland Swamps in the Sydney Basin Bioregion; and
3. *Posidonia australis* seagrass meadows of the Manning-Hawkesbury ecoregion.

These ecological communities are protected under Commonwealth legislation by the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act 1999) and are listed as Endangered. The provisions of the EPBC Act apply to this proposal. The outcome is not significant, however, and does not require referral to the Commonwealth.

There were no Critically Endangered or Endangered species or communities recorded on site.

There was one Vulnerable species recorded on the site. This was the Grey-headed Flying-fox.

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9.1.2 Criteria for Vulnerable Species

An action has, will have, or is likely to have a significant impact on a Vulnerable Species if it does, will, or is likely to:

a) lead to a long-term decrease in the size of an important population of a species, or
b) reduce the area of occupancy of an important population, or
c) fragment an existing important population into two or more populations, or
d) adversely affect habitat critical to the survival of a species, or
e) disrupt the breeding cycle of an important population, or
f) modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
g) result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat,* or
h) interfere substantially with the recovery of the species.

No significant impact on Grey-headed Flying-fox.

An Important Population is one that is necessary for a species' long-term survival and recovery. This may include populations that are:

a) key source populations either for breeding or dispersal,
b) populations that are necessary for maintaining genetic diversity, and/or
c) populations that are near the limit of the species range.

Not deemed an Important Population in this area.

(*Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a vulnerable species by direct competition, modification of habitat, or predation.)

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10. Conclusion and Recommendations

The original plant community on site was most likely 'Coastal Enriched Sandstone Dry Forest' with a very small area of 'Coastal Enriched Sandstone Moist Forest' at the southern boundary of the site. Both of these communities occur in the wider area and neither are listed threatened ecological communities. While some native species of each of these communities remain on site, the vegetation has been degraded by loss of larger trees, disturbance accrued by construction and occupation, replacement with exotic gardens and weed invasion.

No threatened flora has previously been recorded from the site and none were detected on site in our surveys. None of the threatened terrestrial fauna species known from the wider locality have any specific requirements that could currently be provided by the site for breeding or other life cycle needs.

The threatened species Grey-headed Flying-fox was detected visiting the site. There is also evidence for two threatened microbat species visiting the site, the Little Bentwing-bat and the Eastern Bentwing-bat (Table 10). It is also likely that Powerful Owl forages on site (Section 6.1). These species are highly mobile and forage/ hunt over wide areas of land. None of them appear to be roosting or nesting on site. The scale of the proposal will modify a small area of potential foraging/ hunting area with substantial areas of native vegetation in the surrounding area and will not place any of these species at significant risk of extinction (see 5 part test reports in Appendix 1).

The design of the proposed house appears to enable protection and preservation of the main rock escarpment and rock outcrops on site that are providing habitat to native reptiles.

None of the three thresholds for a Biodiversity Development Assessment Report are triggered as follows:
1. Area of clearing
2. Biodiversity Land Map and Prescribed biodiversity impacts
3. Five Part Tests.

Therefore a Biodiversity Development Assessment Report (BDAR) is not required.

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Appendix 1. Five-part tests

While the overall proposal incorporates mitigating considerations and offsets, these are not taken into account in determining the outcome of the **five-part** tests.

The Assessment of Significance (Office of Environment and Heritage (OEH)) states that *"Proposed measures that mitigate, improve or compensate for the action, development or activity should not be considered in determining the degree of the effect on threatened species, populations or ecological communities, unless the measure has been used successfully for that species in a similar situation."*

Species addressed are as follows:

Scientific Name	Common Name	NSW status	Comm. status
Callocephalon fimbriatum	Gang-gang Cockatoo	V	
Glossopsitta pusilla	Little Lorikeet	V	
Ninox connivens	Barking Owl	V	
Lophoictinia isura	Square-tailed Kite	V	
Hieraaetus morphnoides	Little Eagle	V	
Ninox strenua	Powerful Owl	V	
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Mormopterus norfolkensis	Eastern Freetail-bat	V	
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V	
Chalinobus dwyeri	Large-eared Pied Bat	V	V
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V	
Miniopterus australis	Little Bentwing Bat	V	
Scoteanax rueppellii	Greater Broad-nosed Bat	V	
Callistemon linearifolius	Netted Bottle Brush	V	
Prostanthera densa	Villous Mint-bush	V	V

Where applicable threatened populations are considered as threatened species in the following five part tests.

7.2 Development or activity "likely to significantly affect threatened species"

(1) For the purposes of this Part, development or an activity is **"likely to significantly affect threatened species"** if:

(a) it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or

(b) the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or

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(c) it is carried out in a declared area of outstanding biodiversity value.
(2) To avoid doubt, subsection (1) (b) does not apply to development that is an activity subject to environmental impact assessment under Part 5 of the *Environmental Planning and Assessment Act 1979*.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

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Forest Birds

Key
CE = Critically Endangered
E = Endangered
V = Vulnerable

Scientific name	Common name	NSW status	Comm. status
Glossopsitta pusilla	Little Lorikeet	V	-
Callocephalon fimbriatum	Gang-gang Cockatoo	V	

Little Lorikeet *Glossopsitta pusilla*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20111

- Forages primarily in the canopy of open *Eucalyptus* forest and woodland, yet also finds food in *Angophora, Melaleuca* and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity.
- Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species.
- Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards
- Gregarious, travelling and feeding in small flocks (<10), though often with other lorikeets. Flocks numbering hundreds are still occasionally observed and may have been the norm in past centuries.
- Roosts in treetops, often distant from feeding areas.
- Nests in proximity to feeding areas if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Entrance is small (3 cm) and usually high above the ground (2–15 m). These nest sites are often used repeatedly for decades, suggesting that preferred sites are limited. Riparian trees often chosen, including species like *Allocasuarina*.
- Nesting season extends from May to September. In years when flowering is prolific, Little Lorikeet pairs can breed twice, producing 3-4 young per attempt. However, the survival rate of fledglings is unknown.

Gang-gang Cockatoo *Callocephalon fimbriatum*

- https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10975
- In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests.
- In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas.
- May also occur in sub-alpine Snow Gum (*Eucalyptus pauciflora*) woodland and occasionally in temperate rainforests.
- Favours old growth forest and woodland attributes for nesting and roosting. Nests are located in hollows that are 10 cm in diameter or larger and at least 9 m above the ground in eucalypts.

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7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction
No. There are very few forage trees on site making the habitat on site marginal for these species. Any Little Lorikeets or Gang-gang Cockatoos in the area will use a wide area for foraging including natural vegetation east and west of the site. The extent of habitat modification is minor considering the disturbed nature of the proposal area. The proposal is unlikely to effect the life cycle of the Little Lorikeet or Gang-gang Cockatoo such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction
Not applicable. This test is for a group of threatened species.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
The site is 0.2269.6 ha in size. Approximately half of the site will be modified to construct the facility. Currently there is less than 15% canopy cover on the site in terms of forest trees. It is anticipated that this will be reduced further to less than 10%.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

No. Similar habitat occurs west of the property and east across Whale Beach Road in the form of a reserve. Little Lorikeet and Gang-gang Cockatoo are mobile and can easily travel over a house.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

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Negligible.

Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey)	The locality is a suburban matrix with areas of natural vegetation remaining on/around typically cleared or disturbed land on residential properties.
Area and quality of habitat on site in relation to the area and quality of habitat in the locality	Similar habitat is available on nearby and adjacent properties that have not been cleared. The feeding resource is moderate.
Role of habitat to be affected in sustaining habitat connectivity in the locality	Site habitat provides additional connectivity to the council reserves east and west of the site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
No. No areas of outstanding biodiversity value have been specifically declared for these species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Yes. The proposed development will require the "Clearing of native vegetation" which is a key threatening process relevant to these species. Key threatening processes are listed under the TSC Act, 1995 and the Commonwealth's EPBC Act, 1999. The nature and extent of such clearing is minimal for these species.

Conclusion

The proposed activity is unlikely to have a significant effect on Little Lorikeet or Gang-gang Cockatoo. Therefore a Biodiversity Development Assessment Report is not recommended.

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Grey-headed Flying-fox

Scientific name	Common name	NSW status	Comm. status
Pteropus poliocephalus	Grey-headed Flying-fox	V,P	V

Key
V = Vulnerable
P = Protected

Habitat and ecology
http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10697

- Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.
- Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.
- Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young.
- Annual mating commences in January and conception occurs in April or May; a single young is born in October or November.
- Site fidelity to camps is high; some camps have been used for over a century.
- Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km.
- Feed on the nectar and pollen of native trees, in particular *Eucalyptus*, *Melaleuca* and *Banksia*, and fruits of rainforest trees and vines.
- Also forage in cultivated gardens and fruit crops.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

No. While the proposal will modify an area of foraging habitat for the Grey-headed Flying-fox, the extent of habitat modification is minor considering the disturbed nature of the proposal area. Grey-headed Flying-fox will use a wide area for foraging and the habitat on site is marginal for the species. Thus while the species may fly over or

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occasionally forage on the site, the site does not provide significant habitat. The proposal is unlikely to effect the life cycle of the species such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction
Not applicable. This test is for a group of threatened species.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The site is 0.2269.6 ha in size. Up to approximately half of the site will be modified to construct the facility. Currently there is less than 15% canopy cover on the site in terms of forest trees. It is anticipated that this will be reduced further to less than 10%.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

No. Similar habitat occurs west of the property and east across Whale Beach Road in the form of council reserves. Grey-headed Flying-fox are mobile and can easily travel over a house.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
Negligible.

Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey)	The locality is a suburban matrix with areas of natural vegetation remaining on/around typically cleared or disturbed land on residential properties.

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Criterion	Comment
Area and quality of habitat on site in relation to the area and quality of habitat in the locality	Similar habitat is available on nearby and adjacent properties that have not been cleared. The feeding resource is moderate.
Role of habitat to be affected in sustaining habitat connectivity in the locality	Site habitat provides additional connectivity to the council reserves east and west of the site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly), No. No area of outstanding biodiversity value has been specifically declared for this species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Yes. The proposed development will require the "Clearing of native vegetation" which is a key threatening process relevant to these species. Key threatening processes are listed under the TSC Act, 1995 and the Commonwealth's EPBC Act, 1999. The nature and extent of such clearing is minimal for these species.

Conclusion

The proposed activity is unlikely to have a significant effect on Grey-headed Flying-fox. Therefore a Biodiversity Development Assessment Report is not recommended.

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Nocturnal Raptors

Key
CE = Critically Endangered
E = Endangered
V = Vulnerable

Scientific name	Common name	NSW status	Comm. status
Ninox strenua	Powerful Owl	V	-
Ninox connivens	Barking Owl	V	

Powerful Owl *Ninox strenua*
https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10562

- The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest.
- The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, Rough-barked Apple *Angophora floribunda*, Cherry Ballart *Exocarpus cupressiformis* and a number of eucalypt species.
- The main prey items are medium-sized arboreal marsupials, particularly the Greater Glider, Common Ringtail Possum and Sugar Glider. There may be marked regional differences in the prey taken by Powerful Owls. For example in southern NSW, Ringtail Possum make up the bulk of prey in the lowland or coastal habitat. At higher elevations, such as the tableland forests, the Greater Glider may constitute almost all of the prey for a pair of Powerful Owls. Flying foxes are important prey in some areas; birds comprise about 10-50% of the diet depending on the availability of preferred mammals. As most prey species require hollows and a shrub layer, these are important habitat components for the owl.
- Pairs of Powerful Owls demonstrate high fidelity to a large territory, the size of which varies with habitat quality and thus prey densities. In good habitats a mere 400 can support a pair; where hollow trees and prey have been depleted the owls need up to 4000 ha.
- Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old. While the female and young are in the nest hollow the male Powerful Owl roosts nearby (10-200 m) guarding them, often choosing a dense "grove" of trees that provide concealment from other birds that harass him.
- Powerful Owls are monogamous and mate for life. Nesting occurs from late autumn to mid-winter but is slightly earlier in north-eastern NSW (late summer - mid autumn). Clutches consist of two dull white eggs and incubation lasts approximately 38 days.

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Barking Owl *Ninox connivens*

- https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10561
- Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats (e.g. western NSW) due to the higher density of prey on these fertile riparian soils.
- Roost in shaded portions of tree canopies, including tall midstorey trees with dense foliage such as Acacia and Casuarina species. During nesting season, the male perches in a nearby tree overlooking the hollow entrance.
- Preferentially hunts small arboreal mammals such as Squirrel Gliders and Common Ringtail Possums, but when loss of tree hollows decreases these prey populations the owl becomes more reliant on birds, invertebrates and terrestrial mammals such as rodents and rabbits. Can catch bats and moths on the wing, but typically hunts by sallying from a tall perch.
- Requires very large permanent territories in most habitats due to sparse prey densities. Monogamous pairs hunt over as much as 6000 hectares, with 2000 hectares being more typical in NSW habitats.
- Two or three eggs are laid in hollows of large, old trees. Living eucalypts are preferred though dead trees are also used. Nest sites are used repeatedly over years by a pair, but they may switch sites if disturbed by predators (e.g. goannas).
- Nesting occurs during mid-winter and spring, being variable between pairs and among years. As a rule of thumb, laying occurs during August and fledging in November. The female incubates for 5 weeks, roosts outside the hollow when chicks are 4 weeks old, then fledging occurs 2-3 weeks later. Young are dependent for several months.
- Territorial pairs respond strongly to recordings of Barking Owl calls from up to 6 km away, though humans rarely hear this response farther than 1.5 km. Because disturbance reduces the pair's foraging time, and can pull the female off her eggs even on cold nights, recordings should not be broadcast unnecessarily nor during the nesting season.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

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No. Powerful Owls and Barking Owls use a wide area for hunting including natural vegetation east and west of the site. The extent of habitat modification is minor considering the disturbed nature of the proposal area. The site does not provide significant habitat for these species while its preferred prey species Ringtail and Brushtail possums were detected on site and would be common in the rea. The proposal is unlikely to effect the life cycle of these species such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction
Not applicable. This test is for a group of threatened species.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
The site is 0.2269.6 ha in size. Up to approximately half of the site will be modified to construct the facility. Currently there is less than 15% canopy cover on the site in terms of forest trees. It is anticipated that this will be reduced further to less than 10%.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

No. Similar habitat occurs west of the property and east across Whale Beach Road in the form of council reserves. Powerful owl and Barking Owl are highly mobile species and can easily travel across the area.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
Negligible.

Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey).	The locality is a suburban matrix with areas of natural vegetation remaining on/around typically cleared or disturbed land on residential properties.

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Criterion	Comment
Area and quality of habitat on site in relation to the area and quality of habitat in the locality.	Similar habitat is available on nearby and adjacent properties that have not been cleared. The feeding resource is moderate.
Role of habitat to be affected in sustaining habitat connectivity in the locality.	Site habitat provides additional connectivity to the council reserves east and west of the site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
No. No area of outstanding biodiversity value has been specifically declared for this species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Yes. The proposed development will require the "Clearing of native vegetation" which is a key threatening process relevant to these species. Key threatening processes are listed under the TSC Act, 1995 and the Commonwealth's EPBC Act, 1999. The nature and extent of such clearing is minimal for these species.

Conclusion

The proposed activity is unlikely to have a significant effect on Powerful Owl and Barking Owl. Therefore a Biodiversity Development Assessment Report is not recommended.

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Diurnal Raptor

Scientific name	Common name	NSW status	Comm. status
Hieraatus morphnoides	Little Eagle	V,P	
Lophoictinia isura	Square-tailed Kite	V	

Key
V = Vulnerable
P = Protected

Little Eagle *Hieraatus morphnoides*
Habitat and ecology
https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20131

- Occupies open eucalypt forest, woodland or open woodland. Sheoak or *Acacia* woodlands and riparian woodlands of interior NSW are also used.
- Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.
- Lays two or three eggs during spring, and young fledge in early summer.
- Preys on birds, reptiles and mammals, occasionally adding large insects and carrion.

Square-tailed Kite *Lophoictinia isura*
Habitat and ecology
https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10495

- Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.
- In arid north-western NSW, has been observed in stony country with a ground cover of chenopods and grasses, open acacia scrub and patches of low open eucalypt woodland.
- Is a specialist hunter of passerines, especially honeyeaters, and most particularly nestlings, and insects in the tree canopy, picking most prey items from the outer foliage.
- Appears to occupy large hunting ranges of more than 100km2.
- Breeding is from July to February, with nest sites generally located along or near watercourses, in a fork or on large horizontal limbs.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

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(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

No. Little Eagles and Square-tailed Kites use a wide area for hunting including natural vegetation east and west of the site. The extent of habitat modification is minor considering the disturbed nature of the proposal area. The site does not provide significant habitat for these species. The proposal is unlikely to effect the life cycle of these species such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction
Not applicable. This test is for a group of threatened species.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The site is 0.2269.6 ha in size. Up to approximately half of the site will be modified to construct the facility. Currently there is less than 15% canopy cover on the site in terms of forest trees. It is anticipated that this will be reduced further to less than 10%.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

No. Similar habitat occurs west of the property and east across Whale Beach Road in the form of council reserves. Little Eagle and Square-tailed Kite are mobile and can easily travel over a house.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
Negligible.

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Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey).	The locality is a suburban matrix with areas of natural vegetation remaining on/around typically cleared or disturbed land on residential properties.
Area and quality of habitat on site in relation to the area and quality of habitat in the locality.	Similar habitat is available on nearby and adjacent properties that have not been cleared. The feeding resource is moderate.
Role of habitat to be affected in sustaining habitat connectivity in the locality.	Site habitat provides additional connectivity to the council reserves east and west of the site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
No. No area of outstanding biodiversity value has been specifically declared for this species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Yes. The proposed development will require the "Clearing of native vegetation" which is a key threatening process relevant to these species. Key threatening processes are listed under the TSC Act, 1995 and the Commonwealth's EPBC Act, 1999. The nature and extent of such clearing is minimal for these species.

Conclusion

The proposed activity is unlikely to have a significant effect on Little Eagle and Square-tailed Kite. Therefore a Biodiversity Development Assessment Report is not recommended.

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Insectivorous bats

Scientific name	Common name	NSW status	Comm. status
Mormopterus norfolkensis	Eastern Freetail-bat	V,P	-
Chalinolobus dwyeri	Large-eared Pied Bat	V,P	V
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V,P	-
Miniopterus australis	Little Bentwing-bat	V,P	-
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V,P	-
Scoteanax rueppellii	Greater Broad-nosed Bat	V,P	Near Threatened
Kerivoula papuensis	Golden-tipped Bat	V,P	-

Key
V = Vulnerable
P = Protected

Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10741
Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory. Breeding has been recorded from December to mid-March, when a single young is born. Seasonal movements are unknown; there is speculation about a migration to southern Australia in late summer and autumn.

Eastern Freetail-bat *Mormopterus norfolkensis*
http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10544
Eastern Freetail-bat occurs in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures. Usually solitary but also recorded roosting communally, probably insectivorous.

Large-eared Pied Bat *Chalinolobus dwyeri*
http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10157
Large-eared Pied Bat roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (Petrochelidon ariel), frequenting low to mid-elevation dry open forest and woodland close to these features. Females have been recorded raising young in maternity roosts (c. 20-40 females) from November through to January in roof domes in sandstone caves and overhangs. They remain loyal to the same cave over many years. Found in well-timbered areas containing gullies.

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The relatively short, broad wing combined with the low weight per unit area of wing indicates manoeuvrable flight. This species probably forages for small, flying insects below the forest canopy. Likely to hibernate through the coolest months. It is uncertain whether mating occurs early in winter or in spring.

Eastern False Pipistrelle *Falsistrellus tasmaniensis*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10331
Prefers moist habitats, with trees taller than 20 m. Generally roosts in eucalypt hollows, but has also been found under loose bark on trees or in buildings. Hunts beetles, moths, weevils and other flying insects above or just below the tree canopy. Hibernates in winter. Females are pregnant in late spring to early summer.

Little Bentwing-bat *Miniopterus australis*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10533
Little Bentwing-bat prefers moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas. Little Bentwing-bats roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day, and at night forage for small insects beneath the canopy of densely vegetated habitats. They often share roosting sites with the Common Bentwing-bat and, in winter, the two species may form mixed clusters. In NSW the largest maternity colony is in close association with a large maternity colony of Eastern Bentwing-bats (Miniopterus schreibersii) and appears to depend on the large colony to provide the high temperatures needed to rear its young. Maternity colonies form in spring and birthing occurs in early summer. Males and juveniles disperse in summer. Only five nursery sites /maternity colonies are known in Australia.

Eastern Bentwing-bat *Miniopterus schreibersii oceanensis*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10534
Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. Maternity caves have very specific temperature and humidity regimes. At other times of the year, populations disperse within about 300 km range of maternity caves. Cold caves are used for hibernation in southern Australia. Breeding or roosting colonies can number from 100 to 150,000 individuals. Hunt in forested areas, catching moths and other flying insects above the tree tops.

Greater Broad-nosed Bat *Scoteanax rueppellii*
http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10748
Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings. Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m. Open woodland habitat and dry open forest suits the direct flight of this species as it searches for beetles and other large, slow-flying insects; this species has been known to eat other bat species.

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Little is known of its reproductive cycle, however a single young is born in January; prior to birth, females congregate at maternity sites located in suitable trees, where they appear to exclude males during the birth and raising of the single young.

Golden-tipped Bat *Kerivoula papuensis*
https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10444
Found in rainforest and adjacent wet and dry sclerophyll forest up to 1000m. Also recorded in tall open forest, *Casuarina*-dominated riparian forest and coastal *Melaleuca* forests. Bats will fly up to two kilometres from roosts to forage in rainforest and sclerophyll forest on mid and upper-slopes. Roost mainly in rainforest gullies on small first- and second-order streams in usually abandoned hanging Yellow-throated Scrubwren and Brown Gerygone nests modified with an access hole on the underside. Bats may also roost under thick moss on tree trunks, in tree hollows, dense foliage and epiphytes. Will use multiple roosts and change roosts regularly. Roost individually or in small colonies which can contain up to approximately 20 bats of both males and females or just a single sex. Maternity roosts may occur away from water sources with one maternity roost found 450m upslope of the nearest water course in a broken bough. Specialist feeder on small web-building spiders. There is one breeding cycle per year.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

No. While the proposal will modify an area of foraging habitat for these species, the site does not provide significant habitat for any of these species and the extent of habitat modification is minor considering the disturbed nature of the proposal area. Any local viable population of threatened microbats will use a wide area for foraging including the natural vegetation reserves east and west of the site. Bats will continue to forage within and around the house. The proposal is unlikely to effect the life cycles of these species such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction
Not applicable. This test is for a group of threatened species.

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(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The site is 0.2269.6 ha in size. Up to approximately half of the site will be modified to construct the facility. Currently there is less than 15% canopy cover on the site in terms of forest trees. It is anticipated that this will be reduced further to less than 10%.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

No. Similar habitat occurs west of the property and east across Whale Beach Road in the form of council reserves. Insectivorous bats are mobile and can easily travel between these areas.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
Negligible.

Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey).	The locality is a suburban matrix with areas of natural vegetation remaining on/around typically cleared or disturbed land on residential properties.
Area and quality of habitat on site in relation to the area and quality of habitat in the locality.	Similar habitat is available on nearby and adjacent properties such as the council reserves east and west of the site.
Role of habitat to be affected in sustaining habitat connectivity in the locality.	Site habitat provides additional connectivity to fragmented council reserves east and west of the site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

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(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
No. No area of outstanding biodiversity value has been specifically declared for this species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Yes. The proposed development will require the "Clearing of native vegetation" which is a key threatening process relevant to these species. Key threatening processes are listed under the TSC Act, 1995 and the Commonwealth's EPBC Act, 1999. The nature and extent of such clearing is minimal for these species.

Conclusion

The proposed activity is unlikely to have a significant effect on Eastern Freetail-bat, Large-eared Pied Bat, Eastern False Pipistrelle, Little Bentwing-bat, Eastern Bentwing-bat, Greater Broad-nosed Bat or Golden-tipped Bat. Therefore a Biodiversity Development Assessment Report is not recommended.

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Threatened Plants

Botanical name	NSW status	Comm. status
Callistemon linearifolius	V	-
Prostanthera densa	V	V

No threatened or endangered plants were recorded in site surveys 11th Oct 2017.

Key

V = Vulnerable

P = Protected

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

No. No threatened plants were recorded on site. Much of the vegetation on the site is disturbed and it provides poor habitat for the majority of threatened species recorded in the locality. The proposal is unlikely to have an adverse effect on the life cycle of any of these species such that a viable local population will be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction

Not applicable. This test is for a group of threatened species.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable. This test is for a group of threatened species.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The site is 0.2269.6 ha in size. Up to approximately half of the site will be modified to construct the facility.

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Weedy and natural vegetation, and rock outcrops will be disturbed by the proposal. The site generally provides poor quality habitat for these species.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
No. No threatened plants were recorded on site or in the council reserves east and west of the site. The proposal will not significantly increase isolation or fragmentation on the site.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
Nil.

Criterion	Comment
Area and quality of habitat within the locality (maps, photos, survey).	The locality is a suburban matrix with areas of often-degraded natural vegetation remaining on/around typically cleared or disturbed land on residential properties.
Area and quality of habitat on site in relation to the area and quality of habitat in the locality.	Similar habitat is available on nearby and adjacent properties that have not been cleared.
Role of habitat to be affected in sustaining habitat connectivity in the locality.	There are no records of threatened plants in the council reserves east and west of the site. Therefore dispersal opportunities are not disrupted by construction of a house on site.
Ecological integrity of habitat to be affected on site, in relation to the ecological integrity, tenure and security of the habitat which will remain both on site and in locality.	The entire site is disturbed, however some local indigenous species remain. Ecological integrity on the site will remain in the locality as natural vegetation will be retained on the site and in the council reserves east and west of the site.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
No. No areas of outstanding biodiversity value have been specifically declared for these species.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.
Not applicable. *Callistemon limearifolius* and *Prostanthera densa* were not found to be present on the site, nor recorded in council reserves immediately east or west of the site.

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Conclusion

The proposed activity is unlikely to have a significant effect on *Callistemon limearifolius* and *Prostanthera densa* which were not found to be present on the site. Therefore a Biodiversity Development Assessment Report is not recommended.

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Appendix 2. Flora species list

FLORA LIST for Lots 327, 328, 329 and 330 DP16362 Whale Beach Road, Palm Beach

PSILOTOPSIDA

PSILOTACEAE
Psilotum nudum

FILICOPSIDA

CYATHEACEAE
Cyathea cooperi

DENNSTAEDTIACEAE
Pteridium esculentum

DRYOPTERIDACEAE
Cyrtomium falcatum

GLEICHENIACEAE
Gleichenia microcarpa
Sticherus flabellatus

LOMARIOPSIDACEAE
** Nephrolepis cordifolia*

OSMUNDACEAE
Todea barbara

POLYPODIACEAE
Platycerium sp.

CONIFEROPSIDA

ARAUCARIACEAE
Auracaria heterophylla

ARECACEAE
Phoenix canariensis
Syagrus romanzoffiana

CUPRESSACEAE
Cupressocyparis leylandii
Cupressus sp. (C. lusitanica)
Juniperus communis

CYCADACEAE
Cycas revoluta

ZAMIACEAE
Zamia furfuracea

MAGNOLIOPSIDA

DICOTYLEDONS

AIZOACEAE
** Lampranthus tegens*

APIACEAE
Centella asiatica

APOCYNACEAE
** Plumeria sp.*
** Trachelospermum jasminoides*

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ARALIACEAE
* *Hedera helix*
* *Hydrocotyle bonariense*
Schefflera arboricola

ASTERACEAE
* *Ageratina adenophora*
* *Chrysanthemoides monilifera* subsp. *monilifera*
* *Conyza bonariensis*
Cotula australis
* *Soliva anthemifolia*
* *Senecio serpens*
* *Sonchus oleraceus*

BIGNONIACEAE
Pandorea jasminoides
Pandorea pandorana

BORAGINACEAE
* *Echium fastuosum*

CACTACEAE
Rhipsalis sp.

CAPRIFOLIACEAE
* *Lonicera japonica*

CASUARINACEAE
Casuarina cunninghamiana

CELASTRACEAE
Euonymus sp.

CONVOLVULACEAE
* *Ipomoea cairica*

CRASSULACEAE
Aeonium sp.
* *Bryophyllum pinnatum*
* *Crassula ovata*
Graptopetalum sp.
Kalanchoe luciae

CUNONIACEAE
Ceratopetalum gummiferum

DILLENIACEAE
Hibbertia scandens

ELAEOCARPACEAE
Elaeocarpus reticulatus

EUPHORBIACEAE
Euphorbia milii
Homalanthus populifolius

FABACEAE
CAESALPINIODEAE
* *Senna pendula*

FABACEAE
FABOIDEAE
Bauhinia sp.
Platylobium formosum
Pultenaea ferruginea

FABACEAE
MIMOSOIDEAE
* *Acacia baileyana*
Acacia binervia
Acacia parvipinnula
Acacia longifolia subsp. *sophorae*
Acacia suaveolens
Acacia ulicifolia

GERANIACEAE
* *Geranium molle*

HYDRANGEACEAE
* *Hydrangea macrophylla*

LAMIACEAE
Lavandula stoechis
Rosmarinus officinalis
Westringia fruticosa

LAURACEAE
Cassytha pubescens

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* *Cinnamomum camphora*

LOBELIACEAE
Lobelia anceps

MALVACEAE
* *Hibiscus rosa-sinensis*
* *Hibiscus syriacus*

MENISPERMACEAE
Stephania japonica

MORACEAE
\# *Ficus lyrata*
Ficus rubiginosa

MYRTACEAE
\# *Callistemon citrinus*
\# *Callistemon viminalis*
Eucalyptus saligna
Eucalyptus scias
Leptospermum polygalifolium
\# *Agonis flexuosa*
Syncarpia glomulifera

NYCTAGINACEAE
\# *Bougainvillea spectabilis*

OCHNACEAE
* *Ochna serrulata*

OLEACEAE
\# *Jasminium polyanthum*
* *Ligustrum sinense*
Notelaea longifolia f. *longifolia*
* *Olea europea* subsp. *cuspidata*

OXALIDACEAE
* *Oxalis corniculata* complex

PASSIFLORACEAE
**Passiflora edulis*

PHYLANTHACEAE
Glochidion ferdinandi

PITTOSPORACEAE
Pittosporum undulatum

PLANTAGINACEAE
* *Plantago lanceolata*

POLYGALACEAE
* *Polygala myrtifolia*

PROTEACEAE
Banksia integrifolia
Bankisa serrata
\# *Grevillea* (Bronze Rambler)
\# *Grevillea (lanigera)*
\# *Grevillea sericea* cv.

ROSACEAE
* *Cotoneaster (franchetii)*
* *Rhaphiolepis indica*

RUTACEAE
\# *Calodendrum capense*
\# *Citrus x limon*
Eriostemon australasius
\# *Murraya paniculata*

SAPINDACEAE
Cupaniopsis anacardioides
Dodonaea triquetra

SCROPHULARIACEAE
Veronica plebeia

SOLANACEAE
* *Physalis peruviana*

THYMELEACEAE
Pimelea linifolia subsp. *linifolia*

VERBENACEAE
**Lantana camara*

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MONOCOTYLEDONS

AMARYLLIDACEAE
* *Clivia miniata*
* *Crinum pedunculatum*

ANTHERICACEAE
Caesia parviflora
* *Chlorophytum comosum*

ARACEAE
Monstera deliciosa

ARECACEAE
Archontophoenix cunninghamiana
Livistona australis
* *Syagrus romanzoffiana*

ASPARAGACEAE
* *Agave americana*
**Agave attenuata*
* *Asparagus aethiopicus*
Aspadistra elatior
Sansevierea sp.

ASPHODELACEAE
* *Aloe vera*
Haworthia sp.

BROMELIACEAE
Aechmea chantinii
* *Bromeliad* sp.

COMMELINACEAE
Commelina cyanea
* *Tradescantia pallida*

CYPERACEAE
* *Cyperus eragrostis*
Gahnia melanocarpa

IRIDACEAE
* *Dietes sp.*
* *Freesia* sp.

LILIACEAE
* *Agapanthus praecox* var. *orientalis*
* *Lilium formosanum*

LOMANDRACEAE
Lomandra longifolia

ORCHIDACEAE
Dendrobium speciosum
Epidendrum radicans

PHORMIACEAE
Dianella caerulea var. *producta*

POACEAE
* *Briza maxima*
Imperata cylindrica
Oplismenus aemulus
* *Paspalum dilatatum* HTE
* *Paspalum urvillei*
* *Setaria parviflora*
Themeda australis

SMILACACEAE
Genoplesium cymosum
Smilax glyciphylla

STRELITZIACEAE
Strelitzia nicolai
Strelitzia reginae

XANTHORRHOEACEAE
Xanthorrhoea media

ZINGIBERACEAE
* *Hedychium gardnerianum*
Key
* Exotic weedy species
Planted

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Appendix 3. Expected fauna species in the Sydney Basin

Mammals

Common name	Scientific name
White-striped Freetail-bat	*Tadarida australis*
Gould's Wattled Bat	*Chalinolobus gouldii*
Chocolate Wattled Bat	*Chalinolobus morio*
Lesser Long-eared Bat	*Nyctophilus geoffroyi*
Gould's Long-eared Bat	*Nyctophilus gouldi*
Bush Rat	*Rattus fuscipes*
Swamp Rat	*Rattus lutreolus*
Long-nosed Bandicoot	*Perameles nasuta*
Brown Antechinus	*Antechinus stuartii*
Dusky Antechinus	*Antechinus swainsonii*
Yellow-footed Antechinus	*Antechinus flavipes*
Common Wombat	*Vombatus ursinus*
Common Ringtail Possum	*Pseudocheirus peregrinus*
Sugar Glider	*Petaurus breviceps*
Feathertail Glider	*Acrobates pygmaeus*
Eastern Grey Kangaroo	*Macropus giganteus*
Large Forest Bat	*Vespadelus darlingtoni*
Little Forest Bat	*Vespadelus vulturnus*
Common Wallaroo	*Macropus robustus*
Red-necked Wallaby	*Macropus rufogriseus*
Swamp Wallaby	*Wallabia bicolor*
Common Brushtail Possum	*Trichosurus vulpecula*
Greater Glider	*Petauroides volans*
Short-beaked Echidna	*Tachyglossus aculeatus*
Fox	*Vulpes vulpes*
Black Rat	*Rattus rattus*
Rabbit	*Oryctolagus cuniculus*

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Frogs

Common Name	Scientific Name
Green Tree Frog	*Litoria caerulea*
Blue Mountains Tree Frog	*Litoria citropa*
Bleating Tree Frog	*Litoria dentata*
Eastern Dwarf Tree Frog	*Litoria fallax*
Jervis Bay Tree Frog	*Litoria jervisiensis*
Broad-palmed Frog	*Litoria latopalmata*
Peron's Tree Frog	*Litoria peronii*
Leaf-green Tree Frog	*Litoria phyllochroa*
Tyler's Tree Frog	*Litoria tyleri*
Verreaux's Frog	*Litoria verreauxii*
Common Eastern Froglet	*Crinia signifera*
Eastern Banjo Frog	*Limnodynastes dumerilii*
Ornate Burrowing Frog	*Limnodynastes ornatus*
Brown-striped Frog	*Limnodynastes peronii*
Spotted Grass Frog	*Limnodynastes tasmaniensis*
Haswell's Froglet	*Paracrinia haswelli*
Smooth Toadlet	*Uperoleia laevigata*
Tyler's Toadlet	*Uperoleia tyleri*

Reptiles

Common Name	Scientific Name
Diamond Python	*Morelia spilota spilota*
Common Death Adder	*Acanthophis antarcticus*
Yellow-faced Whip Snake	*Demansia psammophis*
Common Tree Snake	*Dendrelaphis punctulatus*
Golden-crowned Snake	*Cacophis squamulosus*
Eastern Small-eyed Snake	*Cryptophis nigrescens*
Red-naped Snake	*Furina diadema*
Black-bellied Swamp Snake	*Hemiaspis signata*
Tiger Snake	*Notechis scutatus*
Red-bellied Black Snake	*Pseudechis porphyriacus*
Eastern Brown Snake	*Pseudonaja textilis*
Dwyer's Snake	*Parasuta dwyeri*
Bandy Bandy	*Vermicella annulata*
Blackish Blind Snake	*Ramphotyphlops nigrescens*
Wood Gecko	*Diplodactylus vittatus*
Lesueur's Velvet Gecko	*Oedura lesueurii*
Broad-tailed Gecko	*Phyllurus platurus*
Thick-tailed Gecko	*Underwoodisaurus milii*
Burton's Snake-lizard	*Lialis burtonis*

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Common Name	Scientific Name
Common Scaly-foot	*Pygopus lepidopodus*
Jacky Lizard	*Amphibolurus muricatus*
Bearded Dragon	*Pogona barbata*
Punctate Worm-skink	*Anomalopus swansoni*
Eastern Blue-tongue	*Tiliqua scincoides*
Southern Rainbow-skink	*Carlia tetradactyla*
Cream-striped Shinning-skink	*Cryptoblepharus virgatus*
Robust Ctenotus	*Ctenotus robustus*
Copper-tailed Skink	*Ctenotus taeniolatus*
Mainland She-oak Skink	*Cyclodomorphus michaeli*
Pink-tongued Skink	*Cyclodomorphus gerrardii*
Cunningham's Skink	*Egernia cunninghami*
Black Rock Skink	*Egernia saxatilis*
White's Skink	*Liopholis whitii*
Eastern Water-skink	*Eulamprus quoyii*
Barred-sided Skink	*Eulamprus tenuis*
Dark-flecked Garden Sunskink	*Lampropholis delicata*
Pale-flecked Garden Sunskink	*Lampropholis guichenoti*
Weasel Skink	*Saproscincus mustelinus*
Red-throated Skink	*Acritoscincus platynota*
Three-toed Skink	*Saiphos equalis*
Lace Monitor	*Varanus varius*
Eastern Snake-necked Turtle	*Chelodina longicollis*

Birds

Common Name	Scientific Name
Brown Quail	*Coturnix ypsilophora*
Black Swan	*Cygnus atratus*
Australian Wood Duck	*Chenonetta jubata*
Mallard	*Anas platyrhynchos*
Pacific Black Duck	*Anas superciliosa*
Grey Teal	*Anas gracilis*
Chestnut Teal	*Anas castanea*
Australasian Grebe	*Tachybaptus novaehollandiae*
Great Crested Grebe	*Podiceps cristatus*
Hoary-headed Grebe	*Poliocephalus poliocephalus*
Little Pied Cormorant	*Microcarbo melanoleucos*
Little Black Cormorant	*Phalacrocorax sulcirostris*
Great Cormorant	*Phalacrocorax carbo*
Australian Pelican	*Pelecanus conspicillatus*
White-faced Heron	*Egretta novaehollandiae*
Little Egret	*Egretta garzetta*

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Common Name	Scientific Name
White-necked Heron	*Ardea pacifica*
Great Egret	*Ardea alba*
Cattle Egret	*Ardea ibis*
Intermediate Egret	*Ardea intermedia*
Australian White Ibis	*Threskiornis molucca*
Straw-necked Ibis	*Threskiornis spinicollis*
Royal Spoonbill	*Platalea regia*
Black-shouldered Kite	*Elanus axillaris*
Whistling Kite	*Haliastur sphenurus*
Wedge-tailed Eagle	*Aquila audax*
White-bellied Sea-eagle	*Haliaeetus leucogaster*
Swamp Harrier	*Circus approximans*
Brown Goshawk	*Accipiter fasciatus*
Collared Sparrowhawk	*Accipiter cirrocephalus*
Brown Falcon	*Falco berigora*
Australian Hobby	*Falco longipennis*
Nankeen Kestrel	*Falco cenchroides*
Buff-banded Rail	*Gallirallus philippensis*
Purple Swamphen	*Porphyrio porphyrio*
Dusky Moorhen	*Gallinula tenebrosa*
Eurasian Coot	*Fulica atra*
Latham's Snipe	*Gallinago hardwickii*
Black-winged Stilt	*Himantopus himantopus*
Black-fronted Dotterel	*Elseyornis melanops*
Masked Lapwing	*Vanellus miles*
Silver Gull	*Chroicocephalus novaehollandiae*
Rock Dove	*Columba livia*
White-headed Pigeon	*Columba leucomela*
Spotted Turtle-dove	*Streptopelia chinensis*
Brown Cuckoo-dove	*Macropygia amboinensis*
Emerald Dove	*Chalcophaps indica*
Common Bronzewing	*Phaps chalcoptera*
Crested Pigeon	*Ocyphaps lophotes*
Bar-shouldered Dove	*Geopelia humeralis*
Wonga Pigeon	*Leucosarcia picata*
Topknot Pigeon	*Lopholaimus antarcticus*
Yellow-tailed Black-cockatoo	*Calyptorhynchus funereus*
Galah	*Eolophus roseicapilla*
Long-billed Corella	*Cacatua tenuirostris*
Little Corella	*Cacatua sanguinea*
Sulphur-crested Cockatoo	*Cacatua galerita*
Rainbow Lorikeet	*Trichoglossus haematodus*
Scaly-breasted Lorikeet	*Trichoglossus chlorolepidotus*

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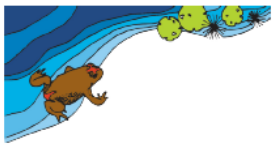
Common Name	Scientific Name
Musk Lorikeet	*Glossopsitta concinna*
Australian King-parrot	*Alisterus scapularis*
Crimson Rosella	*Platycercus elegans*
Eastern Rosella	*Platycercus eximius*
Fan-tailed Cuckoo	*Cacomantis flabelliformis*
Horsfield's Bronze-cuckoo	*Chalcites basalis*
Channel-billed Cuckoo	*Scythrops novaehollandiae*
Asian Koel	*Eudynamys scolopaceus*
Southern Boobook	*Ninox novaeseelandiae*
Barn Owl	*Tyto alba*
Tawny Frogmouth	*Podargus strigoides*
White-throated Nightjar	*Eurostopodus mystacalis*
Australian Owlet-nightjar	*Aegotheles cristatus*
White-throated Needletail	*Hirundapus caudacutus*
Laughing Kookaburra	*Dacelo novaeguineae*
Sacred Kingfisher	*Todiramphus sanctus*
Rainbow Bee-eater	*Merops ornatus*
Dollarbird	*Eurystomus orientalis*
Superb Lyrebird	*Menura novaehollandiae*
Satin Bowerbird	*Ptilonorhynchus violaceus*
Superb Fairy-wren	*Malurus cyaneus*
Variegated Fairy-wren	*Malurus lamberti*
Spotted Pardalote	*Pardalotus punctatus*
White-browed Scrubwren	*Sericornis frontalis*
Large-billed Scrubwren	*Sericornis magnirostra*
Brown Gerygone	*Gerygone mouki*
White-throated Gerygone	*Gerygone albogularis*
White-throated Treecreeper	*Cormobates leucophaea*
Brown Thornbill	*Acanthiza pusilla*
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*
Yellow Thornbill	*Acanthiza nana*
Striated Thornbill	*Acanthiza lineata*
Buff-rumped Thornbill	*Acanthiza reguloides*
Red Wattlebird	*Anthochaera carunculata*
Little Wattlebird	*Anthochaera chrysoptera*
Noisy Friarbird	*Philemon corniculatus*
Bell Miner	*Manorina melanophrys*
Noisy Miner	*Manorina melanocephala*
Lewin's Honeyeater	*Meliphaga lewinii*
Yellow-faced Honeyeater	*Lichenostomus chrysops*
White-plumed Honeyeater	*Lichenostomus penicillatus*
Brown-headed Honeyeater	*Melithreptus brevirostris*
White-naped Honeyeater	*Melithreptus lunatus*

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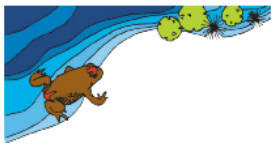
Common Name	Scientific Name
New Holland Honeyeater	*Phylidonyris novaehollandiae*
Eastern Spinebill	*Acanthorhynchus tenuirostris*
Scarlet Honeyeater	*Myzomela sanguinolenta*
Jacky Winter	*Microeca fascinans*
Rose Robin	*Petroica rosea*
Eastern Yellow Robin	*Eopsaltria australis*
Eastern Whipbird	*Psophodes olivaceus*
Crested Shrike-tit	*Falcunculus frontatus*
Golden Whistler	*Pachycephala pectoralis*
Rufous Whistler	*Pachycephala rufiventris*
Grey Shrike-thrush	*Colluricincla harmonica*
Black-faced Monarch	*Monarcha melanopsis*
Leaden Flycatcher	*Myiagra rubecula*
Restless Flycatcher	*Myiagra inquieta*
Magpie-lark	*Grallina cyanoleuca*
Rufous Fantail	*Rhipidura rufifrons*
New Zealand Fantail	*Rhipidura fuliginosa*
Willie Wagtail	*Rhipidura leucophrys*
Spangled Drongo	*Dicrurus bracteatus*
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*
White-bellied Cuckoo-shrike	*Coracina papuensis*
Olive-backed Oriole	*Oriolus sagittatus*
Dusky Woodswallow	*Artamus cyanopterus*
Grey Butcherbird	*Cracticus torquatus*
Australian Magpie	*Cracticus tibicen*
Pied Currawong	*Strepera graculina*
Australian Raven	*Corvus coronoides*
White-winged Chough	*Corcorax melanorhamphos*
Apostlebird	*Struthidea cinerea*
Eurasian Skylark	*Alauda arvensis*
Australasian Pipit	*Anthus novaeseelandiae rogersi*
House Sparrow	*Passer domesticus*
Red-browed Finch	*Neochmia temporalis*
Double-barred Finch	*Taeniopygia bichenovii*
Mistletoebird	*Dicaeum hirundinaceum*
Welcome Swallow	*Hirundo neoxena*
Tree Martin	*Petrochelidon nigricans*
Fairy Martin	*Petrochelidon ariel*
Cicadabird	*Coracina tenuirostris*
Red-whiskered Bulbul	*Pycnonotus jocosus*
Australian Reed-warbler	*Acrocephalus australis*
Little Grassbird	*Megalurus gramineus*
Golden-headed Cisticola	*Cisticola exilis*

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Common Name	Scientific Name
Silvereye	*Zosterops lateralis*
Eurasian Blackbird	*Turdus merula*
Common Starling	*Sturnus vulgaris*
Common Myna	*Sturnus tristis*

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Appendix 4. Habitat requirements for locally-occurring threatened fauna species

Frogs

Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Red Crowned Toadlet *Pseudorhyne australis* BC Act, Sch. 2, Vul.	Almost totally confined to the Hawkesbury sandstone formation. Found in damp situations but not usually associated with permanent water.	No suitable natural habitat occurs on the site.

Reptiles

Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Green Turtle *Chelonia mydas* BC Act, Sch. 2, Vul. EPBC Act, Vul.	Ocean dwelling species spending most of its life at sea, lays its eggs on beaches.	No suitable natural habitat occurs on the site.
Hawksbill Turtle *Eretmochelys imbricate* EPBC Act, Vul.	Ocean dwelling species spending most of its life at sea, lays its eggs on beaches in Queensland.	No suitable natural habitat occurs on the site.
Rosenberg's Goanna *Varanus rosenbergi* BC Act, Sch. 2, Vul.	Found in coastal heaths, humid woodlands and both wet and dry sclerophyll forests. Shelters in burrows, hollow logs and rock crevices.	No suitable natural habitat occurs on the site.

Birds

Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Australasian Bittern *Botaurus poiciloptilus* BC Act, Sch. 2, Vul.	Inhabits wetlands that generally have permanent fresh water and dense vegetation of sedges, rushes and reeds.	No suitable natural habitat occurs on the site.

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Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Spotted Harrier *Circus assimilis* BC Act Sch. 2, Vul.	Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	No suitable natural habitat occurs on the site.
Little Eagle *Hieraaetus morphnoides* BC Act Sch. 2, Vul.	Occupies open Eucalypt forest, woodland or open woodland. She-oak or acacia woodlands and riparian woodlands are also used. Builds a stick nests in winter in tall living trees within remnant patches.	Suitable natural habitat occurs on the site.
Square-tailed Kite *Lophoictinia isura* BC Act, Sch. 2, Vul.	Inhabits coastal forest and woodlands. Most commonly associated with ridge and gully forests dominated by Woollybutt, Spotted Gum or Peppermint Gum.	Suitable natural habitat occurs on the site.
Gang-gang Cockatoo *Callocephalon fimbriatum* BC Act, Sch. 2, Vul.	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands – also in urban areas including parks and gardens. Requires tree hollows for nesting.	Suitable natural habitat occurs on the site.
Glossy Black-cockatoo *Calyptorhynchus lathami* BC Act, Sch. 2, Vul.	Found in open forests with Allocasuarina species and hollows for nesting.	No suitable natural habitat occurs on the site.
Little Lorikeet *Glossopsitta pusilla* BC Act, Sch. 2, Vul.	Inhabits the open forests and dead timber alongside watercourses. Also occurs in eucalypt forest in mountainous regions.	Suitable foraging habitat occurs on the site.
Swift Parrot *Lathamus discolor* BC Act, Sch. 2, Vul. EPBC Act, End.	Occurs in a variety of Eucalypt forests. Migrates from Tasmania to the mainland during the winter/autumn months to feed mostly on winter flowering Eucalypts.	No suitable foraging habitat occurs on the site.
Barking Owl *Ninox connivens* BC Act, Sch. 2, Vul.	Found in open forests, woodlands, dense scrubs, river red gums and other large trees near watercourses.	Suitable natural habitat occurs on the site.
Powerful Owl *Ninox strenua* BC Act, Sch. 2, Vul.	Pairs occupy permanent territories in mountain forests, gullies and forest margins, sparser hilly woodlands, coastal forests, woodlands and scrubs.	Suitable natural habitat occurs on the site.
Masked Owl *Tyto novaehollandiae* BC Act, Sch. 2, Vul.	Forests, open woodlands and farms with large trees, e.g. river red gums adjacent to cleared country.	No suitable natural habitat occurs on the site.

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Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Sooty Owl *Tyto tenebricosa* BC Act, Sch. 2, Vul.	Tall, wet forests in sheltered mountain gullies, usually with an east and Southeast aspect.	No suitable natural habitat occurs on the site.
Speckled Warbler *Pyrrholaemus sagittatus* BC Act Sch. 2, Vul.	Inhabits Eucalypt dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	No suitable natural habitat occurs on the site.
Varied Sittella *Daphoenositta chrysoptera* BC Act Sch. 2, Vul.	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.	No suitable natural habitat occurs on the site.
Dusky Woodswallow *Artamus cyanopterus cyanopterus* BC Act Sch. 2, Vul.	Often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests.	No suitable natural habitat occurs on the site.
Flame Robin *Petroica phoenicea* BC Act Sch. 2, Vul.	In NSW it breeds in upland moist eucalypt forests and woodlands, often on ridges and slopes, in areas of open understorey. It migrates in winter to more open lowland habitats such as grassland with scattered trees and open woodland on the inland slopes and plains.	No suitable natural habitat occurs on the site.
Diamond Firetail *Stagonopleura guttata* BC Act Sch. 2, Vul	Mostly inhabits grassy eucalypt woodlands, also occurring in open forest and riparian areas within these. Feeds exclusively on the ground, occurring in flocks between five to 40+ birds.	No suitable natural habitat occurs on the site.

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Mammals

Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Spotted-tailed Quoll *Dasyurus maculatus* BC Act, Sch. 2, Vul. EPBC Act, End.	Occurs mostly in sclerophyll forest and woodlands as well as coastal heath lands and rainforests. Requires suitable den sites such as hollows or caves and large areas of intact vegetation.	No suitable natural habitat occurs on the site.
Koala *Phascolarctos cinereus* BC Act, Sch. 2, Vul.	Eucalypt forests rich in Swamp Mahogany (E. robusta), Forest Red Gum (E. tereticornis), and Grey Gum (E. punctata).	No suitable natural habitat occurs on the site.
Yellow-bellied Glider *Petaurus australis* BC Act, Sch. 2, Vul.	Restricted to tall, mature sclerophyll forests in regions of high rainfall. Requires nesting hollows and a year-round supply of flowering trees.	No suitable natural habitat occurs on the site.
Squirrel Glider *Petaurus norfolcensis* BC Act, Sch. 2, Vul.	Inhabits dry sclerophyll forest and woodland. Requires abundant hollow-bearing trees and a mix of Eucalypts, acacias and Banksias. At least one floral species should flower heavily in the winter and one or more species of Eucalypts need to be smooth-barked.	No suitable natural habitat occurs on the site.
Grey-headed Flying-fox *Pteropus poliocephalus* BC Act, Sch. 2, Vul. EPBC Act, Vul.	Found in rainforest, wet and dry sclerophyll forest and mangroves. Camps are usually in gullies, close to water and in vegetation with a dense canopy. Feeds on a wide variety of flowering and fruiting plants.	Suitable foraging habitat occurs on the site.
Eastern Freetail-bat *Mormopterus norfolkensis* BC Act, Sch. 2, Vul.	Dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roosts mainly in tree hollows but will also roost under bark or in man-made structures.	Suitable foraging habitat occurs on the site.
Large-eared Pied Bat *Chalinolobus dwyeri* BC Act, Sch. 2, Vul.	Found in well-timbered areas containing gullies.	Suitable foraging habitat occurs on the site.
Eastern False Pipistrelle *Falsistrellus tasmaniensis* BC Act, Sch. 2, Vul.	Little known of habitat. Has been found roosting in stem holes of living Eucalypts.	Suitable foraging habitat occurs on the site.

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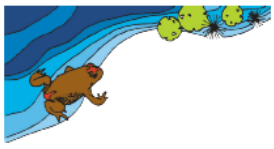


Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Eastern Bentwing-bat *Miniopterus schreibersii oceanensis* BC Act, Sch. 2, Vul.	Well-timbered valleys. Roosts in caves and storm-water channels and similar structures. Does not roost in tree hollows.	Suitable foraging habitat occurs on the site.
Southern Myotis *Myotis macropus* BC Act, Sch. 2, Vul.	Requires open areas of water over which it hunts. Roosts in caves, under bridges and buildings and sometimes in dense foliage in rainforests. May roost in tree hollows.	No suitable natural habitat occurs on the site.
Greater Broad-nosed Bat *Scoteanax rueppellii* BC Act, Sch. 2, Vul. EPBC Act, Lower risk (near threatened)	Found in woodlands, moist and dry sclerophyll forests and rainforests. Prefers gullies. Roosts in tree hollows only.	Suitable foraging habitat occurs on the site.

Invertebrates

Common name *Scientific name* Schedule listing	Preferred habitat	Comment
Cumberland Plain Land Snail *Meridolum corneovirens* BC Act, Sch. 1, End. EPBC Act, Vul.	Found amongst logs and debris in Cumberland Plain and Castlereagh woodlands.	No suitable natural habitat occurs on the site.
Dural Woodland Snail *Pommerhelix duralensis* EPBC Act, End.	Forested habitats that have good native cover and woody debris. Under rocks or inside curled-up bark. It does not burrow nor climb.	No suitable natural habitat occurs on the site.

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Appendix 5. Habitat requirements for locally-occurring threatened plant species

Botanical name Conservation status	Habitat description	Suitable habitat on site
Acacia asparagoides ROTAP, 2R	Grows in dry sclerophyll forest or occasionally heath on sandstone in the Blue Mountains.	No
Acacia baueri subsp. aspera ROTAP, 2RC – BC Act, Sch. 2, Vul.	Grows in low heath, often on exposed sandstone ridges in the Blue Mountains and Royal National Park.	No
Acacia bynoeana ROTAP, 3VC - BC Act, Sch. 1, End. EPBC Act, Vul.	Grows mainly in heath and dry sclerophyll forest, in sandy soils.	No
Acacia clunies-rossiae ROTAP, 2RC - t BC Act, Sch. 2, Vul.	Grows in dry sclerophyll forest, in valleys, on slopes and ridges, and along creeks.	No
Acacia flocktoniae ROTAP, 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in dry sclerophyll forest on sandstone.	No
Acacia gordonii ROTAP, 2K BC Act, Sch. 1, End. EPBC Act, End.	Grows in dry sclerophyll forest and heath on sandstone outcrops.	No
Acacia pubescens ROTAP, 3VCa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Usually grows in dry sclerophyll forest and woodland in clay soils. Often in roadside and railside bushland remnants.	No
Acacia terminalis subsp. terminalis ROTAP, 2RCi BC Act, Sch. 1, End. EPBC Act, End.	Scattered or locally common in scrub and open eucalypt woodland or forest, usually in sandy soil on creek banks, hillslopes or in shallow soil in rock crevices and sandstone platforms on cliffs.	No
Acrophyllum australe ROTAP, 2VCi BC Act, – Sch. 2, Vul. EPBC Act, Vul.	Grows in damp crevices in sandstone, usually near waterfalls. Restricted to the Blue Mtns, near Springwood, Linden, Woodford and Lawson.	No
Allocasuarina glareicola ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, End.	Grows in open forest on lateritic soil; restricted to a few small populations in or near Castlereagh S.F., NE of Penrith.	No
Almaleea incurvata ROTAP, 2RC – t	Grows in swamps dominated by sedges and/or shrubs, on sandstone; restricted to the Blue Mtns.	No
Amperea xiphoclada var. papillata ROTAP, 3KC	Grows with other native sedges and rushes in swamps on sandstone at altitudes of greater than 600 m.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Ancistrachne maidenii ROTAP, 2KC - BC Act, Sch. 2, Vul.	Grows on sandstone soils; north of Sydney.	No
Angophora crassifolia ROTAP, 2RCa	Locally frequent but restricted to the Ku-ring-gai Plateau region.	No
Asterolasia elegans ROTAP, 2ECa BC Act, Sch. 1, End. EPBC Act, End.	Grows in wet sclerophyll forest on moist hillsides, known from only one locality, north of Maroota.	No
Atkinsonia ligustrina ROTAP, 2RCa	Occurs in woodland and heath in exposed sites, a single plant often parasitic on the roots of many nearby plants; confined to a small area in the Blue Mtns.	No
Banksia conferta var. penicillata BC Act, Sch. 1, End.	Grows in dry sclerophyll forest or woodland, restricted to small populations in the Blue Mtns on sandstone cliffs or steep slopes and around rocky outcrops.	No
Blandfordia cunninghamii ROTAP, 3RCi	Grows in damp shallow sandy and peaty soils, often on sandstone cliff edges; chiefly in the Blue Mtns and Illawarra areas.	No
Blechnum gregsonii ROTAP, 2RCa	Pendent clumps found in cool rainforest, often in damp places near waterfalls, sometimes epiphytic; chiefly in the Blue Mtns and Illawarra coastal ranges.	No
Boronia fraseri ROTAP, 2RCa (UBBS 97 Recommend)	Grows mainly in wet sclerophyll forest and in rainforest in gullies on sandstone, chiefly in the Sydney region.	No
Boronia serrulata ROTAP, 2RC -	Grows in moist heath in sandy situations, chiefly in a coastal band in the Sydney district; record for the SWS in Jacobs & Pickard (1981) not substantiated.	No
Brasenia schreberi ROTAP, 3RC- +	Widespread but rarely common, found in shallow freshwater lagoons or backwaters.	No
Callistemon linearifolius ROTAP, 2RCi BC Act, Sch. 2, Vul.	Grows in dry sclerophyll forest on the coast and adjacent ranges, chiefly from Georges R. to the Hawkesbury R.	Yes
Callistemon shiressii ROTAP, 3RC -	Grows on shale ridges, in moist eucalypt forest and rainforest gullies, occasionally along riverbanks; chiefly from Colo R. to Gosford district, also Howes Valley to Bulga district.	No
Carex klaphakei BC Act, Sch. 1, End.	Known only from a few localities on Central Tablelands near Blackheath, Mt Werong and Penrose at 600–1200 m alt.	No
Chamaesyce psammogeton BC Act, Sch. 1, End.	Grows on dunes and sea strandlines.	No
Cryptostylis hunteriana BC Act, Sch. 2, Vul. EPBC Act, Vul.	Does not appear to have well defined habitat preferences and is known from a range of communities, including swamp-heath and woodland.	No

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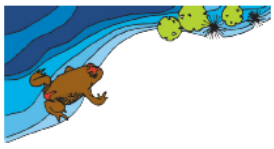
Botanical name Conservation status	Habitat description	Suitable habitat on site
Cynanchum elegans ROTAP, 3ECi BC Act, Sch. 1, End. EPBC Act, End.	Rare, recorded from rainforest gullies scrub and scree slopes; from the Gloucester district to the Wollongong area and inland to Mt Dangar.	No
Cyphanthera scabrella ROTAP, 2RC -	Grows in dry or wet sclerophyll forest in sandstone-derived soil; restricted to Bilpin-Mt Wilson area in Blue Mtns.	No
Darwinia biflora ROTAP, 2VCa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath on sandstone or in the understorey of woodland on shale-capped ridges; Cheltenham to Hawkesbury R., rare.	No
Darwinia diminuta ROTAP, 2RCi	Grows in heath or dry sclerophyll forest in poorly drained sandy soil; Manly to Ingleside and Loftus to Helensburgh, rare.	No
Darwinia fascicularis subsp. oligantha BC Act, Sch. 1, End. Pop. (Baulkham Hills)	Grows in heath or shallow soils; higher parts of the Blue Mtns.	No
Darwinia grandiflora ROTAP, 2RCi	Grows in dry sclerophyll forest and woodland on poorly drained sandy soil; Woronora Plateau and Illawarra region, rare.	No
Darwinia peduncularis ROTAP, 3RCi BC Act, Sch. 2, Vul.	Grows in dry sclerophyll forest on sandstone hillsides and ridges; Hornsby to Hawkesbury R. and west to Glen Davis, rare.	No
Deyeuxia appressa ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, End.	Grows on wet ground; in the Hornsby area.	No
Deyeuxia microseta ROTAP, 3KC -	Grows in montane sclerophyll forest, especially wetter areas.	No
Dillwynia tenuifolia ROTAP, 2RCa BC Act, Sch. 2, Vul.	Grows in dry sclerophyll woodland on sandstone, shale or laterite; from Cumberland Plain, Blue Mtns to Howes Valley area.	No
Discaria pubescens ROTAP, 3RCa	In woodland and forest, often in rocky situations; widespread, but considered endangered.	No
Diuris aequalis ROTAP, 3VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows among grass in sclerophyll forest, mainly in the ranges and tablelands; chiefly from Braidwood to Kanangra and Liverpool.	No
Epacris hamiltonii ROTAP, 2ECi BC Act, Sch. 1, End. EPBC Act, End.	Grows in skeletal sandy soils in sheltered damp rock situations on sandstone in the Blackheath area.	No
Epacris muelleri ROTAP, – 3RC -	Grows on skeletal soils on damp rock faces on sandstone in the Blue Mtns and Wollemi N.P.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Epacris purpurascens var. purpurascens BC Act, Sch. 2, Vul.	Grows in sclerophyll forest, scrubs and swamps on sandstone from Gosford and Sydney districts.	No
Epacris sparsa ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in sandy soil among rocks beside Grose R.	No
Epacris sparsa ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Rare and localized, in mallee shrubland on skeletal sandy soil on sandstone; sporadic occurrences between Linden and Berrima.	No
Eucalyptus baeuerlenii ROTAP, 3RCa	Locally frequent but restricted, in wet forest or woodland in sheltered often sloping sites; from Wentworth Falls to Budawang Ra.	No
Eucalyptus benthamii ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Restricted but locally abundant, in wet forest on sandy alluvial soils along valley floors; confined to the lower Nepean R. area.	No
Eucalyptus burgessiana ROTAP, 2RCa	Locally frequent but restricted, in mallee shrubland on skeletal sand on sandstone; restricted to lower Blue Mtns.	No
Eucalyptus camfieldii ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Rare and localized, in coastal shrub heath on sandy soils on sandstone, often of restricted drainage; from Gosford to Royal N.P.	No
Eucalyptus cannonii ROTAP, 2VCi BC Act, Sch. 2, Vul.	Locally frequent but restricted, in sclerophyll woodland on shallow soil on rises; Rylstone to upper Wolgan Valley.	No
Eucalyptus copulans ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, End.	Locally frequent but restricted, in sclerophyll woodland on shallow soil on rises; Rylstone to upper Wolgan Valley.	No
Eucalyptus cunninghamii ROTAP, 2RCa	Restricted but locally frequent, in mallee heath skeletal sandy soil on sandstone; confined to central Blue Mtns.	No
Eucalyptus sp. 'Cattai' BC Act, Sch. 1, End.	Grows as isolated trees or small groups of trees in scrub, heath and low woodland, in sandstone-derived soils.	No
Eucalyptus leuhmanniana ROTAP, 2RCa	Locally abundant but restricted, in mallee heath on shallow infertile sandy soils of poor drainage on sandstone; confined to coastal plateau between the Hawkesbury R. and Bulli.	No
Euphrasia bowdeniae ROTAP, 2VCit BC Act Sch. 2, Vul. EPBC Act, Vul.	Grows on sandstone cliffs in shallow soil on ledges or sometimes trailing over rock, in higher parts of Blue Mtns.	No
Genoplesium baueri BC Act, Sch. 1, End.	Prefers sandy dry Eucalyptus habitats.	No

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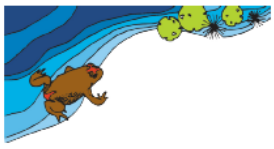
Botanical name Conservation status	Habitat description	Suitable habitat on site
Grammitis stenophylla BC Act, Sch. 1, End.	Prefers moist shaded gullies, typically grows on rocks near moss.	No
Gonocarpus longifolius ROTAP, 3RC -	Grows in shrub communities on sandstone; mainly on the ranges from Armidale to the Blue Mtns, east of Rylstone.	No
Goodenia rostrivalvis ROTAP, 2RCa	Grows on damp south-facing sandstone cliffs in Blue Mtns, in the Wentworth Falls area, rare.	No
Grevillea caleyi BC Act, Sch. 1, End. EPBC Act, End.	Grows on sandy soil with lateritic influences, typically on ridges.	No
Grevillea juniperina subsp. juniperina BC Act, Sch. 2, Vul.	Grows in open dry sclerophyll (eucalypt-dominated) forest or woodland, at altitudes of less than about 50 m, in sandy to clay-loam soils and red pseudolateritic gravels.	No
Grevillea longifolia ROTAP, 2RC -	Grows in moist areas of sclerophyll forest, often near creeks, on Hawkesbury sandstone; chiefly the southern half of Sydney Basin, and Woronora Plateau; possibly also in Lawson area.	No
Grevillea obtusiflora BC Act, Sch. 1, End. EPBC Act, End.	Grows in sandy loam soils in open low scrub beneath dry sclerophyll forest in the Kandos area.	No
Grevillea parviflora subsp. parviflora BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heathy associations or shrubby woodland, in sandy or light clay soils usually over shale substrates.	No
Gyrostemon thesioides ROTAP, 2KC - BC Act Sch. 1, End.	Grows on hillsides and riverbanks, only from sites near Georges (30 yrs ago) and Nepean Rivers (90 yrs ago). May already be extinct.	No
Hakea constablei ROTAP, 2RCa	In dry sclerophyll forest on rocky outcrops, scattered in the Blue Mtns between 500–1100 m alt., from Bell to Mt Wilson, rare.	No
Haloragodendron lucasii BC Act, Sch. 1, End. EPBC Act, End.	Grows indry sclerophyll open forest on sheltered slopes near creeks on sandstone; confined to Sydney area, rare.	No
Hibbertia hermanniifolia ROTAP, 3RCa	Open forest on sandstone; confined to Bents Basin (Nepean R), Yarrowitch district and the coastal ranges south from Wadbilliga N.P.; rare.	No
Hibbertia nitida ROTAP, 2RC -	Widespread on sandstone in the Sydney district.	No
Hibbertia superans BC Act, Sch. 1, End.	Occurs in both open woodland and heathland, and appears to prefer open disturbed areas, such as tracksides.	No
Hymenophyllum lyallii (was *Sphaerocionium lyallii*) ROTAP, 3RC – +	Grows on rocks or trees in moist rainforest in the Blue Mtns and ranges of the south coast.	No
Hymenophyllum pumilum ROTAP, 3RC -	Epiphytic in cooler rainforest of the Blue Mtns and adjacent ranges; uncommon.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Isopogon fletcheri ROTAP, 2VCa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in dry sclerophyll forest and heath on sandstone; confined to sheltered moist positions on the escarpment in the Blackheath district of the Blue Mtns, rare.	No
Isotoma sessiliflora (was *Hypsela sessiliflora*) ROTAP, 2X BC Act, Sch. 1, End.	Grows in damp places, on the Cumberland Plain, very rare.	No
Keraudrenia corollata var. denticulata ROTAP, 3RC -	Mostly on sandstone. Rare; recorded from near Grafton and west of Sydney.	No
Kunzea cambagei ROTAP, 2VCa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath; known mainly from near Mt Werong and Berrima.	No
Kunzea rupestris ROTAP, 2VCa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath on rock platforms; known only from between Lower Portland and Kuring-gai Chase N.P., one record at Ingleside.	No
Lasiopetalum joyceae ROTAP, 2RC - BC ACT, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath on sandstone; Hornsby Plateau.	No
Leionema lachnaeoides ROTAP, 2ECi BC Act, Sch. 1, End. EPBC Act, End.	Rare, from higher Blue Mtns, on barren rocky situations.	No
Lepidosperma evansianum BC Act, Sch. 2, Vul.	Grows on wet sandstone cliff faces.	No
Lepidosperma evansianum BC Act, Sch. 2, Vul. *Leptospermum rupicola* ROTAP, -3RC -	Grows in shrubby communities and heath on sandstone cliffs and escarpments.	No
Leptospermum deanei BC ACT, Sch. 2, Vul. EPBC Act, Vul.	Rare, only on forested slopes near watershed of Lane Cove R., Sydney.	
Leucopogon exolasius ROTAP, 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in woodland on sandstone, restricted to the Woronora and Grose Rivers and Stokes Creek, Royal N.P.	No
Leucopogon fletcheri subsp. fletcheri ROTAP, 2RC - BC Act, Sch. 1, End.	Grows in woodland on lateritic soils; rare, in the Springwood area.	No
Lissanthe sapida ROTAP, 3RCa	Grows in open woodland and dry sclerophyll forest, on rocky sandstone ridges and hillsides on sandy soil; occasional, from Bargo to Coloul Ra. and Blackheath.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Lomandra brevis ROTAP, 2RC -	Grows in dry sclerophyll forest on sandstone-derived soils in the Sydney region; not common.	No
Lomandra fluviatilis ROTAP, 3RCa	Grows in creek beds on sandy soils; in the Royal N.P. to Colo R	No
Marsdenia viridiflora subsp. viridiflora BC Act, Sch. 1, End. Pop.	Grows in woodland and scrub; north from the Razorback Ra. (Bankstn, Blacktn, Camden, Campbelltn, Fairfield, Holroyd, Liverpool & Penrith LGAs)	No
Melaleuca deanei ROTAP, 3RC- BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in wet heath on sandstone; uncommon, in coastal districts from Berowra to Nowra.	No
Micromyrtus blakelyi ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath in depressions on sandstone rock platforms; restricted to areas near the Hawkesbury R.	No
Micromyrtus minutiflora ROTAP, 2V BC Act, Sch. 1, End. EPBC Act, Vul.	Grows in dry sclerophyll forest in western part of the Cumberland Plain; rare.	No
Microtis angusii BC Act, Sch. 1, End. EPBC Act, End.	Difficult to determine, growing among weeds and on a disturbed soil. Possibly prefers sandy soils with lateritic influences.	No
Monotoca ledifolia ROTAP, 3RC - *Notochloe microdon* ROTAP, 2RC -	Grows in exposed sites in dry sclerophyll forest and shrubland on sandstone in the Woronora Plateau and Blue Mtns area.	No
Notochloe microdon ROTAP, 2RC -	Grows in moist shady areas of the Blue Mtns district.	No
Olearia cordata ROTAP, 2VCi BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in dry sclerophyll forest and open shrubland, on sandstone; chiefly from Wisemans Ferry to Wollombi.	No
Olearia quercifolia ROTAP, 3RC -	Grows in swampy or moist terrain; confined to the Blue Mtns.	No
Ozothamnus adnatus ROTAP, 3KC-	Grows in sclerophyll forest and woodland, usually on sandy soil; rare, south from Guyra district.	No
Persoonia acerosa ROTAP, 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath or dry sclerophyll forest on sandstone; central Blue Mtns south to Hill Top.	No
Persoonia bargoensis ROTAP, 2V BC Act, Sch. 1, End. EPBC Act, Vul.	Grows in woodland to dry sclerophyll forest, on sandstone and laterite; restricted to the Bargo area.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Persoonia hirsuta/revoluta ROTAP, 3KCi BC Act, Sch. 1, End. EPBC Act, End.	Grows in woodland to dry sclerophyll forest on sandstone; both subspecies occurring as isolated individuals or very small populations.	No
Persoonia laxa BC Act, Sch. 1, Ext. EPBC Act, Ext.	Considered extinct. Probably prefers heath or sclerophyll forest with sandy soils.	No
Persoonia mollis subsp. maxima ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, End.	Grows in dry to wet sclerophyll forest on Hawkesbury sandstone, Cowan–Hornsby area.	No
Persoonia nutans ROTAP, 2ECi BC Act, Sch. 1, End. EPBC Act, End.	Grows in woodland to dry sclerophyll forest on laterite and alluvial sand; confined to the Cumberland Plain.	No
Pherosphaera fitzgeraldii (was *Microstrobos fitzgeraldii*) ROTAP, 2ECi BC Act, Sch. 1, End.	Usually grows on wet rocks within the spray of waterfalls or on ledges or in caves near waterfalls; restricted to southerly aspects on sandstone near waterfalls in the Katoomba to Wentworth Falls area of the Blue Mtns.	No
Philotheca obovalis (was *Eriostemon obovalis*) ROTAP, 3RCa	Grows in heath and dry sclerophyll forest on sandstone; chiefly in the Blue Mountains, also recorded for Kydra Mountain.	No
Pilularia novae-hollandiae BC Act, Sch. 1, End.	Widespread but not common in seasonally dry depressions and margins of marshes; may grow submerged.	No
Pimelea curviflora var. curviflora BC Act, Sch. 2, Vul. EPBC Act, Vul.	Confined to coastal areas around Sydney on sandstone.	No
Pimelea spicata ROTAP, 3ECi BC Act, Sch. 1, End. EPBC Act, End.	Grows on the coast from Lansdowne to Shellharbour and inland to Penrith; rare.	No
Platysace clelandii ROTAP, 2RCa	Grows among sandstone boulders in dry sclerophyll forest, from Glen Davis to Berowra.	No
Pomaderris brunnea ROTAP, 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	In open forest, confined to the Colo R. and upper Nepean R.	No
Prostanthera cryptandroides BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows chiefly in the Lithgow to Sandy Hollow districts.	No
Prostanthera densa BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in sclerophyll forest and shrubland, on coastal headlands and near-coastal ranges, on sandstone	Yes
Prostanthera marifolia BC Act, Sch. 4, Ext A. EPBC Act, CE.	Occurs in sandy soils with clay-loam and ironstone on ridge tops.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Pseudanthus divaricatissimus ROTAP, 3RCa	Mostly from Muswellbrook to Bega, with outlying populations near Urbenville and Dubbo (Goonoo State Forest).	No
Pterostylis gibbosa ROTAP, 2E (X-WSyd) BC Act, Sch. 1, End. EPBC Act, End.	Grows among grass in sclerophyll forest; rare, chiefly in the southern parts of the central coast, with a disjunct population in the Hunter Valley.	No
Pterostylis saxicola ROTAP, (2E) BC Act, Sch. 1, End. EPBC Act, End.	Grows in shallow soil over sandstone sheets, often near streams; rare, from Picnic Point to Picton area.	No
Pultenaea sp. 'Genowlan Point' (NSW 417813) BC Act, Sch. 1, Crit. End. EPBC Act, Crit. End.	It is endemic to New South Wales and is only found at Genowlan Point in the Capertee Valley. At Genowlan Point, Pultenaea sp. 'Genowlan Point' (Allen s.n., 29 Nov. 1997) is restricted to well drained stoney soils.	No
Pultenaea glabra EPBC Act, Vul.	Grows in dry sclerophyll forest on sandstone; higher Blue Mtns and Glen Davis area.	No
Pultenaea parviflora ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, Vul.	Grows in dry sclerophyll forest on Wianamatta Shale, laterite or alluvium, Cumberland Plain.	No
Pultenaea pedunculata BC Act, Sch. 1, End.	Grows in dry sclerophyll forest and disturbed sites on a variety of soils on the South Coast and edge of the Southern Tableland, but with disjunct restricted populations on Wianamatta Shale on the Cumberland Plain in N.S.W.	No
Pultenaea villifera var. villifera ROTAP, 3RC - BC Act, Sch. 1, End. Pop. (Lower Blue Mountains)	Grows in dry sclerophyll forest on sandy soil; lower Blue Mtns to Eden district.	No
Rhizanthella slateri ROTAP, 3KC - BC Act, Sch. 2, Vul. EPBC Act, End.	Grows in sclerophyll forest in shallow to deep loams. Collections tend to be accidental and it is not possible to determine distribution accurately; recorded for the Blue Mtns, also Bulahdelah south to Dharug N.P.	No
Rupicola apiculata ROTAP, 2RCa	Grows in skeletal sandy soils in damp situations on sandstone rock ledges between 700–1100 m alt.; restricted to the Blue Mtns.	No
Rupicola ciliata ROTAP, 2RC – t	Grows in skeletal sandy soils in rock crevices, on rock ledges and beneath cliff overhangs in Kurrajong Heights, Bilpin to lower Yarramun Creek areas in the Blue Mtns.	No
Rupicola sprengelioides ROTAP, 2RC – t	Restricted to skeletal sandy soils on sandstone ledges, cliff faces and rocky ground, in the Burragorang Valley.	No
Sprengelia monticola ROTAP, 2RC – t	Grows on wet rock faces and ledges or cliff bases on sandstone in the Blue Mtns.	No

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Botanical name Conservation status	Habitat description	Suitable habitat on site
Syzygium paniculatum BC Act, Sch. 1, End. EPBC Act, Vul.	Rainforest and open forest near riparian zones.	No
Tetratheca glandulosa ROTAP, – 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in sandy or rocky heath or scrub, from Mangrove Mtn to the Blue Mtns and Sydney.	No
Tetratheca neglecta ROTAP, 3RC -	Grows in sandy heath and dry sclerophyll forest; chiefly in the Sydney district, south to Robertson.	No
Thesium australe ROTAP, 3VCi BC Act, -Sch. 2, Vul. EPBC Act, Vul.	Grows in grassland or woodland, often in damp sites; widespread but rare and possibly endangered.	No
Tylophora woollsii ROTAP, 2E BC Act, Sch. 1, End. EPBC Act, End.	Grows in wet sclerophyll forest and rainforest in the Clouds Creek area near Nymboida and in sclerophyll forest near Parramatta; rare.	No
Velleia perfoliata ROTAP, 2VC - BC Act, Sch. 2, Vul. EPBC Act, Vul.	Grows in heath on shallow sandy soil over sandstone; confined to the Hawkesbury district to the upper Hunter Valley.	No
Veronica lithophila (was *Parahebe lithophila*) ROTAP, 2RC -	Grows on cliffs or rock exposures, in pockets of soil over sandstone or quartzite; Blue Mtns-Colong region at 650–870 m alt., uncommon.	No
Wilsonia backhousei BC Act, Sch. 2, Vul.	Grows in coastal saltmarshes; chiefly in the Sydney district, also common at Jervis Bay.	No
Zieria covenyi BC Act, Sch. 1, End. EPBC Act, End.	Grows in eucalypt woodland on sandy soils; known only from Narrow Neck Peninsular in the Blue Mtns N.P.	No
Zieria involucrata ROTAP, 2VCa BC Act, Sch. 1, End. EPBC Act, Vul.	Grows in wet sclerophyll forest, chiefly in the Lower Blue Mtns; rare.	No
Zieria murphyi ROTAP, 2VC-	Grows in dry sclerophyll forest in sandy soils; on the ranges from Mt Tomah to Penrose district.	No
Zieria prostrata BC Act, Sch. 1, End. EPBC Act, End.	Restricted to low coastal heaths, near Coffs Harbour; rare.	No

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Key

BC Act 2016:

Sch1 = Schedule 1: Endangered species
Part 1: endangered species
Part 2: endangered populations
Part 3: endangered ecological communities
Part 4: species presumed extinct
Sch2 = Schedule 2: Vulnerable species

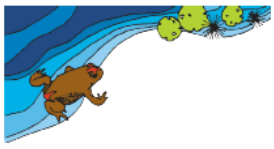
EPBC Act 1999:

CE = Critically Endangered
E = Endangered
V = Vulnerable
EP = Endangered Population

ROTAP Codes

1 Known by one collection only
2 Geographic range in Australia < 100Km
3 Geographic range in Australia > 100Km
E Endangered
V Vulnerable
R Rare
X Extinct
K Poorly known
C Reserved
a > or = 1000 plants reserved
i < 1000 plants reserved
t Total known population reserved
- Reserved population size unknown
+ Overseas occurrence

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Appendix 6. Matters of National Environmental Significance

The Protected Matters Search Tool was used to find relevant Matters of National Environmental Significance (MNES) on or near the site.

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 25/09/18 12:03:13

Summary
Details
Matters of NES
Other Matters Protected by the EPBC Act
Extra Information
Caveat
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates
Buffer: 1.0Km



No World Heritage Properties, National Heritage Places, Wetlands of International Importance or Commonwealth Marine Areas are recorded for the area.

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No Commonwealth Land, Commonwealth Heritage Places, Critical Habitats, Australian Marine Parks or Commonwealth Terrestrial Reserves were reported.

Three Listed Threatened Ecological Communities are recorded in the area: 1. Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland; 2. Coastal Upland Swamps in the Sydney Basin Bioregion; and 3. *Posidonia australis* seagrass meadows of the Manning-Hawkesbury ecoregion. These ecological communities are protected under Commonwealth legislation by the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999) and are listed as Endangered.

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Appendix 7. Company Profile

Abel Ecology has been in the biodiversity consulting business since 1991, starting in the Sydney Region, and progressively more state wide in New South Wales since 1998, and now also in Victoria. During this time extensive expertise has been gained with regard to Master Planning, Environmental Impact assessments including flora and fauna, bushfire reports, Vegetation Management Plans, Management of threatened species, Review of Environmental Factors, Species Impact Statements, Biodiversity Development Assessment Reports and as Expert Witness in the Land and Environment Court. We have done consultancy work for industrial and commercial developments, golf courses, civil engineering projects, tourist developments as well as residential and rural projects. This process has also generated many connections with relevant government departments and city councils in NSW. Our team consists of four scientists and two administrative staff, plus casual assistants as required.

Licences

NPWS s132C Scientific licence number is SL100780 expires 30 April 2021
NPWS GIS data licence number is CON95034
DG NSW Dept of Primary Industries Animal Care and Ethics Committee Approval expires 8 December 2021
DG NSW Dept of Primary Industries Animal Research Authority expires 8 November 2021

The Consultancy Team

Dr Danny Wotherspoon

Grad Dip Bushfire Protection (University of Western Sydney 2012)
PhD (researching Cumberland Plain vegetation and fauna habitat, at Centre for Integrated Catchment Management, University of Western Sydney, 2008)
Planning for Bushfire Protection Certificate course (University of Technology, 2006)
Consulting Planners Bushfire Training Course (Planning Institute of Australia, 2003)
MA (Macquarie University, 1991)
Wildlife Photography Certificate (Sydney Technical College, 1987)
Herpetological Techniques Certificate (Sydney Technical College, 1986)
Applied Herpetology Certificate (Sydney Technical College, 1980)
Dip Ed (University of New England, 1978)
BSc (Zoology, Ecology) University of New England 1974)

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Dr Daniel McDonald

B. Ag Sc; M. Agr; PhD (The University of Sydney)
Cert IV – GIS (Riverina TAFE)
Daniel is an accredited Biobanking Assessor (0075) and an accredited BAM assessor (BAAS17056)
Quantified Tree Risk Assessment (QTRA) and Visual Tree Assessment (VTA), White Card

Daniel is an experienced ecologist with expertise in fauna, plant species identification, vegetation assessment, agriculture, arboriculture, conservation genetics and seed collection and preservation. He is accredited both for BAM assessments, BioBanking assessments and Biodiversity Certification. His present research interest is in Eastern Suburbs Banksia Scrub and fragmented endangered ecological communities.

Mark Mackinnon

Qualifications: B Env. Sci. (Hons),

MEIANZ, White Card

Graduate Diploma of Bushfire Protection (enrolled)

Mark is a passionate and enthusiastic scientist who thrives in the field of natural resource management. In the last 6 years, Mark has worked for a number of inter-state government agencies and environmental consultancies. He has experience in threatened species, fire ecology, bushfire management, pest plant and animals, and landscape restoration. In particular he specializes in ornithology and bushfire management. Mark has a number of specialized field-based skills including: simple and complex tree climbing, working at heights, general firefighter departmental fire accreditation, venomous snake and reptile handling, immunization to handle bat species, and an A - class bird banding licence with mist-net endorsement. Mark is also skilled in ArcGIS mapping, first-aid, four -wheel-driving.

Dr Alison Hewitt
B. Sc. (Hons), PhD.
MESA, MAPS, MASBS, Snr 1st Aid cert, White card.
Alison has researched and published on the reproductive biology and ecology of Australian Melaleuca species, native plant responses to fire and the vegetation of western Sydney. Alison's interests include plant ecology and flora survey methodology, bush regeneration, plant identification and gardening. Alison teaches Botany and Ecology sessionally with Western Sydney University.

Dr Stephanie A Clark

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BAppSc (Biochemistry), MSc, PhD
Member of the IUCN SSC Mollusc Specialist Group. Research Associate at both the Field Museum of Natural History, Chicago, IL, USA and The Australian Museum, Sydney, NSW.

Stephanie has been interested in the taxonomy, systematics and conservation of invertebrates particularly molluscs since the late 1970's when she first started volunteering at the Australian Museum. She has been an ecological consultant specialising in invertebrates since 1997. She has worked for private developers, mining companies, local community groups and local, state and federal government agencies in three countries (Australia, USA and Canada) and has been an expert witness for the NSW Land and Environment Court.
Stephanie's PhD researched the taxonomy, systematics and conservation of the NSW listed snail Meridolum corneovirens (Cumberland Plain Land Snail). She has given presentations to local, national and international conferences in Australia, Germany and USA. She has field experience in 16 countries, all states of Australia and 40 US states. Stephanie's has published more than 30 scientific papers in national and international journals and described more than 155 species.

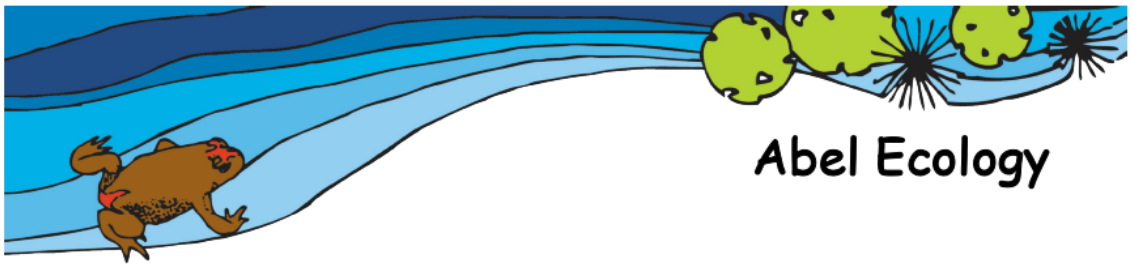
Mark Sherring
BM, MAABR, Cert. Hort., Cert. Bush Regen, Cert. Rural Ops, White Card.

Member of the Australian Association of Bush Regenerators

Mark has extensive knowledge and experience of plant species in New South Wales. He has built up his expert knowledge on NSW native plant species over the many years that he has practised as a Botanist. He is regularly asked to contribute to the extensive (ongoing) flora surveys of the Sydney Basin and Blue Mountains carried out by the Royal Botanic Gardens, Sydney. Mark has extensive field survey experience, having worked for over ten years in various plant-related roles. His role in Abel Ecology is to provide expert advice on flora and on the full range of flora management issues encountered and in the design and management of environmental monitoring projects.

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APPENDIX 4 - BUSHFIRE REPORT



Bushfire Assessment Report

for

346 – 352 Whale Beach Road, Palm Beach NSW 2108
Lots 327, 328, 329 and 330, DP 16362

Proposed new residential dwelling

Prepared for:	The applicant c/- Harry Seidler & Associates Architects
Report No:	AE21-2232-REP-ISS-1
Prepared by:	Abel Ecology
Date:	3 March 2021

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Disclaimer

This report has been prepared in accordance with the scope of services described in agreement between Abel Ecology and the Client.

In preparing this report, Abel Ecology has relied upon data, surveys and site inspection results taken at or under the particular time and or conditions specified herein. Abel Ecology has also relied on certain verbal information and documentation provided by the Client and/or third parties, but did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions and recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Abel Ecology assumes no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Abel Ecology.

The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site in question. Under no circumstances, however, can it be considered that these findings represent the actual state of the site/sites at all points.

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Furthermore, this report has been prepared solely for use by the Client. Abel Ecology accepts no responsibility for its use by other parties.

Document History

Report	Version	Prepared by	Proofread by	Technical Review by	Submission	
					Method	Date
Draft	Draft A	Mark Mackinnon	Denise McNamara		Dropbox	23 February 2021
Final	Issue 1	Mark Mackinnon BPAD Bushfire Planning & Design Accredited Practitioner Level 3	Denise McNamara		Dropbox	3 March 2021

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List of Abbreviations

AHIMS	Aboriginal Heritage Information Management System
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
NCC	*National Construction Code*
BC Act 2016	*Biodiversity Conservation Act 2016*
BFMC	Bushfire Management Committee
DCP	Development Control Plan
DP	Deposited Plan
DTS	Deemed-To-Satisfy
EP&A Act 1979	*Environmental Planning and Assessment Act 1979*
EP&A Regulation 2000	*Environmental Planning and Assessment Regulation 2000*
EPBC Act 1999	*Environmental Protection and Biodiversity Conservation Act 1999*
IPA	Inner Protection Area
kW/m^2	kilowatts per square metre (being a measure of radiant heat)
LEP	Local Environment Plan
LGA	Local Government Area
LLS Act 2013	*Local Land Services Act 2013*
NP&W Act 1974	*National Parks and Wildlife Act 1974*
NR	Nature Reserve
PDA	Principal Development Area
PBP 2019	*Planning for Bushfire Protection 2019*
RFS	Rural Fire Service
RF Act 1997	*Rural Fires Act 1997*
RF Regulation 2013	*Rural Fires Regulation 2013*
RHF	Radiant Heat Flux
SEPP	State Environmental Planning Policy

Note regarding maps in this report

The diagrams/site maps used in this report have been supplied by and are used with the permission of Greg Holman – Harry Seidler & Associates Architects.

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Executive summary

This Bushfire Assessment Report has been prepared by an Accredited BPAD Practitioner using the Simplified Procedure (Method 1) as detailed in Appendix 1 of *Planning for Bushfire Protection 2019*.

This proposal has been prepared in accordance with *Planning for Bushfire Protection 2019* in its entirety and the development complies most relevant Acceptable Solutions in *PBP 2019*.

Abel Ecology makes no warranties as to the accuracy of the information provided in the report. All enquiries related to the information and conclusions presented in this report must be made to the Practitioner.

A bushfire assessment of the proposed development site at Lots 327, 328, 329 and 330, DP 16362, 346 – 352 Whale Beach Road, Palm Beach NSW (the 'site') was undertaken on 17 February 2021. Lot 329 of 530 m² has an existing dwelling and side building, while Lot 327 of 612.5 m², Lot 328 of 556 m², and Lot 330 of 587.64 m² are vacant (all measurements of area are approximate). Combined, the site is approximately 2,286 m². Existing infrastructure associated with the current dwelling includes an outbuilding. The proposal is to knockdown the existing dwelling and outbuilding on Lot 329 and rebuild a new residential dwelling, which will occupy an approximate area of 921 m² (over six [6] levels). The associated infrastructure includes a pool, rainwater tank, patio areas, decks, and storage/workshop areas.

The aim of the assessment was to ascertain the potential fire hazard and establish the site capability for an Asset Protection Zone (APZ) while complying with Council's requirements and relevant legislation. The report will be used to ensure the proposed development satisfies the performance requirements of the *National Construction Code* (*NCC*), and *Planning for Bushfire Protection 2019*.

The access road to the dwelling footprint is from Whale Beach Road. Whale Beach Road is a council bitumen through road, which is >980 metres long, of suitable grades, 5.5 - 6 metres wide and is regularly maintained.

Northern Beaches Council has listed a Biodiversity Overlay across the southeast corner of Lot 327. No threatened ecological communities and no threatened plant species were discovered upon site inspection. Abel Ecology has completed a Prescribed Ecological Assessment Report (PEAR) (AE21 2233 REP ISS 1 3Mar21) on the site and has concluded the proposed development will have no significant impacts on plant species or ecological communities listed in NSW or Commonwealth legislation. No part of the principal development area has been identified as critical habitat for threatened species.

With regard to any clearing of native vegetation on the property, it is the responsibility of the landowner to check whether all required permissions from local and statutory authorities are in place. This may include Parts 3, 4 and 5 of the *EP&A Act 1979*; s.4.46 and s.4.53 licences; licence or conservation agreement under the *NP&W Act 1974*; or approvals under the *Local Land Services Act 2013* and or the *Biodiversity Conservation Act 2016*.

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The vegetation hazard which will most significantly influence fire behaviour is the Tall Heath to the east of the proposal footprint.

The following conclusions and recommendations apply:

The site is mapped as bush fire prone land. In our opinion, the site is not sterilised by the bushfire threat. This report concludes that the proposed development can comply with *PBP 2019*. The owners will therefore be able to construct the proposed dwelling with the following measures included:

a) This proposal has been prepared in accordance with *PBP 2019* in its entirety and the development complies with most relevant Acceptable Solutions in this version of *PBP*.

b) The site is mapped as bush fire prone land.

c) Building construction for all aspects of the proposed dwelling must comply with section 3 and 8 (BAL - 40) of *Australian Standard 3959* (2018) *Construction of buildings in bushfire-prone areas* and *Table 7.4a* of *PBP 2019* and as modified by Section 7.5, 7.5.1, 7.5.2, 7.5.3 and 7.5.4 (where applicable) of *PBP 2019*.

- Proposed Class 10 buildings are to comply with Section 7 of this report and:
  - Class 10a: Sheds – s.8.3.2 of *PBP 2019* and,
  - Class 10b: Fences and gates – Section 7.6 of *PBP 2019*.

AS-3959-2018 is now available as PDF for free from -

- https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

d) We recommend a site Vegetation Management Plan (VMP) be produced for the on-going management and maintenance of the site asset protection zone. The APZ will be maintained to Inner Protection Area condition as per Sec. 6.1 and 6.8 of this report, Appendix 4 of *PBP 2019* and the RFS *Standards for Asset Protection Zones* (Appendix 2 and see www.rfs.nsw.gov.au). The VMP will observe mapped Slope Constraint areas, retention of hollow-bearing trees and area mapped on the Biodiversity Overlay across the southeast corner of Lot 327 (Abel Ecology 2021). Total clearance of all vegetation is not acceptable. Vegetation management undertaken to establish the required APZ shall be minimised while still complying with *PBP 2019* guidelines.

e) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the north aspect:

- To IPA condition (15% tree canopy cover) for a horizontal distance of 2 metres from the external wall of the dwelling to the north boundary.
- Trees will need to be removed to achieve this requirement.

f) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the east aspect:

- To IPA condition (15% tree canopy cover) for a horizontal distance of 3 - 10 metres from the external wall of the dwelling to the east boundary.
- Trees will need to be removed to achieve this requirement.

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g) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the west aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 10 metres from the external wall of the dwelling to the west boundary.
- Trees will need to be removed to achieve this requirement.

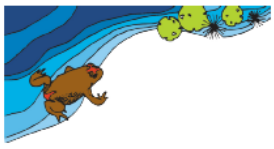
h) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the south aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 12 metres from the external wall of the dwelling.
- Trees will need to be removed to achieve this requirement.

i) Whale Beach Road offers adequate access and egress to firefighters, emergency workers, and those involved in evacuation and complies with the performance criteria in *Table 7.4a of PBP 2019*.

j) All weather access to the site will be provided in recognition of the risk to fire fighters and/or evacuating occupants. A 70 metre unobstructed path cannot be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road (road speed limit <70 km/h) that supports the operational use of emergency firefighting vehicles. Therefore there must be access to the rear of the dwelling for operational activities via Whale Beach Road. Firefighters must be able to access to the rear of the dwelling. The access driveway must:

- The site driveway carriageway/swept path (excluding drainage and edging) will be a minimum four metres wide.
- Be clearly sign-posted, two-wheel drive, paved all-weather driveway.
- The dead end incorporates a turning area compliant with Figure A3.3 Type C of *PBP 2019*.
- Is less than 200 metres in length and contains no bridges. The proposed driveway on-site is eleven metres long, nine metres wide.
- Crossfall of the pavement is not more than 10 degrees.
- The site driveway does not exceed 15 degrees and is not more than 10 degrees.
- Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress.
- The minimum distance between inner and outer curves is six metres.
- A minimum vertical clearance of four metres to any overhanging obstructions, including tree branches.
- The site driveway does not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge).
- The internal road surfaces have a capacity to carry fully-loaded fire fighting vehicles (23 tonnes), bridges and causeways are to clearly indicate load rating.
- There is suitable access for a Category 1 fire appliance to within four metres of the static water supply where no reticulated supply is available, and
- Is regularly maintained.

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k) The proposed site access driveway does comply with *Table 7.4a of PBP 2019*.

l) Utility services along Whale Beach Road are adequate to meet the needs of firefighters and others assisting in bush fire fighting. Gas and electricity services are to be located so as to not contribute to the risk of fire to the buildings. Gas and electricity services are to be installed as per Sec. 6.4 of this report.

m) Fire hazard management for the subject site needs to take into account hollow-bearing trees, and native vegetation that is:

- Mapped on the Biodiversity Overlay across the southeast corner of Lot 327 and,
- Is protected under a SEPP (Vegetation in Non-Rural Areas) 2017, or SEPP No 19 - Bushland in Urban Areas 1986 and SEPP (Coastal Management) 2018.

n) Water supply is to be provided in accordance with Sec. 6.3 of this report and *Table 7.4a of PBP 2019*.

o) Residents of bushfire prone areas are encouraged to build their own Bushfire Survival Plan.

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Introduction

Abel Ecology was engaged by Greg Holman of Harry Seidler & Associates Architects, to prepare a bushfire assessment for a proposed dwelling. The report will be used to supplement a development application to Northern Beaches Council. The report will be used to ensure the proposed development satisfies the performance requirements of the *National Construction Code* (NCC), and *Planning for Bushfire Protection 2019*.

We have considered the details sent to us and completed a detailed inspection of the site on 17 February 2021. This report serves to:

a) Identify the site and proposed development,
b) Determine the bushfire threat, and
c) Identify work to be completed in order to improve the chances of building survival in the event of a bushfire. These works will satisfy the Performance Requirements of the *National Construction Code* (NCC) and achieve compliance with *Planning for Bushfire Protection 2019* (*PBP 2019*).

The Bushfire Assessment Report concludes, the site is not sterilised by the bushfire threat and the owners will be able to construct the dwelling provided appropriate precautions are taken. This report concludes that the proposed development can comply with *PBP 2019*.

1.1 Planning relationships

1.1.1 Legislation

a) Section 4.14 *Environmental Planning and Assessment Act 1979,*
b) Clause 272 *EP & A Regulation 2000,*
c) Section 10.3 *EP & A Act 1979,*
d) *Rural Fires Act 1997* (amended) s.63(1), 63(2).

1.1.2 Planning policies

a) *Planning for Bushfire Protection 2019,*
b) Northern Beaches Council – Pittwater LEP 2014,
c) Northern Beaches Council – Pittwater DCP 2014,
d) Adjacent land is controlled by the Warringah Pittwater Bushfire Risk Management Plan 2010.

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2 The site and proposed development

2.1 Existing site description

On Site

The site is identified as Lots 327, 328, 329 and 330, DP 16362, 346 – 352 Whale Beach Road, Palm Beach NSW (Figure 1 and Figure 2).

The site is approximately 2,288 m² in area and is zoned:

a) Bush Fire Prone Land, Vegetation Buffer 30 m (Figure 3),
b) Environmental Living (E4).

The site is a rough rectangle shape with a frontage of 79 metres to Whale Beach Road and a depth of 24 - 29 metres along its length (Figure 1).

The current land use is consistent with a residential dwelling. The site has been historically cleared, and has recently formed part of a managed garden, as clumps of ornamental plants have established on-site. The highest elevation point is on the western boundary and the site slopes evenly but steeply (40 - 60°) to the frontage of Whale Beach Road, falling in elevation 19 metres over 24 - 29 metres, and Whale Beach Road a further seven metres below. Parts of the site have been terraced; there are regular sandstone outcrops and there are small cliff lines running along the west and east boundaries that vary in height from two to ten metres high.

The site is accessed from Whale Beach Road. Whale Beach Road is a council bitumen through road, which is >980 metres long, of suitable grades, 5.5 - 6 metres wide and is regularly maintained. There is no site driveway, two vehicles can fit into a small pull-in area off Whale Beach Road outside Lot 329. The only suitable turning points for medium-rigid vehicles are three-point-turns at the closest road intersections: Florida Road and Ocean Place 1.1 km to the north, and Whale Beach Road and Norma Road 680 metres to the south. There are limited, unevenly spread areas where the formed road provides space for medium-rigid vehicles to pass in opposite directions safely.

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Figure 1. Aerial photo of the site.

Site locality - Lots 327, 328, 329 and 330, DP 16362, 346 – 352 Whale Beach Road, Palm Beach NSW

Scale: Picture width = 630 metres

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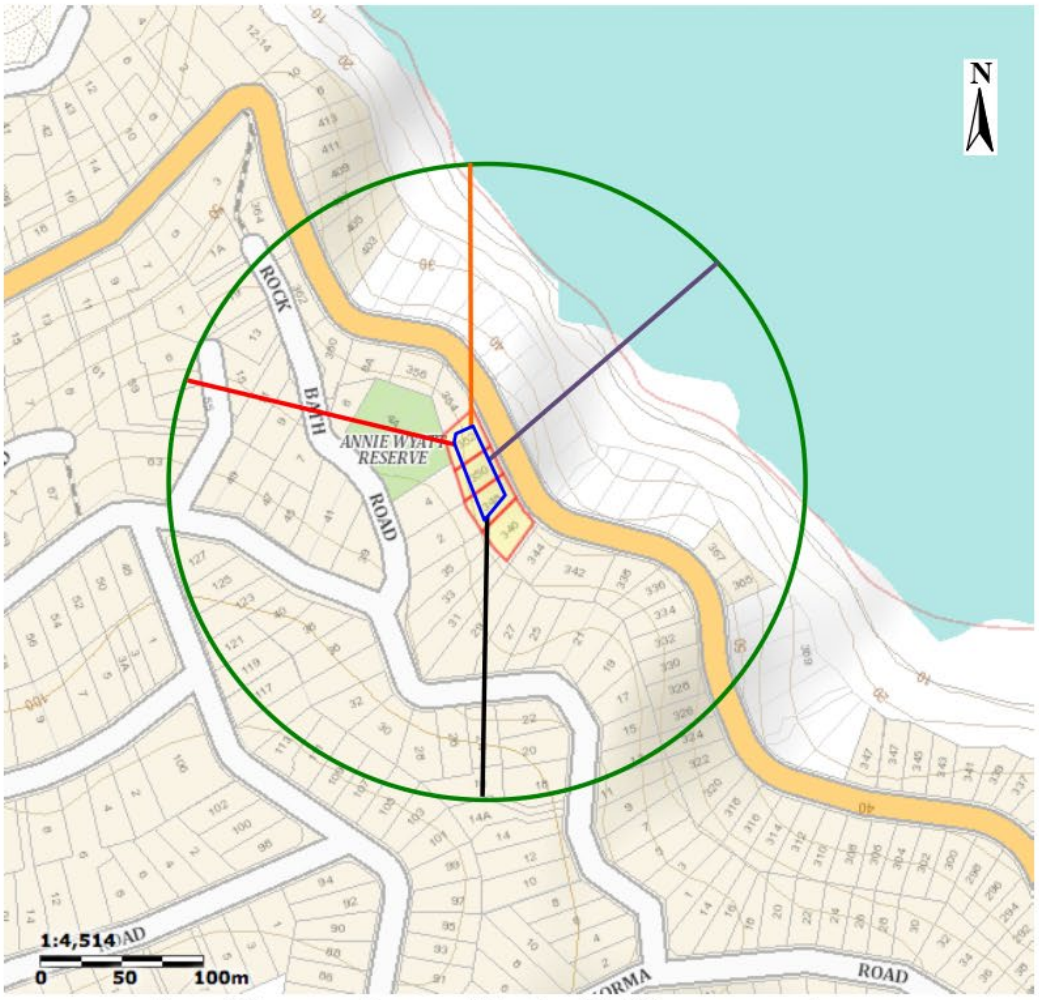


Figure 2. Topographic map of the site with 140 m assessment area.

Site locality – Lots 327, 328, 329 and 330, DP 16362, 346 – 352 Whale Beach Road, Palm Beach NSW

140 m assessment area

Proposed dwelling

North Fire Run Transect
Northwest Fire Run Transect
Northeast Fire Run Transect
South Fire Run Transect

Scale: Picture width = 630 metres

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Figure 3. Bush Fire Prone Land map.

Scale: Picture width = 460 metres

- Subject land
- Bush Fire Prone Land – Vegetation Category 1
- Bush Fire Prone Land – Vegetation Category 2
- Bush Fire Prone Land – Vegetation Buffer 30 m

Extract from the Bush Fire Prone Land Map for the Northern Beaches Local Government Area, dated 18 February 2021.

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Figure 4. Tall Heath and Low Closed Forest are both examples of the structure of vegetation onsite.



Figure 5. Managed garden on adjacent property (Lot 331, DP 16362) to the north of the proposed development site.

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Adjacent Properties

Adjacent properties are consistent with a coastal residential landscape (Figure 1). The majority of adjacent properties on the west, north and south aspects of the proposed development site are all existing residential properties with managed gardens to >140 metres.

Properties to the west are upslope of the proposed development site, properties to the north and south are level in elevation with the proposed development site (Figure 2).

A drainage easement (two metres wide) is present on the immediate southern boundary of Lot 327 and is zoned Public Recreation (RE1).

Annie Wyatt Reserve shares the west boundary with Lot 330 to the northwest of the principal development area. Annie Wyatt Reserve is managed for conservation and is periodically burned to reduce bushfire risk to immediate residents. Annie Wyatt Reserve has not been mapped as bushfire prone land (Figure 3) or considered as a significant threat to the proposal due to its size being <1 Ha (actual size 0.3 Ha). The existing 'Remnant Vegetation' within Annie Wyatt Reserve is classified as 'low hazard' vegetation (Remnant Vegetation 10/13.2 t/Ha) in accordance with the provisions for A1.11 remnant bushland classification on page 88 of *PBP 2019*.

Properties on the east aspect are all existing residential properties, and are downslope of the proposed development site. However, properties on the east aspect have never been developed and all contain intact remnant native vegetation that is unmanaged due to Council slope constraints, potential erosion issues, and landuse zoning for Environmental Conservation (E2) (Figure 1, Figure 2, and Figure 3).

2.2 Existing vegetation description

On Site

The vegetation description is according to Figures A1.2 in *PBP 2019* based on Keith (2004). The vegetation and fuel load within the site boundaries on all aspects of the PDA is reflective of a transition between Tall Heath (36.9 t/Ha) and Coastal Enriched Sandstone Dry Forest [PCT: 1776] (Remnant - 10/13.2 t/Ha - Low Closed Forest) (Figure 4).

Adjacent Properties

North

Suburban residential properties at the north boundary have managed gardens for 48 metres (<4 t/Ha) (Figure 5), then there is unmanaged Tall Heath (36.9 t/Ha) for 79 metres, then bare rock shelf for >13 metres. The existing 'Remnant Vegetation' within Annie Wyatt Reserve is classified as 'low hazard' vegetation (Remnant Vegetation 10/13.2 t/Ha) in accordance with the provisions for A1.11 remnant bushland classification on page 88 of *PBP 2019*.

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East

The vegetation on residential properties adjacent to the east boundary is unmanaged and is reflective of a transition between Tall Heath (36.9 t/Ha) (the predominant unmanaged vegetation to the east, Coastal headland clay heath PCT: 1817) and a small patch of Rainforest (10/13.2 t/Ha) on the east edge of Whale Beach Road (Figure 4). The small patch of Rainforest is approximately 10 metres wide at the north end (Lot 273 DP 16362), and 25 metres wide at the south end (Lot 267, DP 16362). Species observed in this rainforest patch include: Wonga Wonga Vine *Pandorea pandorana*, *Cassytha pubescens*, Crofton Weed *Ageratina adenophora*, Cheese Tree *Glochidion ferdinandi*, Sweet Pittosporum *Pittosporum undulatum*, tree fern *sp.*, Rusty Fig *Ficus rubiginosa*, Turpentine *Syncarpia glomulifera*, Coast Banksia *Banksia integrifolia*, and Lilly Pilly *Syzygium smithii*. Abel Ecology's (2021) Prescribed Ecological Assessment Report referred to the moister vegetation as 'Coastal Enriched Sandstone Moist Forest' as the plant community type at the southern boundary of the site. Furthermore, the vegetation to the east of the site has been classified as Category 2 on the Northern Beaches Local Government Area Bushfire Prone Land Map (Figure 3) supporting the lower hazard assessment of the vegetation.

South

A drainage easement (two metres wide) is present on the immediate southern boundary of Lot 327 and the vegetation structure is characteristic of Remnant Vegetation (10/13.2 t/Ha - 'Coastal Enriched Sandstone Moist Forest'). Suburban residential properties further south all have managed gardens for >140 metres (<4 t/Ha) (Figure 1 and Figure 6).

West

Suburban residential properties at the west boundary all have managed gardens (<4 t/Ha) (Figure 7).



Figure 6. Managed garden on adjacent property (Lot 414, DP 19651) to the south of the proposed development site.

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Figure 7. Managed garden on adjacent property (Lot 415, DP 19651 and Lot 2, DP 407282) to the west of the proposed development site.

2.3 The proposal

The proposal is to erect a residential dwelling with the appropriate level of bushfire protection measures in order to meet the required performance criteria of *Planning for Bushfire Protection 2019* (*PBP 2019*). This includes the clearance/maintenance of an Asset Protection Zone (APZ) within the Principal Development Area (PDA) of the site. The PDA is principally on Lots 328, 329 and 330, DP 16362, with the APZ extending onto Lot 327, DP 16362 (Figure 8).

The proposed building footprint (Figure 8) occupies an area of 581 m² (approx.). To meet the bushfire protection measures stated in *PBP 2019* the proposed APZ distances are:

- 2 metres on the north aspect to the north site boundary,
- 3 - 10 metres on the east aspect, all area from the external wall of the proposed building to the east site boundary,
- 12 metres on the south aspect and,
- 10 metres on the west aspect, all area from the external wall of the proposed building to the west site boundary.

Within the APZ, tree canopy will be reduced/maintained to 15 per cent cover and will continue to be maintained consistent with inner protection area (IPA) condition. Trees will need to be removed to achieve this requirement.

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2.4 Significant environmental features

Northern Beaches Council has listed a Biodiversity Overlay across the southeast corner of Lot 327. No threatened ecological communities and no threatened plant species were discovered upon site inspection. Abel Ecology has completed a Prescribed Ecological Assessment Report (PEAR) (AE21 2233 REP ISS 1 3Mar21) on the site and has concluded the proposed development will have no significant impacts on plant species or ecological communities listed in NSW or Commonwealth legislation.

The following State Environmental Planning Policies also apply to the site:

- SEPP (Vegetation in Non-Rural Areas) 2017,
- SEPP No 19—Bushland in Urban Areas 1986, and
- SEPP (Coastal Management) 2018.

The site is not shaded on the Biodiversity Values Land Map. Refer to the site PEAR Report (Abel Ecology 2021 - AE21 2233 REP ISS 1 3Mar21).

2.5 Threatened flora and fauna

Within the Principal Development Area (PDA) incorporating the proposed Asset Protection Zone (Figure 8) no threatened plant species were discovered upon site inspection. The threatened species Grey-headed Flying-fox was detected visiting the site (Abel Ecology 2021). There is also evidence for two threatened microbat species visiting the site, the Little Bentwing-bat and the Eastern Bentwing-bat (Table 10). It is also likely that Powerful Owl forages on site. These species are highly mobile and forage/ hunt over wide areas of land. None of them appear to be roosting or nesting on site (Refer to PEAR, Abel Ecology 2021).

No part of the site has been identified as critical habitat for threatened species. No 'Areas of Outstanding Biodiversity Value' were discovered upon site inspection.

2.6 Archaeological and Heritage Significant sites

Abel Ecology is not aware of Heritage Significant sites on the land. Databases have not been searched.

Abel Ecology is not aware of Aboriginal relics on the land. Databases have not been searched.

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Figure 8. Site proposal diagram.

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3 Survey methodology

Survey methods were applied in accordance with assessment methodology set in Appendix 1 of *Planning for Bushfire Protection* 2019, Table A1.12.5 for infill. The report has also been prepared in accordance with Appendix 2, 3, and 4 of *PBP 2019*.

A trained consultant used a slope meter on-site to gain the effective slope angle used in the site analysis.

See Appendix 1 for definitions of fire management terminology.

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4 Assessment of bushfire hazard

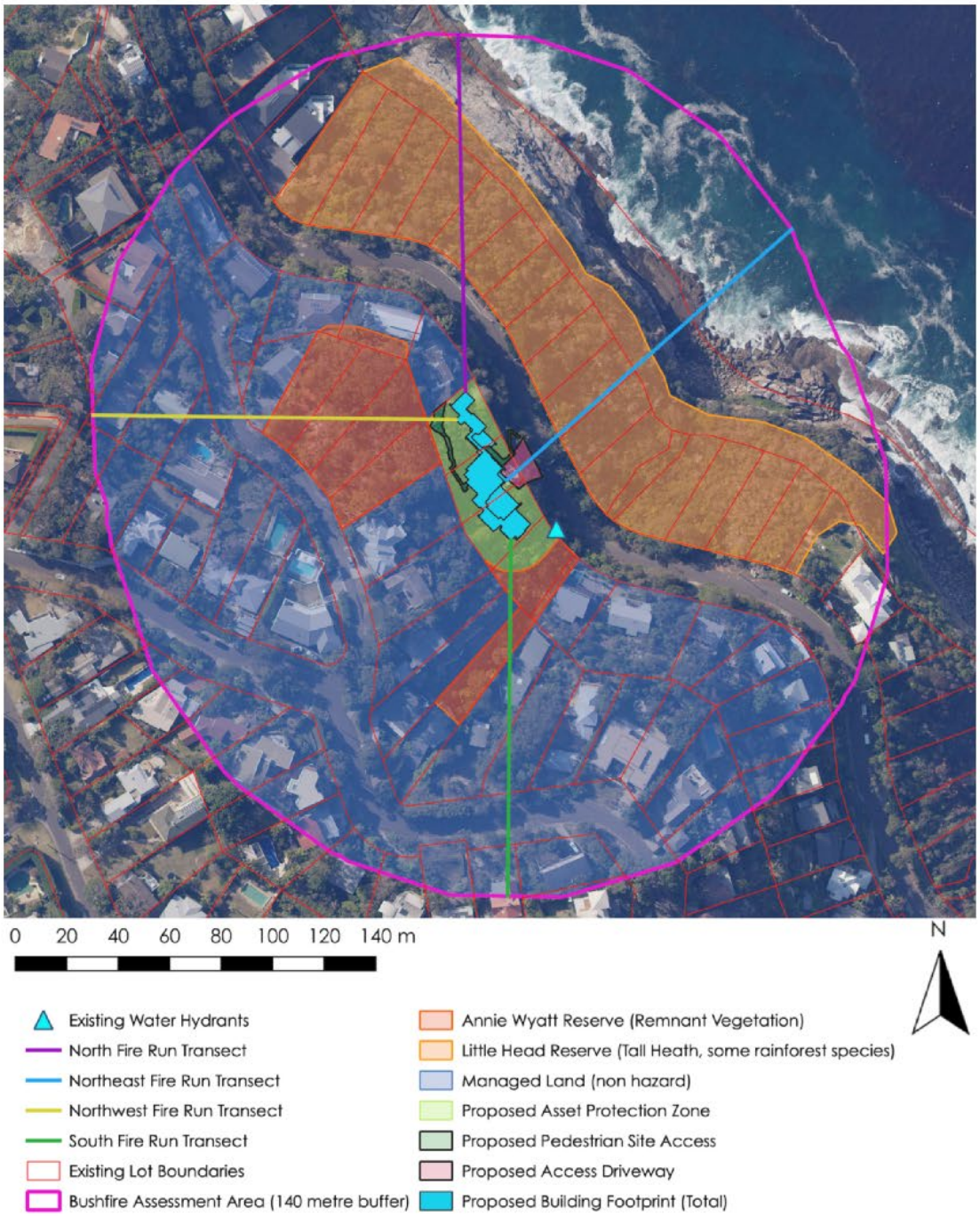


Figure 9. Bushfire assessment area within 140 metres of the proposal.

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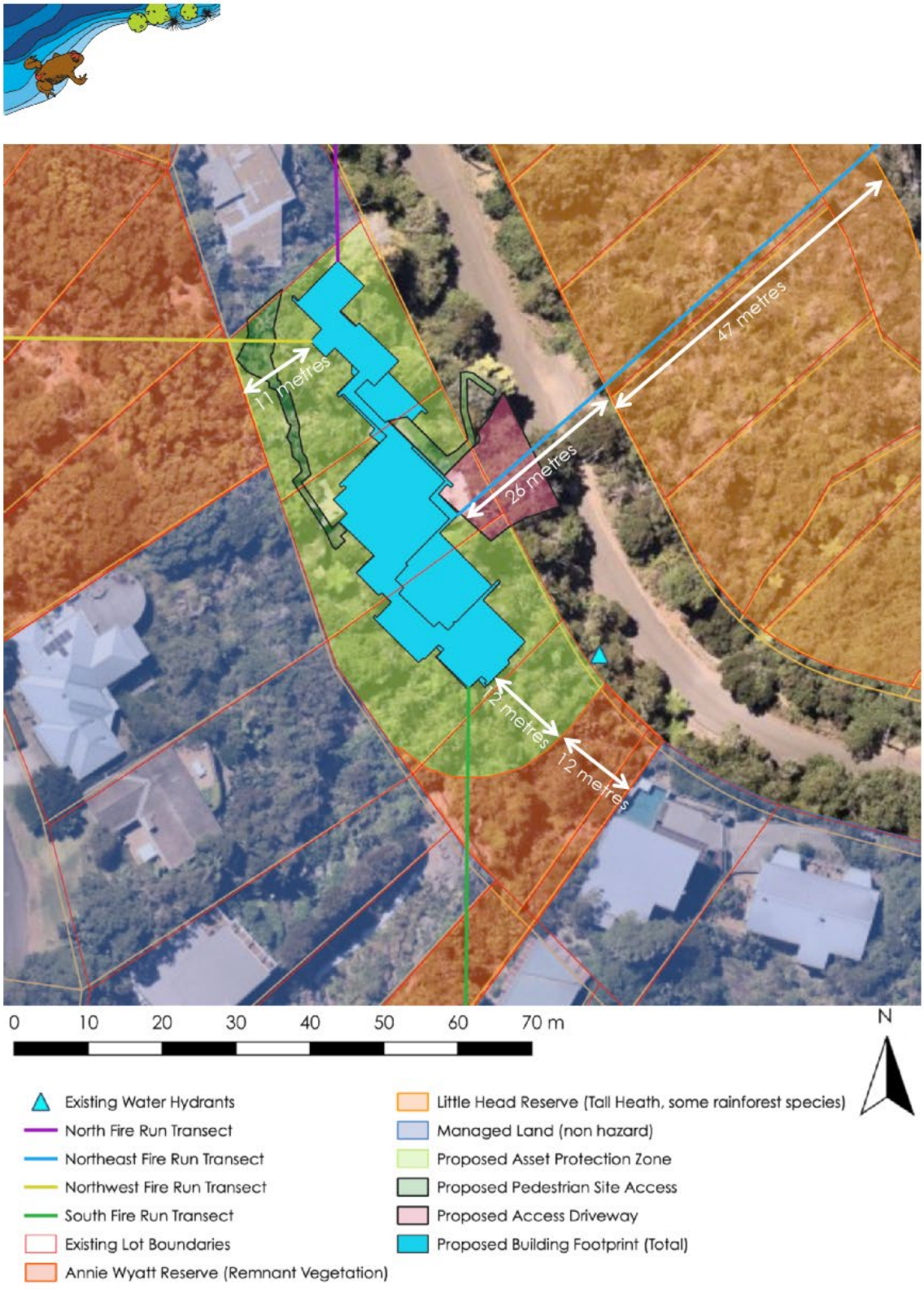


Figure 10. The proposed dwelling in relation to bushfire protection measures and hazard.

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Hazard rating is assessed as follows:

Table 1: **North Aspect** - DTS Method 1: Appendix 1 of *Planning for Bushfire Protection 2019* and Table A1.12.5 *of PBP 2019*.	
Slope (Starting from the external wall of the proposed dwelling)	Downslope 22° for 26 metres then, downslope 6° for 17 metres, then downslope 26° for 97 metres (This transect is drawn in Figure 2 and Figure 9).
Effective slope	Downslope 15° - 20°.
Comment: The maximum slope range of Table A1.12.5 *of PBP 2019* is downslope 15° - 20°. The true effective slope is downslope 26°, but this is outside the modelling of Deem-To-Satisfy Method 1 as per Appendix 1 of *PBP 2019*. Downslope 15° - 20° is considered appropriate to determine a BAL rating.	
Vegetation	Tall Heath (36.9 t/Ha).
Separation from Hazard (Edge of managed land)	44 metres (IPA).
Comment: A separation of 44 metres is achievable on this fire-run because this is the separation distance between the proposed external wall of the dwelling and where the fire-run transect in Figure 2, Figure 9 and Figure 10 crosses Whale Beach Road and descends down into un-managed vegetation. The residential development and managed gardens adjacent the north site boundary and Whale Beach Road fit the definition of 'low hazard vegetation exclusions' in accordance with the provisions of A1.10 on page 88 of *PBP 2019* and therefore meet *PBP 2019* requirements for a defendable space. Due to the radiant heat flux from the northeast aspect (see table below), Table A1.12.5 of *PBP 2019* does permit the APZ to be reduced to 19 metres and still be a deemed-to-satisfy separation distance for BAL-40 construction of the dwelling. The proposed position of the dwelling sits inside the BAL-40 envelope based on assessments of bushfire attack from the northeast.	
Recommended APZ In accordance with Table A1.12.2 of *PBP 2019*.	2 metres (IPA) – all site area from the external wall of the proposed dwelling to the north site boundary.
Comment: Adjacent residential property (e.g. Lot 331) is considered managed land.	
Required building construction standard with recommended APZ In accordance with Table A1.12.5 and Sec. 7.5 of *PBP 2019*.	BAL-40.
Comment: The radiant heat flux from the northeast aspect (40 kW/m^2) requires a BAL-40 building construction standard on the north aspect of the building.	

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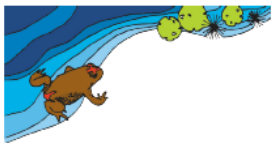


Table 2: Northwest Aspect - DTS Method 1: Appendix 1 of *Planning for Bushfire Protection 2019* and Table A1.12.5 of *PBP 2019*.	
Slope (Starting from the external wall of the proposed dwelling)	Upslope 26° for 14 metres, then upslope 9° for 22 metres, then level 0° for 32 metres, then upslope 6° for >72 metres (This transect is drawn in Figure 2 and Figure 9).
Effective slope	Upslope – level.
Vegetation	'Remnant Vegetation' (Rainforest 10/13.2 t/Ha).
Comment: Annie Wyatt Reserve has not been mapped as bushfire prone land (Figure 3) or considered as a significant threat to the proposal due to its size being <1 Ha (actual size 0.3 Ha). The existing 'Remnant Vegetation' within Annie Wyatt Reserve is classified as 'low hazard' vegetation (Rainforest 10/13.2 t/Ha) in accordance with the provisions for A1.11 remnant bushland classification on page 88 of *PBP 2019*. *PBP 2019* refers to the vegetation category of 'Rainforest' as a fuel load surrogate to reflect the lower bushfire behaviour potential expected from 'low hazard' forest remnants.	
Separation from Hazard (Edge of managed land)	11 metres (IPA).
Comment: An APZ of 11 metres is achievable because this is the separation distance between the proposed external wall of the dwelling and where the fire-run transect in Figure 2, Figure 9 and Figure 10 crosses the site's west boundary. Table A1.12.5 of *PBP 2019* does permit the APZ to be reduced to 8 metres and still be a deemed-to-satisfy separation distance for BAL-40 construction of the dwelling.	
Recommended APZ In accordance with Table A1.12.2 of *PBP 2019*.	10 metres (IPA) on the west aspect, all area from the external wall of the proposed building to the west site boundary.
Comment: A landscape design will need to address maintenance of an APZ on slopes greater than 18°.	
Required building construction standard with recommended APZ In accordance with Table A1.12.5 and Sec. 7.5 of *PBP 2019*.	BAL-40.
Comment: The radiant heat flux from the northeast aspect (40 kW/m^2) requires a BAL-40 building construction standard on the northwest/west aspect of the building.	

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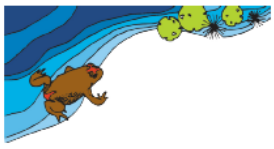


Table 3: Northeast Aspect - DTS Method 1: Appendix 1 of *Planning for Bushfire Protection 2019* and Table A1.12.5 of *PBP 2019*.	
Slope (Starting from the external wall of the proposed dwelling)	Downslope 31° for 14 metres then flat 0° for 11 metres, then downslope 25° for 49 metres, then cliff and ocean for >66 metres (This transect is drawn in Figure 2 and Figure 9).
Comment: The fire run is 49 metres long perpendicular to the contour lines.	
Effective slope	Downslope 15° - 20°.
Comment: The maximum slope range of Table A1.12.5 of *PBP 2019* is downslope 15° - 20°. The true effective slope is downslope 25°, but this is outside the modelling of Deem-To-Satisfy Method 1 as per Appendix 1 of *PBP 2019*. Downslope 15° - 20° is considered appropriate to determine a BAL rating.	
Vegetation	Tall Heath (36.9 t/Ha).
Comment: The existing Category 2 vegetation east of Whale Beach Road is classified as 'low hazard' vegetation in accordance with the provisions of A1.11 on page 88 of *PBP 2019* and Northern Beaches Council's Bushfire Prone Land map (Figure 3).	
Separation from Hazard (Edge of managed land)	26 metres (IPA).
Comment: An APZ of 26 metres is achievable because this is the separation distance between the proposed external wall of the dwelling and where the fire-run transect in Figure 2, Figure 9 and Figure 10 meets the east boundary of the Whale Beach Road corridor.	
Recommended APZ In accordance with Table A1.12.2 of *PBP 2019*.	3 - 10 metres (IPA) on the east aspect, all area from the external wall of the proposed building to the east site boundary.
Comment: A landscape design will need to address maintenance of an APZ on slopes greater than 18° on the south aspect of the proposed building.	
Required building construction standard with recommended APZ In accordance with Table A1.12.5 and Sec. 7.5 of *PBP 2019*.	BAL-40.
Comment: The radiant heat flux from the northeast aspect (40 kW/m^2) requires a BAL-40 building construction standard on the northeast/east aspect of the building.	

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Table 4: South Aspect - DTS Method 1: Appendix 1 of *Planning for Bushfire Protection 2019* and Table A1.12.5 of *PBP 2019*.	
Slope (Starting from the external wall of the proposed dwelling)	Upslope 24° for 18 metres, then level for 21 metres, then 14° upslope for >98 metres (this transect is drawn in Figure 2 and Figure 9).
Effective slope	Upslope.
Vegetation	'Remnant Vegetation' (Rainforest 10/13.2 t/Ha) for 44 metres, thereafter managed gardens for >96 metres.
Separation from Hazard (Edge of managed land)	12 metres (IPA).
Recommended APZ In accordance with Table A1.12.2 of *PBP 2019*.	12 metres (IPA).
Comment: A Vegetation Management Plan will need to exist on Lot 327, to maintain the required APZ on the south aspect of the proposed building for a BAL-40 outcome. A landscape design will need to address maintenance of an APZ on slopes greater than 18° on the south aspect of the proposed building.	
Required building construction standard with recommended APZ In accordance with Table A1.12.5 and Sec. 7.5 of *PBP 2019*.	BAL-40.
Comment: The radiant heat flux from the northeast aspect (40 kW/m²) requires a BAL-40 building construction standard on the south aspect of the building.	

Table 5: Summary Table - DTS Method 1: Appendix 1 of *Planning for Bushfire Protection 2019* and Table A1.12.5 of *PBP 2019*. FFDI 100

Proposed Dwelling on Lots 327, 328, 329 and 330, DP 16362.	**Effective Slope**	**Vegetation**	**Separation distance from un-managed vegetation**	**Bushfire Attack Level**
North Aspect	Downslope 15° - 20°	Tall Heath	44 metres	BAL-40
Northwest Aspect	Up-slope	'Remnant Vegetation'	11 metres	BAL-40
Northeast Aspect	Downslope 15° - 20°	Tall Heath	26 metres	BAL-40
South Aspect	Up-slope	'Remnant Vegetation'	12 metres	BAL-40

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5 Issues arising from the assessment

5.1 Assessment outcome

Dominant hazard

The dominant bushfire hazard to the proposal/PDA is from unmanaged Tall Heath on the east aspect of the proposal footprint. Remnant vegetation also exists on the northwest, and southern aspects.

Building construction constraints

Our assessment indicates the required building construction is BAL-40 on all aspects of the proposal. The west, north and south aspects will be exposed up to 40 kW m^2 principally from the east, but also from pockets of remnant vegetation on the site and to the northwest. All Asset Protection Zones are achievable for this proposal.

Building construction for all aspects of the proposed dwelling are to be built in accordance with the NCC, and must comply with section 3 and 8 (BAL-40) of *Australian Standard 3959* (2018) *Construction of buildings in bushfire-prone areas* and *Table 7.4a* of *PBP 2019* and as modified by Section 7.5, 7.5.1, 7.5.2, 7.5.3, and 7.5.4 (where applicable) of *PBP 2019*. Refer to AS 3959 (2018) for a detailed description.

The development is not in bush fire attack level - flame zone (BAL-FZ).

AS-3959-2018 is now available as PDF for free from -
https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

Proposed Class 10 buildings are to comply with:

- There is no bushfire protection requirement for Class 10a and 10b structures located more than 6 metres from residential dwellings in bushfire prone areas.
- Where a Class 10a and 10b structure is located within 6 metres of a residential dwelling it must be constructed in accordance with the NCC and s.8.3.2 of *PBP 2019*. Class 10a buildings are non-habitable buildings being a private garage, carport, shed or the like.
- For Class 10b buildings, fences and gates. All fences and gates in bushfire prone areas should be made of either hardwood or non-combustible material. In circumstances where the fence or gate is located within 6 metres of a residential dwelling or in areas of BAL-29 or greater, they should be made of non- combustible material only (s. 7.6 of PBP 2019).

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Asset Protection Zone

There is adequate space on the allotment to clear existing vegetation and permit a deemed-to-satisfy separation distance for BAL-40 construction of the dwelling. The APZ is located on lands with a slope exceeding 18°, and is wholly within the boundaries of the development site. The Asset Protection Zone (APZ) will consist of the total area of Lots 328, 329 and 330 and 12 metres is needed from the southern external wall of the building extending onto Lot 327 for BAL-40 compliance. This is a total area of approximately 1,324 m² (excluding the building footprint), and the APZ will be maintained to Inner Protection Area condition.

The APZ is not to impact on land zoned under Northern Beaches Council's Biodiversity planning overlay mapped across the southeast corner of Lot 327, therefore all APZs are achievable for this proposal. The site Landscape Plan will need to prioritise retainment of vegetation cover within the APZ that will mitigate adverse impacts of erosion onsite where the topography exceeds 18°.

An APZ will need to be maintained as Inner Protection Area condition for a distance of 12 metres on the south aspect, 3 - 10 metres on the east aspect, 10 metres on the west aspect, and 2 metres on the north aspect. The APZ distances reflect a balance between the requirements of Table A1.12.5 (*PBP 2019*), and the requirements of Northern Beaches Council LEP 2014. In saying that, the APZ could be larger, however in this case, Northern Beaches Council is unlikely to approve a larger APZ as the LEP states, the unnecessary clearance of vegetation should be avoided.

The APZ will be maintained to Inner Protection Area condition as per Appendix 4 of *PBP 2019* and the RFS document *Standards for Asset Protection Zones* (Appendix 2 and see www.rfs.nsw.gov.au).

Individual tree canopies must have at least two metre gaps between them, but close standing trees are allowed to form clumps as long as the tree canopy cover threshold is not exceeded for IPA condition.

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5.2 Conformance with the objectives in *PBP 2019*

This is infill development as the proposal is to build a new residential dwelling, which does not fall under the special requirements for sub-division and Special Fire Protection Purposes.

The proposed position of the dwelling will afford occupants and defenders protection from exposure to a bushfire (Objective i.). The siting of the dwelling is justified by the position of the BAL-40 zone illustrated in Figure 9 and Figure 10, in order to eliminate direct flame contact with the dwelling (Refer to Figure 9 and Figure 10). This relates directly with the performance criteria for infill in relation to 'siting and design' and (Objective iii.) of *PBP 2019*.

The dwelling will be constructed to BAL–40 and the design will offer adequate defence against the estimated radiant heat level and from ember attack. A BAL–40 outcome is not consistent with (Objective iii.) of *PBP 2019*, but a BAL–40 outcome is the best outcome for the site when the constraints of the site are taken into consideration.

Adequate space exists within the surrounding allotments to provide fire hazard protection. The building footprint will not be exposed to radiant heat levels exceeding 40 kW/m^2. The residential development, managed gardens on the north and west aspects, and managed road corridor on the east aspect fit the definition of Low Threat Vegetation - Exclusions (view list A1.10 *PBP 2019* pp.88) and therefore meet *PBP 2019* performance criteria for a defendable space (Objective ii.). The total area of Lots 328, 329 and 330 and 12 metres extending onto Lot 327 will be treated to IPA condition and meet on-site APZ requirements. The managed ground will continue to be treated to IPA condition and meet on-site APZ requirements (Objective iii.).

The landscape design will incorporate a defendable space immediately surrounding the dwelling. The APZ, which is wholly within the boundaries of the development site and located on land with a slope greater than 18 degrees, will be managed and maintained to prevent the spread of a fire towards the building. The proposed dwelling is separated from the area of Tall Heath to the east, for a minimum distance of 20 metres. The area between, is managed vegetation and a solid break in the fuel is created by Whale Beach Road. The site area between, will be landscaped appropriately to meet IPA condition and maintained through the enforcement of a Vegetation Management Plan (Objective v.).

Whale Beach Road offers adequate access and egress to firefighters, emergency workers, and those involved in evacuation (Objective iv.). Utility services along Whale Beach Road are adequate to meet the needs of firefighters and others assisting in bush fire fighting (Objective vi.).

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The specific objectives of infill have also been met.

The specific objectives of infill are:

a) Provide a defendable space to enable unimpeded access for fire fighting around all elevations of the building.

   The Landscape Plan and APZ recommendations provides for unimpeded access around the dwelling. This objective is satisfied.

b) Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate with the scale of works proposed.

   The proposal is not a redevelopment of the existing building. The proposal includes the demolition of the existing dwelling and then to construct a totally new residential dwelling. Better bushfire outcomes will be achieved by a new building that is fully compliant with the performance criteria of *PBP 2019* and BAL-40 compliant construction and therefore will result in an improved level of bushfire protection. This objective is satisfied.

c) Design and construct buildings commensurate with the bushfire risk.

   The works will comply with the relevant BAL. This objective is satisfied.

d) Provide access, services and landscaping to aid fire fighting operations.

   The provision of access, services and landscaping comply with *PBP* 2019. This objective is satisfied.

e) Not impose an increased bushfire management and maintenance responsibility on adjoining land owners.

   The development does not increase or offset bushfire management onto neighbouring lands. This objective is satisfied.

f) Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of potential risk.

   The work proposed is a new building that is fully compliant with the performance criteria of *PBP 2019* and BAL-40 compliant construction and therefore will result in an improved level of bushfire protection. This objective is satisfied.

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5.3 Deviation from the objectives of *PBP 2019*

A BAL–40 outcome is not fully consistent with (Objective iii.) of *PBP 2019*, because there is the potential for direct flame contact with the building elements. Objective iii. of *PBP 2019*, states:

'*provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings*'.

However, a BAL–40 outcome is the best outcome for the site when the constraints of the site are taken into consideration. The siting of the building could not be significantly improved to avoid possible flame contact and radiant heat exposure below 40 kW/m^2. BAL–40 construction standard is designed to prevent the likely fire spread to buildings.

In our opinion we do not believe the aims and objectives of *PBP 2019* regarding appropriate separation distances has been compromised. The application will therefore not need to be referred to the local Rural Fire Service for comment in accordance with Section 4.14 of the *Environmental Planning and Assessment Act 1979*.

5.4 Flame length

Flame length is not expected to impact the building from the east and southern aspects of the PDA.

5.5 Expected radiant heat flux (RHF)

The BAL 40 construction is designed to deal with a 40 kW/m^2 level of radiation.

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6 Infrastructure and other requirements

6.1 Asset Protection Zone management

All APZs are achievable for this proposal.

To meet the bushfire protection measures stated in *PBP 2019* for the proposed dwelling the proposed APZ distances are:

- 2 metres on the north aspect to the north site boundary,
- 3 - 10 metres on the east aspect, all area from the external wall of the proposed building to the east site boundary,
- 12 metres on the south aspect and
- 10 metres on the west aspect, all area from the external wall of the proposed building to the west site boundary.

Legislative responsibility to manage hazardous fuels s.63(2) *RF Act 1997*.

S.63(2) of the *Rural Fires Act 1997* No 65 states, "It is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of bush fires on, and to minimise the danger of the spread of bush fires on or from, that land."

The residents will be required to maintain fuel levels consistent with the provisions of the Asset Protection Zone being, Table 7.4a of *PBP 2019* and Appendix 4 of *PBP 2019* as well as the RFS *Standards for Asset Protection Zones* (Appendix 2 and see www.rfs.nsw.gov.au). The Asset Protection Zone is to be maintained on a permanent basis through the enforcement of a Vegetation Management Plan. The site is zoned as 'Land Management Zone with human settlement' not expected to be impacted upon by bushfire in the Warringah Pittwater Bushfire Risk Management Plan 2010. Ultimate responsibility will fall on the landowner to manage bushfire fuel on the property. With the landowners consent, hazard reduction will be completed by the RFS on a seven to ten year cycle.

Total clearance of all vegetation is not acceptable especially in areas where the topography exceeds 18°. Vegetation management undertaken to establish the required Asset Protection Zone shall be minimised while still complying with *PBP 2019* guidelines.

6.2 Preparation of your existing home for bushfire

The RFS have prepared a number of general tips to prepare your home for bushfire see Appendix 4 for more details.

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6.3 Water supply

There is town mains water supply available. The nearest hydrant is located outside Lot 328 and outside the road carriageway of Whale Beach Road, 45 metres south from the front of the existing dwelling, and complies with the performance criteria for a reticulated water supply in Table 7.4a of *PBP 2019*. However in a bushfire emergency, it is possible the reticulated water supply is 'unreliable' due to a high water demand and lack of water pressure.

The steepness and elevation change between Whale Beach Road and the rear (west) side of the proposal does create a logistical challenge to firefighters, particularly for access and the provision of a reliable water source. A 70 metre unobstructed path cannot be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road site. Therefore, where applicable, fire hydrants / reticulated water supply to the site is to be installed compliant with the following:

- Fire hydrant spacing, design and sizing comply with the relevant clauses of Australian Standard AS 2419.1:2005 - *Fire hydrant installations System design, installation and commissioning,*
- Hydrants are not to be located within any road carriageway or parking bay,
- Fire hydrant flows and pressures are to comply with AS 2419.1:2005, and
- All above-ground water service pipes external to the building are metal, including and up to any taps.

In addition, a minimum 10,000 litre (or other amount as determined by a hydraulic engineer or other Accredited fire safety engineer), static concrete or metal water supply must be provided on site. A larger tank or pool (for example) can be provided, however the draw off for domestic purposes will need to be above the 10,000 litre line.

- If an underground tank is to be installed it shall have an access hole of 200 mm to allow tankers to refill direct from the tank and must be clearly marked/identified.
- Raised tanks have their stands constructed from non-combustible material or bushfire-resisting timber (see Appendix F AS 3959(2018)).
- Tanks on the hazard side of a building are provided with adequate shielding for the protection of fire fighters.
- A hardened ground surface for truck access is supplied within 4 metres of the tank or standpipe with access to the static water supply.
- Unobstructed access is to be provided at all times.
- A suitable accessible connection located within the IPA or non-hazard side and away from the building is to be provided for RFS purposes in the form of a 65 mm ball valve and Storz fitting.
- The ball valve, pipes and tank penetration must be adequate for full 50 mm inner diameter water flow through the Storz fitting and are metal.
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume.
- Ball valve and pipes are adequate for water flow and are metal.
- All associated fittings to the tank shall be non-combustible/metal.

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- All above-ground water service pipes or fittings external to the building(s) are metal, including and up to any taps.
- Standpipes/hydrants are not to be located within any road carriageway.
- A minimum 5hp or 3kW petrol- or diesel-powered pump shall be made available to the water supply.
- A 19 mm (internal diameter) fire hose and reel shall be connected to the pump. The fire hose reel must be capable of reaching all extremities of the proposed dwelling. Should the hose not reach all extremities of the building an additional hose reel shall be installed to cover those areas that are not covered.
- Access to the water supply (i.e. pump and hose reel) is to be shielded from radiant heat.
- Fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with AS 2441:2005 Installation of Fire hose reels, and
- The property owner is encouraged to place a 'SWS' (static water supply) sign in a visible location on the road front and at any access point/standpipe for site static water supplies.

6.4 Gas and electricity services

Gas and electricity services are to be located so as to not contribute to the risk of fire to the building in the following ways:

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 2014 – The storage and handling of LP Gas and the requirements of relevant authorities. Metal piping is to be used;
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation;
- If gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal;
- Polymer sheathed flexible gas supply lines are not used;
- Gas service pipes are metal, including and up to any outlets;
- The location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings;
- Where practical, electrical transmission lines are underground;
- Where overhead, electrical transmission lines are proposed, the lines must comply with the following:
  - Lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas;
  - No part of a tree is closer to a power line than the distance set out in accordance with the specifications in *ISSC3 Guideline for Managing Vegetation Near Power Lines*.

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6.5 Access and egress

The following roads provide access for fire fighting vehicles and evacuation opportunity for residents.

Public roads

Whale Beach Road provides all weather access to the property and complies with the performance criteria in Table 7.4a of *PBP 2019* in the following ways. Whale Beach Road is a two-wheel drive, all weather road, council bitumen through road, which is:

- Clearly sign-posted (buildings/properties are clearly numbered);
- >980 metres long, with seven through road connections along its length, the closest being 300 metres from the entrance to the site;
- Because access and egress can only be achieved through heath vegetation, a secondary access has been provided to an alternate point on the existing public road system. These being access to Florida Road (north end), and Norma Road (south end).
- Traffic management devices are constructed to not prohibit access by emergency services vehicles;
- Of suitable grades (does not exceed 15 degrees for sealed roads or an average of 10 degrees across its length, or other gradient specified by road design standards, whichever is the lesser gradient;
- Has a cross fall not exceeding 3 degrees;
- Six metres wide kerb to kerb, including curves;
- Designed to carry fully loaded fire fighting vehicles (up to 23 tonnes), bridges/causeways clearly indicate load rating;
- The are no dead ends;
- A height clearance of four metres is maintained;
- Provides clear access to reticulated water supply (hydrants are located outside of parking bays and road carriageways);
- Hydrants are provided in accordance with the relevant clauses of Australian Standard AS 2419.1:2005 - *Fire hydrant installations System design, installation and commissioning;*
- There will be suitable access for a Category 1 fire appliance to within 4 metres of the static water supply where no reticulated supply is available;
- Parking does not obstruct the minimum paved width; and
- Is regularly maintained.

Property access

All weather access to the site will be provided in recognition of the risk to fire fighters and/or evacuating occupants. There is access to the rear of the site for operational activities. Firefighters must be able to access the rear of the house from Whale Beach Road.

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No specific access requirements apply in an urban area where 70 metres unobstructed path can be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road (road speed limit <70 km/h) that supports the operational use of emergency firefighting vehicles. This provision cannot be demonstrated for this proposal, therefore firefighters must be able to access all external areas of the house from Whale Beach Road.

The site driveway servicing the PDA does comply with the performance criteria in Table 7.4a of *PBP 2019* in the following ways. These are:

- The site driveway carriageway / swept path (excluding drainage and edging) is a minimum 4 metres wide;
- Clearly sign-posted, two-wheel drive, paved all-weather driveway;
- The dead end incorporates a turning area compliant with Figure A3.3 Type C of *PBP 2019*;
- Is less than 200 metres in length, and contains no bridges. The proposed driveway on-site is 11 metres long, nine metres wide;
- Crossfall of the pavement is not more than 10 degrees;
- The site driveway does not exceed 15 degrees and is not more than 10 degrees;
- Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress;
- The minimum distance between inner and outer curves is six metres;
- A minimum vertical clearance of four metres to any overhanging obstructions, including tree branches;
- The site driveway does not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge);
- The internal road surfaces have a capacity to carry fully-loaded fire fighting vehicles (23 tonnes), bridges and causeways are to clearly indicate load rating;
- There is suitable access for a Category 1 fire appliance to within 4 metres of the static water supply where no reticulated supply is available; and
- Is regularly maintained.

The proposed site access driveway does comply with Table 7.4a of *PBP 2019*.

RFS vehicle access and turning requirements

Turn-around areas for RFS vehicles, which comply with Appendix 3 of *PBP 2019* are not located along Whale Beach Road.

Whale Beach Road is a council bitumen through road. The only suitable turning points for medium-rigid vehicles are three-point-turns at the closest road intersections: Florida Road and Ocean Place 1.1 km to the north, and Whale Beach Road and Norma Road 680 metres to the south. There are limited, unevenly spread areas where the formed road provides space for medium-rigid vehicles to pass in opposite directions safely.

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The most suitable turning area for RFS vehicles in the immediate vicinity of the site will be to use the proposed driveway. The proposed driveway can comply with Figure A3.3 Type C of *PBP 2019* (Figure 11 below).

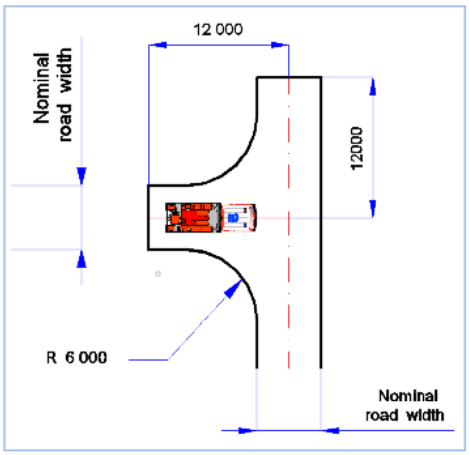


Figure 11 Type A

6.6 Availability of fire fighting services

The nearest NSW Fire and Rescue Station is located at 689 Barrenjoey Rd, Avalon Beach, 5.1 km from the site.

6.7 Additional protection measures

Residents of bushfire prone areas are encouraged to build their own Bushfire Survival Plan – details of where to start can be found in Appendix 3.

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6.8 Landscaping

The Vegetation Management Plan within the asset protection zone is to comply with the principles of Appendix 4 of *PBP 2019* (see Appendix 2). For example, this means:

- Landscaping is not to abut the dwelling as this may cause a direct fire path to combustible building elements. Suitable impervious areas are provided immediately surrounding the building such as courtyards, paths and driveways. A pathway or non-combustible ground finish is to adjoin the dwelling for a distance of at least 1.0 metre.
- Total clearance of all vegetation is not acceptable especially in areas where the topography exceeds 18°. Vegetation management undertaken to establish the required Asset Protection zone shall be minimised while still complying with PBP guidelines. Where APZ and areas where the topography exceeds 18° overlap, priority will need to be made to retain native vegetation cover within the slope constraint area that will mitigate adverse impacts of erosion.
- Grassed areas, mowed lawns or ground cover plantings are provided in close proximity to the building. Garden beds of flammable shrubs are not to be located under trees and must be no closer than 10 metres from an exposed window or door.
- Planting of trees and shrubs are restricted in the immediate vicinity of the building, which over time, if not properly maintained, can come in contact with or overhang the building.
- Retained or planted trees and shrubs do not form a continuous stand from the hazard to the asset and will not over time compromise the asset protection zone.
- Local plant species that are of low flammability (low volatile oil levels, high moisture content in leaves and low levels of retained dead material) are selected or retained for use within the asset protection zone.
- The Vegetation Management Plan is to accommodate firefighter access to the rear of the dwelling.
- Fire hazard management for the subject site needs to take into account hollow-bearing trees, and area mapped on the Biodiversity Overlay across the southeast corner of Lot 327.
  - refer to the site PEAR Report (AE21 2233 REP ISS 1 3Mar21).

A full list of landscaping requirements can be found in Appendix 4 of *PBP 2019* and the RFS document *Standards for Asset Protection Zones* must also be consulted.

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7 Building construction requirements

Our assessment indicates the required building construction is BAL-40 on all aspects of the proposal. The west, north and south aspects will be exposed up to 40 kW m² principally from the east, but also from pockets of remnant vegetation on the site and to the northwest. Building construction for all aspects of the proposed dwelling are to be built in accordance with the NCC, and must comply with section 3 and 8 (BAL-40) of *Australian Standard 3959* (2018) *Construction of buildings in bushfire-prone areas* and Table 7.4a of *PBP 2019* and as modified by Section 7.5, 7.5.1, 7.5.2, 7.5.3, and 7.5.4 (where applicable) of *PBP 2019*. Refer to AS 3959 (2018) for a detailed description.

The development is not in bush fire attack level - flame zone (BAL-FZ).

AS-3959 (2018) is now available as PDF for free from -
https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

Proposed Class 10 buildings are to comply with:

- There is no bushfire protection requirement for Class 10a and 10b structures located more than 6 metres from a dwelling in bushfire prone areas. Where a Class 10a and 10b structure is located within 6 metres of a dwelling it must be constructed in accordance with the NCC as if it were a Class 1a building (s.8.3.2 of *PBP 2019*). Class 10a buildings are non-habitable buildings being a private garage, carport, shed or the like.
- For Class 10b buildings, fences and gates. All fences in bushfire prone areas should be made of either hardwood or non-combustible material. In circumstances where the fence connects directly to the dwelling or in areas of BAL-29 or greater, they should be made of non-combustible material (s.7.6 of PBP 2019).

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8 Conclusion and recommendations

The site is mapped as bush fire prone land. In our opinion, the site is not sterilised by the bushfire threat. This report concludes that the proposed development can comply with *PBP 2019*. The owners will therefore be able to construct the proposed dwelling with the following measures included:

a) This proposal has been prepared in accordance with *PBP 2019* in its entirety and the development complies with most relevant Acceptable Solutions in this version of PBP.

b) The site is mapped as bush fire prone land.

c) Building construction for all aspects of the proposed dwelling must comply with section 3 and 8 (BAL-40) of *Australian Standard 3959* (2018) *Construction of buildings in bushfire-prone areas* and Table 7.4a of *PBP 2019* and as modified by Section 7.5, 7.5.1, 7.5.2, 7.5.3, and 7.5.4 (where applicable) of *Planning for Bush Fire Protection 2019*.

- Proposed Class 10 buildings are to comply with Section 7 of this report and:
- Class 10a: Sheds – s.8.3.2 of PBP 2019,
- Class 10b: fences and gates – Section 7.6 of *PBP 2019*.

AS-3959-2018 is now available as PDF for free from -
https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

d) We recommend a site Vegetation Management Plan (VMP) be produced for the on-going management and maintenance of the site asset protection zone. The APZ will be maintained to Inner Protection Area condition as per Sec. 6.1 and 6.8 of this report, Appendix 4 of *PBP 2019* and the RFS *Standards for Asset Protection Zones* (Appendix 2 and see www.rfs.nsw.gov.au). The VMP will observe mapped Slope Constraint areas, retention of hollow-bearing trees and area mapped on the Biodiversity Overlay across the southeast corner of Lot 327 (Abel Ecology 2021). Total clearance of all vegetation is not acceptable. Vegetation management undertaken to establish the required Asset Protection zone shall be minimised while still complying with PBP guidelines.

e) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the north aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 2 metres from the external wall of the dwelling to the north boundary.
- Trees will need to be removed to achieve this requirement.

f) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the east aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 3 - 10 metres from the external wall of the dwelling to the east boundary.
- Trees will need to be removed to achieve this requirement.

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g) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the west aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 10 metres from the external wall of the dwelling to the west boundary.
- Trees will need to be removed to achieve this requirement.

h) In accordance with a site Vegetation Management Plan, an asset protection zone is to be maintained permanently on the south aspect:
- To IPA condition (15% tree canopy cover) for a horizontal distance of 12 metres from the external wall of the dwelling.
- Trees will need to be removed to achieve this requirement.

i) Whale Beach Road offers adequate access and egress to firefighters, emergency workers, and those involved in evacuation and complies with the performance criteria in Table 7.4a of *PBP 2019*.

j) All weather access to the site will be provided in recognition of the risk to fire fighters and/or evacuating occupants. A 70 metre unobstructed path cannot be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road (road speed limit <70 km/h) that supports the operational use of emergency firefighting vehicles. Therefore there must be access to the rear of the dwelling for operational activities via Whale Beach Road. Firefighters must be able to access to the rear of the dwelling. The access driveway must:

- The site driveway carriageway / swept path (excluding drainage and edging) will be a minimum 4 metres wide;
- Be clearly sign-posted, two-wheel drive, paved all-weather driveway;
- The dead end incorporates a turning area compliant with Figure A3.3 Type C of *PBP 2019*;
- Is less than 200 metres in length, and contains no bridges. The proposed driveway on-site is 11 metres long, nine metres wide;
- Crossfall of the pavement is not more than 10 degrees;
- The site driveway do not exceed 15 degrees and is not more than 10 degrees;
- Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress;
- The minimum distance between inner and outer curves is six metres;
- A minimum vertical clearance of four metres to any overhanging obstructions, including tree branches;
- The site driveway does not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge);
- The internal road surfaces have a capacity to carry fully-loaded fire fighting vehicles (23 tonnes), bridges and causeways are to clearly indicate load rating;
- There is suitable access for a Category 1 fire appliance to within 4 metres of the static water supply where no reticulated supply is available; and
- Is regularly maintained.

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k) The proposed site access driveway does comply with Table 7.4a of *PBP 2019*.

l) Utility services along Whale Beach Road are adequate to meet the needs of firefighters and others assisting in bush firefighting. Gas and electricity services are to be located so as to not contribute to the risk of fire to the buildings. Gas and electricity services are to be installed as per Sec. 6.4 of this report.

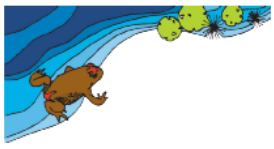
m) Fire hazard management for the subject site needs to take into account hollow-bearing trees, and native vegetation that is:

- Mapped on the Biodiversity Overlay across the southeast corner of Lot 327 and,
- Is protected under a SEPP (Vegetation in Non-Rural Areas) 2017, or SEPP No 19—Bushland in Urban Areas 1986 and SEPP (Coastal Management) 2018.

n) Water supply is to be provided in accordance with Sec. 6.3 of this report and Table 7.4a of *PBP 2019*.

o) Residents of bushfire prone areas are encouraged to build their own Bushfire Survival Plan.

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9 Literature Review

Abel Ecology 2021. Prescribed Ecological Assessment Report (PEAR) for 346, 348, 350 & 352 Whale Beach Road Palm Beach, Lots 327, 328, 329, 330 DP 16362, Proposed new dwelling (AE21 2233 REP ISS 1 3Mar21)

Keith, D. (2004). *Ocean shores to desert dunes: the native vegetation of New South Wales and the ACT*. Department of Environment and Conservation (NSW), Hurstville.

Standards Australia (2018) AS 3959. *Construction of buildings in bushfire-prone areas.* Standards Australia, Sydney.

Tozer, M.G. Turner, K., Keith, D.A., Tindall, D., Pennay, C., Simpson, C., MacKenzie, B., Beukers, P. and Cox, S. (2010). Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands. Cunninghamia, 11(3): 359-406.

Warringah Pittwater BFMC (2010). Bush Fire Prone Land Map for the Northern Beaches Local Government Area in New South Wales, NSW Rural Fire Service.

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Appendix 1. Glossary of Definitions and Terms

This section defines and explains some commonly used expressions relating to bushfires.

Bushfire (or wild fire) is generally defined to mean any unplanned fire in vegetation. Fires can also be used for land management purposes such as grazing or hazard reduction. Bushfires generally have a seasonal pattern and occur in spring and summer but can occur at other times of year under suitable conditions. The behaviour of fires is primarily influenced by:

- fuel (type, load, moisture, continuity and compaction);
- ignition source;
- topography (slope and aspect); and
- weather (humidity, temperature, wind).

Bushfire danger is a relative measure of weather conditions (temperature, drought indices, humidity and wind speed) describing the likelihood of fire ignition, spread, control difficulty and damage potential. There is currently an emphasis on prevention and suppression of bushfires to minimise damage to human life and property.

Bushfire hazard is an assessment of the particular combination of available fuel (vegetation), slope and climate/weather pattern relating to a site. This includes leaf litter and ground cover, standing fuel of the shrub and canopy layers and the season of the year. The assessment is usually rated on a scale from 'low' (or insignificant) to 'extreme' and gives a final indicator of the potential severity of a fire.

Bushfire risk means the probability of a wildfire "igniting, spreading and causing damage to assets of value to the community" (Planning for Bushfire Protection 2019). Related to this is bushfire threat which is the threat of potential damage to life and property arising from a combination of hazard, risk and bushfire danger.

Hazard reduction means a reduction or modification of fuel by burning, chemical, mechanical or manual means.

Prescribed burn means a planned fire ignited by a land manager in accordance with a fuel management plan or for ecosystem management purposes.

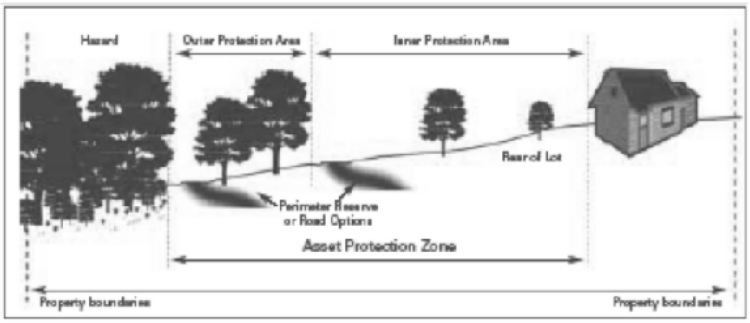
Fire regime means the pattern of occurrence of fire, specifically the regularity, periodicity, seasonality, spatial extent, patchiness and intensity. This is important in terms of assessing risks and ecological impacts and is often used in prescribing a management goal to be achieved. There is debate about what constitutes a natural or pre European fire pattern. For the purpose of these definitions natural means an existence independent of human action.

Bushfire Risk Management is achieved by use of **Asset Protection Zones (APZ),** defined by the document "Planning For Bushfire Protection 2019" (NSW Rural Fire Service). An APZ acts as a buffer

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zone between the development and the bushfire hazard, and consists of an Outer Protection Area (OPA) and an Inner Protection Area (IPA). The primary purpose of an Asset Protection Zone is to ensure that a progressive reduction of bushfire fuels occurs between the bushfire hazard and any habitable structures within the development.



OPA = Outer Protection Area

Location: adjacent to the hazard
Purpose: substantially reduces the intensity of an approaching fire, reducing the level of direct flame, radiant heat and ember attack on the IPA
Depth: between 10 and 15m deep, depending on the type of land use and vulnerability of the dwelling or persons affected.
Fuel Loading: discontinuous tree canopy and shrub layer; fine fuel load usually less than 8 tonnes per hectare.

IPA = Inner Protection Area

Location: extends from the edge of the OPA to the development to be protected
Purpose: minimise the impact of direct flame contact and radiant heat on the development
Depth: dependent upon the slope of the land

Performance criteria for IPA:

- Minimal fine fuel which can be set alight by a fire
- Any vegetation in the IPA does not provide a path for the transfer of fire to the development - i.e. fuels are discontinuous.

The presence of trees and shrubs in the IPA is acceptable provided that they:

- Do not touch or overhang the building;
- Do not form a continuous canopy;
- Are not species that retain dead material or deposit excessive quantities of ground fuel in a short time;
- Are located far enough away from a building that they will not ignite the building by direct flame contact or radiant heat emission.

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Appendix 2. Asset Protection Zone maintenance

To meet the bushfire protection measures stated in *PBP 2019* for the proposed dwelling the proposed APZ distances are:

- 2 metres on the north aspect to the north site boundary,
- 3 - 10 metres on the east aspect, all area from the external wall of the proposed building to the east site boundary,
- 12 metres on the south aspect and
- 10 metres on the west aspect, all area from the external wall of the proposed building to the west site boundary.

The APZ will be maintained to Inner Protection Area condition as per Appendix 4 of *PBP 2019* and the RFS document *Standards for Asset Protection Zones*. At least 75% of the ground cover must be retained after maintenance to prevent soil erosion:

Inner Protection Area

Specification

a) Trees
   i. Canopy - average cover of whole IPA less than 15% (at maturity); not continuous from hazard to asset with 2-5 metres separation between tree crowns; not overhanging within 2-5 metres of building; islands of canopy permitted.
   ii. All lower limbs less than two metres above ground removed.
   iii. Preference should be given to smooth barked and evergreen trees.

b) Trees and shrubs
   i. Retained as clumps or islands, cover less than 10% of whole area.
   ii. Shrubs should not be located under trees.
   iii. Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings.
   iv. Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

c) Grass
   i. Should be kept mown (as a guide grass should be kept to no more than 100mm in height)
   ii. Leaves and vegetation debris should be removed.

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Maintenance

The IPA is to be maintained as follows:

a) Minimal fine fuel at ground level which could be set alight by a bushfire,
b) Vegetation does not provide a path for the transfer of fire to the development - that is, fuels are discontinuous
c) No trees to overhang the building
d) Trees must be well spread out and not form a canopy
e) Trees or shrubs that retain dead material or deposit excessive quantities of fuel in a short period of time must not be within the IPA
f) Trees and shrubs must be located far enough from the house that the radiant heat they produce or direct flame contact will not ignite the house.
g) Wooden sheds, combustible material, large areas/quantities of garden mulch, stacked flammable building materials etc., must not be within the IPA

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Appendix 3. Fire emergency procedure

Bush Fire Survival Plan

We recommend that you prepare your own Bush Fire Survival Plan
http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_BushFireSurvivalPlan.pdf

Personal safety and survival

(from s6.5 of Planning for Bushfire Protection 2001)
The survivability of a dwelling and its occupants is dependent upon the amount of preparation prior to the actual fire event.

As the bushfire approaches

Personal Protection

Protect yourself from radiant heat by wearing:

a) cotton overalls or thicker long sleeved shirt and long pants of cotton or wool;
b) clothes which are loose fitting;
c) a strong pair of shoes or boots with woollen or cotton socks;
d) gloves, if your hands are not used to working with tools;
e) goggles, if the smoke is thick;
f) a "bandana" or large handkerchief to protect the airways from smoke and hot air;
g) a wide-brimmed hat or hard hat if one is available; but
h) leave your ears uncovered - they warn you of heat levels.

DO NOT WEAR SYNTHETICS – WEAR WOOL, COTTON OR DENIM.

Protection of Children, Elderly and Pets

During the approach of a bushfire:

a) keep children, elderly and pets inside the house;
b) give them plenty of water to drink; and
c) make sure you keep track of their movements.

Outside the home

a) Close windows and doors and any shutters and fit any screens.
b) Block the down pipes and fill them with water.
c) Put doormats inside.
d) Store all combustible furniture and awnings.
e) Wet down wood piles and areas of garden mulch.

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Inside the home

a) Fill all sinks, baths and any buckets with water and put a filled bucket in the roof.
b) Block any gaps under the doors with wet towels.
c) Place a ladder to provide access to the roof area.
d) Monitor the radio – keep a spare set of batteries.
e) Turn off any gas.

The car

a) Park in a cleared area.
b) Close all doors, windows and vents.
c) Leave the keys in the ignition.
d) Store woollen blankets inside.

When the bushfire is close

a) Remain outside as long as possible patrolling the area for spot fires.
b) Suppress any spot fires which start close to the house or in the guttering.
c) Take refuge when the smoke starts to thicken.
d) Take your hoses and fittings inside when you move inside.
e) Activate any sprinkler system.

As the bushfire passes over

a) Remain calm and keep other occupants calm.
b) Move to the side of the house away from the main fire front.
c) Carry out regular inspections, particularly of windows to determine if they have shattered and embers have entered any rooms.

After the bushfire has passed

a) Before passing through a closed doorway, feel the door – if it is hot do not open it as there may be a fire on the other side – leave it closed to stop the fire spreading and exit via another route.
b) Check the house for fires – the roof, roof spaces and any under floor areas.
c) If the house is on fire move onto burnt out ground but keep clear of burning trees.

Evacuation or relocation

a) Research shows that where people are in attendance and are well prepared then dwelling are more likely to survive a bushfire. Early evacuation or relocation is a serious consideration where:
b) you are not confident that your house is prepared to withstand a bushfire;
c) you are worried about your children or elderly members of the household;
d) you suspect that you or members of the household will be unable to cope with the stress of staying;

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e) it is safe to leave and you have a clear idea of where a safe refuge is to be found; and
f) you know the destination to be safe.

If you do decide to relocate, or are directed to evacuate:

a) DO IT EARLY;
b) close all doors and windows and consider leaving them unlocked – a fire fighter may need access to your home;
c) know where you are going;
d) drive carefully.

NOTE: According to Section 60L of the *NSW State Emergency and Rescue Management Act 1989* No 165, you can be directed to evacuate an area or premises (https://www.legislation.nsw.gov.au/#/view/act/1989/165):

> ***60L Power of police to evacuate or to take other steps concerning persons***
> *(1) A directing officer may, if satisfied that there are reasonable grounds for doing so for the purpose of protecting persons from injury or death threatened by an actual or imminent emergency, direct, or authorise a police officer to direct, a person to do any or all of the following:*
>
> *(a) to leave any particular premises and to move outside the danger area,*
> *(b) to take any children or adults present in any particular premises who are in the person's care and to move them outside the danger area,*
> *(c) not to enter the danger area.*
>
> *directing officer means:*
> *(a) the Minister, or*
> *(b) the State Emergency Operations Controller, or*
> *(c) a police officer of or above the rank of sergeant, or*
> *(d) a police officer of a class prescribed by the regulations for the purposes of this definition.*

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Appendix 4. Prepare your home

These tips are curtesy of the Rural Fire Service website -
http://www.rfs.nsw.gov.au/plan-and-prepare/prepare-your-property

A well prepared home is more likely to survive a bush fire.

Even if your plan is to leave early, the more you prepare your home, the more likely it will survive a bush fire or ember attack. A well prepared home can also be easier for you or firefighters to defend, and is less likely to put your neighbours' homes at risk. A well prepared home will also give you more protection if a fire threatens suddenly and you cannot leave.

Here are some basic maintenance tips to prepare your property:

- Clean your gutters of leaves and twigs
- Install metal gutter guards
- Repair damaged or missing tiles on the roof
- Install fine metal mesh screens on windows and doors
- Fit seals around doors and windows to eliminate gaps
- Enclose the areas under the house
- Repair or cover gaps in external walls
- Attach a fire sprinkler system to gutters
- Keep lawns short and gardens well maintained
- Cut back trees and shrubs overhanging buildings
- Clean up fallen leaves, twigs and debris around the property
- Have hoses long enough to reach around your house
- If you have a pool, tank or dam, put a Static Water Supply (SWS) sign on your property entrance, so firefighters know where they can get water
- Check and maintain adequate levels of home and contents insurance. Ensure it is up to date.

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Appendix 5. Company Profile

Abel Ecology has been in the ecological consulting business since 1991, starting in the Sydney Region, and progressively more state wide in New South Wales since 1998, and now also in Victoria. During this time extensive expertise has been gained with regard to Master Planning, Environmental Impact assessments including biodiversity reports, bushfire reports, Vegetation Management Plans, Management of threatened species, Review of Environmental Factors, and as Expert Witness in the Land and Environment Court. We have done consultancy work for industrial and commercial developments, golf courses, civil engineering projects, tourist developments as well as residential and rural projects. This process has also generated many connections with relevant government departments and city councils in NSW. Our team consists of four scientists and two administrative staff, plus casual assistants as required.

Licences

NPWS s132C Scientific licence number is SL100780 expires 31 July 2021
NPWS GIS data licence number is CON95034
DG NSW Dept of Primary Industries Animal Care and Ethics Committee Approval expires 8 November 2021
DG NSW Dept of Primary Industries Animal Research Authority expires 8 November 2021

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The Consultancy Team

Dr Danny Wotherspoon

Grad Dip Bushfire Protection (University of Western Sydney 2012)
PhD (researching Cumberland Plain vegetation and fauna habitat, at Centre for Integrated Catchment Management, University of Western Sydney, 2008)
Planning for Bushfire Protection Certificate course (University of Technology, 2006)
Consulting Planners Bushfire Training Course (Planning Institute of Australia, 2003)
MA (Macquarie University, 1991)
Wildlife Photography Certificate (Sydney Technical College, 1987)
Herpetological Techniques Certificate (Sydney Technical College, 1986)
Applied Herpetology Certificate (Sydney Technical College, 1980)
Dip Ed (University of New England, 1978)
BSc (Zoology, Ecology) University of New England 1974)

Dr Daniel McDonald

Cert IV – GIS (Riverina TAFE 2016)
PhD (The University of Sydney 2006)
M. Agr (The University of Sydney 1996)
B. Ag Sc. (The University of Sydney 1991)
Daniel is an accredited Biobanking Assessor
Quantified Tree Risk Assessment (QTRA) and Visual Tree Assessment (VTA)

Daniel is an experienced ecologist with expertise in fauna, plant species identification, vegetation assessment, agriculture, conservation genetics and seed collection and preservation. He is accredited both for BioBanking assessments and Biodiversity Certification. His present research interest is in Eastern Suburbs Banksia Scrub and fragmented endangered ecological communities.

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Mark Mackinnon

Qualifications: Grad. Dip. of Bushfire Protection, B Env. Sci. (Hons).

Accredited Practitioner Level 3 - Bushfire Planning & Design (BPAD), Accreditation number 36395.

MEIANZ, General firefighter departmental accreditation, Snr 1st Aid Cert, Agricultural Chemical User Permit (1080 and PAPP), Chainsaw Lev.1 (Cross-cut), Manual 4x4 Driving Ticket, Medium-Rigid Vehicle Licence, Elevated-Work-Platform (+11m) Licence, Working at Height Cert., Simple & Complex Tree Climbing Cert., Venomous Snake and Reptile Handling Cert., Lyssavirus Immunisation (bat handling prerequisite), White Card.

Mark is a passionate and enthusiastic scientist who thrives in the field of natural resource management. In the last 6 years, Mark has worked for a number of inter-state government agencies and environmental consultancies. He has experience in threatened species, fire ecology, bushfire management, pest plant and animals, and landscape restoration. In particular he specializes in ornithology and bushfire management. Mark has a number of specialized field-based skills including: simple and complex tree climbing, working at heights, general firefighter departmental fire accreditation, venomous snake and reptile handling, immunization to handle bat species, and an A - class bird banding licence with mist-net endorsement. Mark is also skilled in ArcGIS mapping, first-aid, four -wheel-driving.

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APPENDIX 5 - GEOTECHNICAL REPORT

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER

FORM NO. 1 – To be submitted with Development Application

Development Application for_____
Name of Applicant
Address of site __346-352 Whale Beach Road, Palm Beach_____

Declaration made by geotechnical engineer or engineering geologist or coastal engineer (where applicable) as part of a geotechnical report

I, _____Woodie Theunissen_____ on behalf of JK Geotechnics Pty Ltd
(Insert Name) (Trading or Company Name)

on this the ____9 March 2021____ certify that I am a geotechnical engineer or engineering geologist or coastal engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009 and I am authorised by the above organisation/company to issue this document and to certify that the organisation/company has a current professional indemnity policy of at least $2million.
we/I have:

Please mark appropriate box

☒ Prepared the detailed Geotechnical Report referenced below in accordance with the Australia Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009

☐ ~~I~~ *Are*/am willing to technically verify that the detailed Geotechnical Report referenced below has been prepared in accordance with the Australian Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009

☒ Have examined the site and the proposed development in detail and have carried out a risk assessment in accordance with Section 6.0 of the Geotechnical Risk Management Policy for Pittwater - 2009. *We*/I confirm that the results of the risk assessment for the proposed development are in compliance with the Geotechnical Risk Management Policy for Pittwater - 2009 and further detailed geotechnical reporting is not required for the subject site.

☐ Have examined the site and the proposed development/alteration in detail and *are*/am of the opinion that the Development Application only involves Minor Development/Alterations that do not require a Detailed Geotechnical Risk Assessment and hence my/*our* report is in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009 requirements for Minor Development/Alterations.

☐ Provided the coastal process and coastal forces analysis for inclusion in the Geotechnical Report

Geotechnical Report Details:

Report Title: Geotechnical Assessment

Report Date: 9 March 2021 Report Ref No: 31791SYrpt
:
Author: Woodie Theunissen

Author's Company/Organisation: JK Geotechnics Pty Ltd

Documentation which relate to or are relied upon in report preparation:

Drawings prepared by Harry Seidler & Associates (Stage: DA, Drawings: 001, 003, 005 to 013, 020, 030, 040, N, M,
050,051, 052, 060 to 062, 064 to 066, 070, 100, 110 to 112, 115 and 116, Revision: A, B, B, J, D, E, B, E, D, D, E, P,
M, D, C, E, G, F, E, D, B, C, E, B, A, A, A, B and B)

~~I am~~ *We are* aware that the above Geotechnical Report, prepared for the abovementioned site is to be submitted in support of a Development Application for this site and will be relied on by Pittwater Council as the basis for ~~ensuring~~ *confirming* that the Geotechnical Risk Management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure, taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk, *as discussed in the Report*.

Signature ……

Name ……Woodie Theunissen……

Chartered Professional Status……CPEng……

Membership No. ……889807……

Company: JK Geotechnics Pty Ltd.

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 1(a) - Checklist of Requirements For Geotechnical Risk Management Report for Development Application

Development Application for_____
Name of Applicant
Address of site __346-352 Whale Beach Road, Palm Beach _____

The following checklist covers the minimum requirements to be addressed in a Geotechnical Risk Management Geotechnical Report. This checklist is to accompany the Geotechnical Report and its certification (Form No. 1).

Geotechnical Report Details:

Report Title: Geotechnical Assessment
Report Date: 9 March 2021 Report Ref No: 31791SYrpt
Author: Woodie Theunissen
Author's Company/Organisation: JK Geotechnics Pty Ltd

Please mark appropriate box

☒ Comprehensive site mapping conducted ____23 November 2018_____ (date)

☒ Mapping details presented on contoured site plan with geomorphic mapping to a minimum scale of 1:250 (as appropriate)

☒ Subsurface investigation required

- ☒ No Justification …Bedrock exposed across site and adjoining properties
- ☐ Yes Date conducted ……

☒ Geotechnical model developed and reported as an inferred subsurface type-section

☒ Geotechnical hazards identified

- ☒ Above the site
- ☒ On the site
- ☒ Below the site
- ☒ Beside the site

☒ Geotechnical hazards described and reported

☒ Risk assessment conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009

- ☒ Consequence analysis
- ☒ Frequency analysis

☒ Risk calculation

☒ Risk assessment for property conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009

☒ Risk assessment for loss of life conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009

☒ Assessed risks have been compared to "Acceptable Risk Management" criteria as defined in the Geotechnical Risk Management Policy for Pittwater - 2009

☒ Opinion has been provided that the design can achieve the "Acceptable Risk Management" criteria provided that the ~~specified conditions are achieved~~ *recommendations presented in the Report are adopted.*

☒ Design Life Adopted:

- ☒ 100 years
- ☐ Other ……
  specify

☒ Geotechnical Conditions to be applied to all four phases as described in the Geotechnical Risk Management Policy for Pittwater - 2009 have been specified

☒ Additional action to remove risk where reasonable and practical have been identified and included in the report.

☐ Risk assessment within Bushfire Asset Protection Zone.

~~I am~~ *We are* aware that Pittwater Council will rely on the Geotechnical Report, to which this checklist applies, as the basis for ~~ensuring~~ *confirming* that the geotechnical risk management aspects of the proposal have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure, taken as at least 100 years unless otherwise stated, and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk *as discussed in the Report.*

Signature … …
Name …Woodie Theunissen……
Chartered Professional Status……CPEng……
Membership No. ……889807……
Company JK Geotechnics Pty Ltd.

REPORT TO

THE APPLICANT

ON

GEOTECHNICAL ASSESSMENT (In Accordance with Pittwater Council Risk Management Policy)

FOR

PROPOSED NEW RESIDENCE

AT

346-352 WHALE BEACH ROAD, PALM BEACH, NSW

Date: 9 March 2021

Ref: 31791SYrpt

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For and on behalf of
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DOCUMENT REVISION RECORD

Report Reference	Report Status	Report Date
31791SYrpt	Revision 5	9 March 2021

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ATTACHMENTS

TABLE A: SUMMARY OF RISK ASSESSMENT TO PROPERTY

TABLE B: SUMMARY OF RISK ASSESSMENT TO LIFE

STS POINT LOAD STRENGTH INDEX TESTS

ENVIROLAB CERTIFICATE OF ANALYSIS 199990

BOREHOLE LOG 1 (INCLUDING CORE PHOTOGRAPHS)

DYNAMIC CONE PEMETRATION TEST RESULTS DCP1 TO DCP7

FIGURE 1: SITE LOCATION PLAN

FIGURE 2: TEST LOCATION PLAN

FIGURE 3: PLAN SHOWING GEOTECHNICAL SITE MAPPING

FIGURE 4: SECTION A-A SHOWING POTENTIAL LANDSLIDE HAZARDS

FIGURE 5: SECTION B-B SHOWING POTENTIAL LANDSLIDE HAZARDS

FIGURE 6: SECTION C-C SHOWING POTENTIAL LANDSLIDE HAZARDS

FIGURE 7: GEOTECHNICAL MAPPING SYMBOLS

APPENDIX A: LANDSLIDE RISK MANAGEMENT TERMINOLOGY

APPENDIX B: SOME GUIDELINES FOR HILLSIDE CONSTRUCTION

1 INTRODUCTION

This report presents the results of our geotechnical investigation and stability assessment for the proposed new residence at 346 to 352 Whale Beach Road, Palm Beach, NSW. The work was commissioned by Mr Cristopher Van Haren on behalf of The Applicant. A site location plan is presented as Figure 1.

Reference to the drawings prepared by Harry Seidler & Associates (Stage: DA, Drawings: 001, 003, 005 to 013, 020, 030, 040, 050,051, 052, 060 to 062, 064 to 066, 070, 100, 110 to 112, 115 and 116, Revision: A, B, B, J, D, E, B, E, D, D, E, P, N, M, M, D, C, E, G, F, E, D, B, C, E, B, A, A, A, B and B) indicate that the proposed new residence will comprise:

- Three living levels and pool over a basement garage,
- The garage will provide off street parking for four cars, result in cuts to maximum depths of about 14m and provide lift access to the house above,
- In the void between the top of the garage and the lower level of the house, store and plant rooms, a wine cellar and rainwater storage and re-use tank will be located,
- The new house will run along the contours of the hill with excavation anticipated to be limited to maximum depths of about 6m.

This report has been prepared in accordance with the requirements of the Geotechnical Risk Management Policy for Pittwater (2009) as discussed in Section 6 below. It is understood that the report will be submitted to Council as part of the DA documentation. Our report is preceded by the completed Council Forms 1 and 1a.

2 ASSESSMENT METHODOLOGY

2.1 Walkover Survey

This stability assessment is based on a detailed inspection of the topographic, surface drainage and geological conditions of the site and its immediate environs. These features were compared to those of other similar lots in neighbouring locations to provide a comparative basis for assessing the risk of instability affecting the existing development. The attached Appendix A defines the terminology adopted for the risk assessment together with a flowchart illustrating the Risk Management Process based on the guidelines given in AGS 2007c (Reference 1).

A summary of our observations is presented in Section 3. Our assessment of the risk of slope instability for the site in its existing condition is discussed in Section 5.

The attached Figure 3 presents a geotechnical sketch plan showing the principal geotechnical features present at the site. Figure 3 is based on the survey plan prepared by Adam Clerke Surveyors Pty Ltd (Ref 15204 Sheets 1 to 3 and Ref 1218). Additional features on Figure 3 have been measured by hand held inclinometer and tape measure techniques and hence are approximate only. Should any of the features be

critical, we recommend they be located more accurately using instrument survey techniques. Figures 4 to 6 present typical cross-sections through the site based on the survey data augmented by our mapping observations.

2.2 Subsurface Investigation

Prior to drilling commencing, a 'Dial Before You Dig" services search was completed and a specialist subcontractor electromagnetically scanned the borehole and test locations for buried services. The field work was carried out over the period of the 30 to 31 August 2018 and comprised:

- One cored borehole (BH1) drilled to a depth of 14.14m and
- Seven Dynamic Cone Penetration (DCP) tests completed to depths ranging from 0.2m to 1.8m.

Due to access constraints posed by the terrain all testing was completed using portable equipment. The purpose of the borehole was to determine the nature of the materials present, particularly the underlying bedrock, while the DCP tests were used to probe the depth to bedrock. While the DCP refusal depth is typically considered to indicate the depth to bedrock, it is possible that premature refusal may have occurred on hard layers within the soils.

BH1 was initially drilled using hand auger to a depth of 1.85m, at which depth hand auger refusal occurred. From this depth portable rotary drilling techniques were adopted and the underlying bedrock cored to a depth of 14.14m (RL42.06m).

The degree of compaction of the fill and the strength/relative density of the soils was interpreted from the DCP test results. Where the bedrock was core drilled the recovered core was returned to our NATA registered laboratory, Soil Test Services (STS) for photographing and point load strength index (I_{s50}) testing. Using established correlations the unconfined compressive strength (UCS) of the sandstone bedrock was then estimated from the I_{s50} results. These results are presented in Table A.

Groundwater observations were made in the borehole during and following completion of the auger drilling. We note that water was introduced into the borehole to facilitate the coring process and therefore the water level measured after the completion of core drilling was artificially high and has not been recorded on the logs. No longer was term groundwater monitoring completed.

The borehole and DCP test locations, as shown on the attached Figure 2, were set out by taped measurements from existing surface features shown on the above reference survey drawings at or as close as practicable to the locations nominated by Taylor Thomson Whitting (NSW) Pty Ltd. The reduced levels shown on the top of the borehole and DCP tests have been interpolated from the spot levels shown on the survey drawing and should be considered only approximate.

Our Engineering Geologist, Bo Jonak, was present full-time during the fieldwork to set out the borehole/DCP test locations, direct the electro-magnetic scanning (by service locator), log the encountered subsurface profile and record the DCP results. The borehole log (with core photograph) and DCP test result sheets are

attached, together with Report Explanatory Notes which provide details on the investigation procedures adopted and define the logging terms and symbols used.

3 SUMMARY OF OBSERVATIONS

The site is located over the upper eastern slopes of the peninsula that extends from Avalon to Palm Beach. The site drops down steeply to the east to Whale Beach Road with a total change in relief of about 19m over a horizontal distance of about 30m. The site encompasses four lots with a house present on only one of these lots, No. 350 Whale Beach Road.

Two clifflines are present across the site and generally run across the middle and rear of the site. In places these clifflines are not distinct and either merge to form one cliffline or form a jumbled series of lower height cliffs or rock shelves. At its greatest the upper cliffline is up to about 6m high and was generally assessed to be formed of medium to high strength sandstone, although in places it was of assessed low strength. Honeycomb erosion of the clifflines was visible as was undercutting in places. Detached blocks were also observed at or near the crest of sections of clifflines. Jointing in the rock typically was orientated east-north-east to west-south-west and south-south-east to north-north-west with the strike of these joints varying between 200° - 250° and 310°. Where joints ran into the face of the clifflines they were typically vertical while those running parallel dipped out of the face at between 70° and 80°.

Between the clifflines and the eastern site boundary slopes were typically in the order of about 15° to 30° but varied up to about 45° at some localised areas. Boulders or floaters were noted in these lower slopes and were typically embedded and were, in places of significant size. In general the site is heavily vegetated with both mature trees and thick undergrowth and was difficult to observe in places. No obvious sign of basal curvature was noted in the trunks of the mature trees.

No. 350 Whale Beach Road is occupied by a three-storey masonry house that steps up the slope and appears in good condition when viewed externally with no signs of distress in the form of cracking observed. On either side of the house landscaping has been completed to form level entertainment areas. Sandstone block walls, comprising a mix of dressed and rough-hewn and mortared and dry packed have been constructed. These walls varied in height up to about 2m but were more typically in the order of about 1m and generally appeared in good condition. To the rear of the house, located immediately adjacent to and part way up the cliffline that runs along the rear of the site is a laundry, sauna and deck, all of which are suspended on a timber structure. At this point the cliffline has been undercut to a depth of about 1.9m and an overhang is located immediately above the deck.

Access to No. 350 Whale Beach Road is via a path that snakes up the cliffline that runs along Whale Beach Road. A number of generally low height sandstone block retaining walls are present and appear in good condition. However, on the high side of the stairs sandstone flagging has been placed over a steep batter that has been formed through soils at the crest of the sandstone bedrock. This flagging is in a state of collapse. To form the path in front of the house, dressed and rough-hewn sandstone block retaining walls

have been constructed to a height of about 2.9m. Although it appears that these walls are performing satisfactorily it is difficult to observe the rough-hewn portion of the wall.

To the north is a property with the same landform as the site that is occupied by a single-storey stone house. The house is located to the rear of the property between two clifflines. At the front of the house is a sandstone block retaining wall that supports the deck/terrace and has a maximum height of about 4.4m, and appears in fair condition but does display signs of distress in the form of cracking that varies in width up to about 2mm to 4mm and possibly some bulging, although it is difficult to assess whether the wall is bulging or this is how the wall has been constructed.

To the east is the Whale Beach Road reserve. This road reserve encompasses not only the road but also a strip of land that varies up to about 7.5m wide and is positioned between the road pavement and the eastern site boundary. In this strip of land is a sandstone cliffline (or series of stepped clifflines) that varies in height up to about 5m. The sandstone bedrock was typically assessed to be of low strength with similar jointing noted to that observed on site. At the crest of the cliffline the topography slopes up to the eastern site boundary at average slopes of between about 15° and 30°, with the site boundary set back from the cliffline between about 2.5m to 5m.

To the south is a drainage easement that is approximately 3m wide. This easement is unlined, deeply scoured and unvegetated with sandstone bedrock, boulders and soils exposed in the base and banks of the channel. Beyond this is a three-storey masonry house with suspended deck and pool that appeared in good condition when viewed from the site. Both the easement and property beyond have similar landforms to that of the site.

To the west, located at the crest of the cliffline and in the flatter slopes near the crest of the peninsula, are three houses and Annie Wyatt Reserve. All houses are set well back from the cliff line.

4 SUBSURFACE CONDITIONS

Reference to the 1:100,000 Geological Map of the Sydney Region indicates that the site is underlain by rocks of the Hawkesbury Sandstone and the Narrabeen Group. Hawkesbury Sandstone comprises quartz sandstone interbedded with siltstone and shale while the Narrabeen Group comprises lithic and quartz sandstone, siltstones, claystones and conglomerate. The geological boundary between the overlying Hawkesbury Sandstone and underlying Narrabeen Group appears to run through the site.

The investigation revealed a relatively shallow soil cover overlying sandstone bedrock. The more pertinent details of the materials encountered are discussed below. For a more detailed description of the materials encountered at a particular location or the inferred depth to bedrock, reference should be made to the attached borehole logs and DCP test results.

Pavement

At BH1 a 0.1m thick sandstone paver was encountered and overlay a silty sand bedding layer that extended to a depth of 0.2m.

Fill

Below the pavement a silty gravelly or clayey sand fill was encountered to a depth of 0.7m. This fill contained traces of igneous/sandstone gravel and was assessed to be poorly compacted.

Natural Soils

Underlying the fill a mix of sand, clayey sand and sandy clay was encountered that were of stiff to very stiff strength or medium dense relative density. Where the soils were clayey they were assessed to be of medium to high plasticity.

Sandstone Bedrock

Sandstone bedrock outcrops across the site and was inferred from the DCP tests at depths ranging from 0.2m to 1.8m. Considering the prevalence of sandstone bedrock outcropping across the site it is likely that the DCP refusal depth is the depth to bedrock, however it is possible that premature refusal may have occurred on floaters or harder bands within the soils.

Based on our observation of the exposed bedrock it appears that the boundary between the Hawkesbury Sandstone and the Narrabeen Group is at the base of the clifflines present over the middle to the rear of the site with Hawkesbury Sandstone exposed in the clifflines and the Narrabeen Group represented by the scree slopes at the base of these clifflines and the lower clifflines dropping down to Whale Beach Road and the shoreline below.

The sandstone bedrock encountered in BH1 at a depth of 1.8m is part of the Narrabeen Group and was initially of poor quality to a depth of 5.3m, at which depth the quality of the bedrock improved markedly. In the poorer quality bedrock rock strengths varied from very low to low and a number of significant core loss zones logged. Core loss typically represents areas of poor-quality bedrock or clay that has been washed away during the coring process. Below a depth of 5.3m the bedrock increased to medium to high strength and contained only a few thin core loss zones. A siltstone band and claystone lenses were encountered below a depth of about 8m.

Defects within the bedrock typically comprised bedding partings and joints. Joints generally ranged in inclination from 45° to 90°.

Groundwater

Groundwater was not encountered during or on completion of auger drilling. Based on where the site is situated in the topography it is anticipated that a groundwater table as such will not be encountered. While a groundwater table is not expected to be encountered seepage should be expected and is likely to occur at the interface between the soil and bedrock and through defects within the rock mass. Any seepage that occurs into the excavation would probably emanate naturally a little further downslope and so the excavation is not considered to interfere significantly with the natural groundwater regime.

Laboratory test Results

The results of the point load strength index tests indicate that the unconfined compressive strength (UCS) of the sandstone bedrock ranges from less than 1MPa to 56MPa. Where higher UCS values were encountered within the poorer quality bedrock this reflects not the general strength of the bedrock at this location but rather the presence of high strength ironstone bands within the sandstone bedrock.

5 GEOTECHNICAL ASSESSMENT

5.1 Potential Landslide Hazards

We consider that the potential landslide hazards associated with the site to be the following:

A Stability of detached boulders:
- (i) Of the boulder
- (ii) Below the boulder

B Stability of scree slopes:
- (i) On the slope
- (ii) Below the slope

C Stability of low height retaining walls:
- (i) Above the wall
- (ii) Below the wall

D Stability of overhangs
- (i) On the overhang
- (ii) Below the overhang

E Stability of higher sandstone block retaining walls
- (i) Above the walls
- (ii) Below the walls

F Stability of cliff lines
- (ii) Below cliffline

G Stability of boulders on slopes
- (i) Of the boulder
- (ii) Below the boulder

Some of these potential hazards are indicated in schematic form on the attached Figures 3, 4, 5 and 6.

5.2 Risk Analysis

The attached Table A summarises our qualitative assessment of each potential landslide hazard and of the consequences to property should the landslide hazard occur. Use has been made of data in MacGregor *et al* (2007) to assist with our assessment of the likelihood of a potential hazard occurring. Based on the above,

the qualitative risks to property have been determined. The terminology adopted for this qualitative assessment is in accordance with Table A1 given in Appendix A. Table A indicates that the assessed risk to property is very low, which would be considered acceptable in accordance with the criteria given in Reference 1 and the Pittwater Council Risk Management Policy.

We have also used the indicative probabilities associated with the assessed likelihood of instability to calculate the risk to life. The temporal and vulnerability factors that have been adopted are given in the attached Table B together with the resulting risk calculation. Our assessed risk to life for the person most at risk is about 10^{-6}. This would be considered to be acceptable in relation to the criteria given in Reference 1 and the Pittwater Council Risk Management Policy.

5.3 Risk Assessment

The Pittwater Risk Management Policy requires suitable measures 'to remove risk'. It is recognised that, due to the many complex factors that can affect a site, the subjective nature of a risk analysis, and the imprecise nature of the science of geotechnical engineering, the risk of instability for a site and/or development cannot be completely removed. It is, however, essential that risk be reduced to at least that which could be reasonably anticipated by the community in everyday life and that landowners are made aware of reasonable and practical measures available to reduce risk as far as possible. Hence, where the policy requires that 'reasonable and practical measures have been identified to remove risk', it means that there has been an active process of reducing risk, but it does not require the geotechnical engineer to warrant that risk has been completely removed, only reduced, as removing risk is not currently scientifically achievable.

Similarly, the Pittwater Risk Management Policy requires that the design project life be taken as 100 years unless otherwise justified by the applicant. This requirement provides the context within which the geotechnical risk assessment should be made. The required 100 years baseline broadly reflects the expectations of the community for the anticipated life of a residential structure and hence the timeframe to be considered when undertaking the geotechnical risk assessment and making recommendations as to the appropriateness of a development, and its design and remedial measures that should be taken to control risk. It is recognised that in a 100 year period external factors that cannot reasonably be foreseen may affect the geotechnical risks associated with a site. Hence, the Policy does not seek the geotechnical engineer to warrant the development for a 100 year period, rather to provide a professional opinion that foreseeable geotechnical risks to which the development may be subjected in that timeframe have been reasonably considered.

Our assessment of the probability of failure of existing structural elements such as retaining walls (where applicable) is based upon a visual appraisal of their type and condition at the time of our inspection. Where existing structural elements such as retaining walls will not be replaced as part of the proposed development, where appropriate we identify the time period at which reassessment of their longevity seems warranted.
In preparing our recommendations given below we have adopted the above interpretations of the Risk Management Policy requirements. We have also assumed that no activities on surrounding land which may affect the risk on the subject site would be carried out. We have further assumed that all Council's buried services are, and will be regularly maintained to remain, in good condition.

We consider that our risk analysis has shown that the site and existing and proposed development can achieve the 'Acceptable Risk Management' criteria in the Pittwater Risk Management Policy provided that the recommendations given in Section 6 below are adopted. These recommendations form an integral part of the Landslide Risk Management Process.

6 COMMENTS AND RECOMMENDATIONS

We consider that the proposed development may proceed provided the following specific design, construction and maintenance recommendations are adopted to maintain and reduce the present risk of instability of the site and to control future risks. These recommendations address geotechnical issues only and other conditions may be required to address other aspects.

6.1 Conditions Recommended to Establish the Design Parameters

6.1.1 All proposed footings must be founded on sandstone bedrock. The footings should be designed for an allowable bearing pressure (ABP) of 1,000kPa where they are founded on sandstone bedrock of at least very low strength, subject to inspection by a geotechnical engineer prior to pouring. Where footings are founded within the zone of influence of either existing or proposed excavations or existing clifflines (defined by a line drawn up from the base of the excavation/cliffline at 1 Vertical(V):1 Horizontal (H)) further advice must be sought from this office on the materials on which footings are to be founded. If any footings are founded on overhangs the overhang must be underpinned to transfer the load to the competent bedrock below. The depth at which footings are to be founded and the ABP's that may be adopted will depend on the presence of adverse defects and the quality of the bedrock.

6.1.2 Subject to inspection by a geotechnical engineer, temporary batters for the proposed excavation should be no steeper than 1 Vertical (V) in 1 Horizontal (H) within the soil profile and extremely weathered rock. Permanent batters may be formed at no steeper than 1V:2H but must be vegetated or otherwise protected from erosion. For maintenance purposes flatter batters in the order of 1V:3H or 4H may be more appropriate.

6.1.3 For the support of soils and sandstone bedrock of extremely low strength, cantilevered retaining walls to maximum heights of about 3m may be designed for a triangular earth pressure distribution and a coefficient of active lateral earth pressure of 0.35, which assumes a horizontal backfill surface. A bulk unit weight of 20kN/m^3 should be used. Appropriate hydrostatic pressures and surcharge loads should be added to the above pressures.

6.1.4 For retained heights of greater than 3m.an anchored soldier pile wall with shotcrete and mesh infill panels may be adopted. For the design of anchored retaining walls where movement sensitive structures are not located within the zone of influence of the excavation (defined by a distance 2H from the crest of the retention system where H is the retained height) a rectangular earth pressure distribution may be adopted with a pressure distribution of 4H kPa, where H is the height of retained soils and poor quality bedrock. Where movement sensitive structures are present within the zone of influence of the excavation (which is not expected to be the case) a lateral earth pressure of 8H kPa

should be adopted. Appropriate hydrostatic pressures and surcharge loads (which include inclined backfill) must be added to the above pressures.

6.1.5 All anchors should be bonded in the underlying sandstone bedrock, should have minimum bond and free lengths of 3m with the bond length formed below a line drawn upwards from bulk excavation level at 45°. Where bonded in sandstone bedrock of at least low strength an allowable bond stress of 150kPa may be adopted. All anchors should be proof loaded in a staged manner to 1.3 times the design load in the presence of an experienced geotechnical engineer engaged by the principal and not the contractor. All anchors should be installed by experienced and appropriately insured anchoring contractors and should be installed on a design and construct basis such that should anchors fail proof loading there is no dispute over whether the cause of the failure is the anchor installation or the recommended allowable bond stresses.

6.1.6 An alternative means of support may be to progressively install a soil nail wall as the excavation is deepened. Where this approach is adopted further advice should be sought from this office on the design of such a retention system. The benefit of this approach is that it is likely that rock bolts and mesh will be required where excavation is completed through the more competent bedrock and as such there is no difference in the installation techniques adopted for a soil nail wall or support of adverse defects in the bedrock.

6.1.7 Where anchors are to run below adjoining properties, then the permission of the owners must be obtained before installation.

6.1.8 Sandstone bedrock of low strength or better may be cut vertically and left unsupported, provided it is free from adverse defects. The sandstone bedrock is quite heavily jointed and based on the jointing observed in the sandstone clifflines it is anticipated that adversely orientated jointing will be encountered, particularly at the rear of the cuts where it is expected to dip out of the face. Consequently, it is likely that some form of support will be required in both the short and long term. It is possible that pattern bolting may be required over the full height of the excavation which may consist of 1.5m to 3m long (possibly longer) bolts installed at 1.5m centres in both the vertical and horizontal direction. A shotcrete and mesh facing will also be required that will be tied into the bolts and will consist of a minimum of 100mm shotcrete with SL82 centrally placed. The exact support requirements, if any, will be determined as the excavation deepens following inspection by a geotechnical engineer of every 1.5m of vertical unsupported cut. Even in the event that adverse defects are not present, it is generally good practice to protect the cut faces with shotcrete and mesh to reduce long term maintenance requirements. Vertical strip drains should be installed at 1.5m centres behind the shotcrete and mesh panels. Long term support could be provided by the built structure or by use of “permanent” bolts.

6.1.9 Although not anticipated to be the case, should anchors run below adjoining properties, permission must be obtained from the owners prior to their installation.

6.1.10 Where existing slopes or batters exceed the recommended temporary or permanent batter slopes described above or where existing retaining walls are not considered suitable (such as the sandstone lagging present on the high side of the staircase providing access to the site), then slopes must be appropriately battered or engineered retaining walls constructed to support the soils.

6.1.11 Although it is not anticipated that excavation will extend below the groundwater table, seepage is anticipated at the soil bedrock interface and through defects within the bedrock, particularly during and following rainfall events. Consequently, dish drains should be constructed at the toe of all cuts to collect all groundwater flows or groundwater collected in back of wall drainage to allow controlled discharge to Council's stormwater system.

6.1.12 It is anticipated that where slabs on grade are required they will predominantly be formed over sandstone bedrock. On-grade floor slabs which are poured directly over sandstone bedrock should be provided with a separation layer and underfloor drainage. The underfloor drainage should comprise a strong, durable, single sized washed aggregate, such as 'blue metal' gravel. The underfloor drainage should collect groundwater seepage and direct it by gravity flow to the stormwater system. If a network of subsoil drains are used in preference to a drainage blanket a layer of roadbase will be required to form a bond breaker between the slab and the rock.

6.1.13 Where slabs are formed over natural soils and will be trafficked, we recommend that they first be proof rolled using a small smooth drum roller in the presence of an experienced geotechnical engineer. The purpose of proof rolling is to identify any soft or unstable areas so that they may be remediated. In this regard further advice would be provided by the geotechnical engineer at this stage. It should be noted that it is quite difficult to complete earthworks on a small scale and consequently consideration could be given to designing the slabs as suspended slabs rather than slabs on grade.

6.1.14 All trafficable slabs on grade should be provided with a minimum 100mm crushed rock to RTA QA specification 3051 (1994) unbound base material (or equivalent good quality durable fine crushed rock) which is compacted to at least 100% of SMDD. All slabs on grade should be designed with shear effective transmission by way of either dowelled or keyed joints. The need for drainage below the slabs should be considered. Perimeter subsoil drains are likely to be a minimum requirement.

6.1.15 The surface water discharging from the new roof and paved areas must be diverted to outlets for controlled discharge to the existing stormwater system and discharge at the water course at the south-western corner of the site.

6.1.16 The results of the soil aggression testing returned a pH of 5.3, chloride and sulphate contents of 22mg/kg respectively and a resistivity of 24,000ohm.cm. In accordance with AS2159-2009, Tables 6.4.2(c) and 6.5.2(c) the site poses a moderate corrosion risk to concrete structures in contact with the ground and is non-aggressive for steel structures in contact with the ground.

6.1.17 The guidelines for Hillside Construction given in Appendix B should also be adopted.

6.2 Conditions Recommended to the Detailed Design to be Undertaken for the Construction Certificate

6.2.1 All structural design drawings must be reviewed by the geotechnical engineer who should endorse that the recommendations contained in this report have been adopted in principle.

6.2.2 All hydraulic design drawings must be reviewed by the geotechnical engineer who should endorse that the recommendations contained in this report have been adopted in principle.

6.2.3 All landscape design drawings must be reviewed by the geotechnical engineer who should endorse that the recommendations contained in this report have been adopted in principle.

6.2.4 Where excavation is proposed an excavation/retention methodology must be prepared prior to bulk excavation commencing. The methodology must include but not be limited to proposed excavation techniques, the proposed excavation equipment, excavation sequencing, geotechnical inspection intervals or hold points, vibration monitoring procedures, monitor locations, monitor types, contingency plans in case of exceedances.

6.2.5 The excavation/retention methodology must be reviewed and approved by the geotechnical engineer.

6.3 Conditions Recommended During the Construction Period

6.3.1 The geotechnical engineer must inspect all footing excavations prior to placing reinforcement.

6.3.2 Where excavation is proposed the approved excavation/retention methodology must be followed. This includes periodic inspection of every 1.5m of vertical unsupported cut formed through sandstone bedrock of low strength or greater.

6.3.3 Proposed material to be used for backfilling behind retaining walls must be approved by the geotechnical engineer prior to placement.

6.3.4 The geotechnical engineer must inspect all overhangs and detached boulders once appropriate clearing and access is provided to determine whether remedial works are required. Where detached blocks are present and remedial measures are necessary they will either require removal or anchoring. Similarly, should remedial measures be required with respect to the overhangs they either need to be removed or underpinned. Where existing retaining walls are kept as part of the development they must be inspected by the structural engineer to confirm that they have an adequate factor of safety (FOS) for the design life of the site, which is 100 years in accordance with the policy. Should the structural engineer be unable to confirm that the walls have an acceptable FOS for the required design life ongoing inspections by the structural engineer may be required at regular intervals or, alternatively the walls may be reconstructed or strengthened such that they have a suitable FOS for the site design life.

6.3.5 If they are to be retained, the existing stormwater system, sewer and water mains must be checked for leaks by using static head and pressure tests under the direction of the hydraulic engineer or architect, and repaired if found to be leaking.

6.3.6 The geotechnical engineer must inspect all subsurface drains prior to backfilling.

6.3.7 If they are to be retained, the existing stormwater system, sewer and water mains must be checked for leaks by using static head and pressure tests under the direction of the hydraulic engineer or architect, and repaired if found to be leaking.

6.3.8 An 'as-built' drawing of all buried services at the site must be prepared (including all pipe diameters, pipe depths, pipe types, inlet pits, inspection pits, etc).

6.3.9 All rock anchors must be proof-tested in a staged manner to 1.3 times the working load. In addition, the anchors must be subjected to lift-off testing no sooner than 24 hours after locking off at the working load. The proof-testing and lift-off tests must be witnessed by the geotechnical engineer. The anchor contractor must provide the geotechnical engineer with all field records including anchor installation and testing records.

6.3.10 The geotechnical engineer must confirm that the proposed works have been completed in accordance with the geotechnical reports.

We note that all above Conditions must be complied with. Where this has not been done, it may not be possible for Form 3, which is required for the Occupation Certificate to be signed.

6.4 Conditions Recommended for Ongoing Management of the Site/Structure(s)

The following recommendations have been included so that the current and future owners of the subject property are aware of their responsibilities:

6.4.1 All existing and proposed surface (including roof) and subsurface drains must be subject to ongoing and regular maintenance by the property owners. In addition, such maintenance must also be carried out by a plumber at no more than ten yearly intervals including provision of a written report confirming scope of work completed (with reference to the 'as-built' drawing) and identifying any required remedial measures.

6.4.2 Where existing retaining walls are kept and the structural engineer is unable to confirm that they have an acceptable FOS for the design life of the site, they should be inspected at the period designated by the structural engineer. Following these periodic the structural engineer must provide a written report confirming the scope of work completed, any required remedial measures and required future inspections.

6.4.3 No cut or fill in excess of 0.5m (eg. for landscaping, buried pipes, retaining walls, etc), is to be carried out on site without prior consent from Pittwater Council.

6.4.4 Where the structural engineer has indicated a design life of less than 100 years then the structure and/or structural elements must be inspected by a structural engineer at the end of their design life; including a written report confirming scope of work completed and identifying the required remedial measures to extend the design life over the remaining 100 year period.

7 OVERVIEW

Provided the above comments and recommendations are closely followed, we consider that the above development will pose an acceptable rick to both life and property.

It is possible that the subsurface soil, rock or groundwater conditions encountered during construction may be found to be different (or may be interpreted to be different) from those inferred from our surface observations in preparing this report. Also, we have not had the opportunity to observe surface run-off patterns during heavy rainfall and cannot comment directly on this aspect. If conditions appear to be at variance or cause concern for any reason, then we recommend that you immediately contact this office.

This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose. If there is any change in the proposed development described in this report then all recommendations should be reviewed. Copyright in this report is the property of JK Geotechnics. We have used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. No other warranty expressed or implied is made or intended. Subject to payment of all fees due for the investigation, the client alone shall have a licence to use this report. The report shall not be reproduced except in full.

Reference 1: Australian Geomechanics Society (2007c) *'Practice Note Guidelines for Landslide Risk Management'*, Australian Geomechanics, Vol 42, No 1, March 2007, pp63-114.

Reference 2: MacGregor, P, Walker, B, Fell, R, and Leventhal, A (2007) *'Assessment of Landslide Likelihood in the Pittwater Local Government Area'*, Australian Geomechanics, Vol 42, No 1, March 2007, pp183-196.

Ref: 31791SY Table A

TABLE A
SUMMARY OF RISK ASSESSMENT TO PROPERTY

Potential Landslide Hazard	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Assessed Likelihood	Possible	Unlikely	Possible	Possible	Possible	Rare	Unlikely
Assessed Consequences	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
Risk	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Comments		Small scale slumps anticipated with existing house apparently founded on bedrock	Should the debris strike the house when walls fail it is likely to cause nominal damage			Failures are likely to be limited to small volumes of material rather than large defect controlled failures	

* Assumed value of site $9M

Ref: 31791SY Table B

TABLE B
SUMMARY OF RISK ASSESSMENT TO LIFE

Potential Landslide Hazard	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Assessed Likelihood	Possible	Unlikely	Possible	Possible	Possible	Rare	Unlikely
Indicative Annual Probability	1×10^{-3}	1×10^{-4}	1×10^{-3}	1×10^{-3}	1×10^{-3}	1×10^{-5}	1×10^{-4}
Duration of Use of Area Affected (Temporal Probability)	(i) 1 minute/month 2.4×10^{-5} (ii) 5 minutes/week 4.96×10^{-4}	(i) & (ii) 10 minute/week 9.92×10^{-4}	(i) 5 minute/day 3.47×10^{-3} (ii) 1 minutes/day 6.94×10^{-4}	(i) 1 minute/month 2.4×10^{-5} (ii) 5 minutes/week 4.96×10^{-4}	(i) 5 minute/day 3.47×10^{-3} (ii) 1 minutes/day 6.94×10^{-4}	5 minute/day 3.47×10^{-3}	(i) 1 minute/month 2.4×10^{-5} (ii) 5 minutes/week 4.96×10^{-4}
Probability of Not Evacuating Area Affected	(i) 1 (ii) 0.5	(i) 1 (ii) 0.5	(i) 0.8 (ii) 0.5	(i) 1 (ii) 1	(i) 0.8 (ii) 0.5	0.8	(i) 0.9 (ii) 0.5
Vulnerability to Life if Failure Occurs Whilst Person Present	(i) 0.5 Likely to ride fall down (ii) 1	(i) & (ii) 0.01 Likely to slide failure down and unlikely to be buried	(i) & (ii) 0.01 Likely to ride failure down and unlikely to be buried	(i) 0.5 Likely to ride fall down (ii) 1 Likely to be buried	(i) 0.1 Likely to ride failure down (ii) 0.9 Possibly buried	0. 1 Likely to be relatively small pieces falling from face	(i) 0.1 Likely to ride failure down (ii) 0.5
Risk for Person Most at Risk	(i) 1.2×10^{-8} (ii) 2.48×10^{-7}	(i) 9.92×10^{-9} (ii) 4.96×10^{-8}	(i) 2.78×10^{-8} (ii) 3.47×10^{-9}	(i) 1.2×10^{-8} (ii) 4.96×10^{-7}	(i) 2.78×10^{-7} (ii) 3.12×10^{-7}	(i) 2.78×10^{-9}	(i) 2.16×10^{-10} (ii) 1.24×10^{-8}
Total Risk for Person Most at Risk	1.46 x 10						

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SOIL TEST SERVICES

TABLE A
POINT LOAD STRENGTH INDEX TEST REPORT

Client:	JK Geotechnics	**Ref No:**	31791SY
Project:	Proposed Residence	**Report:**	A
Location:	346-354 Whale Beach Road, Whale Beach, NSW	**Report Date:**	7/09/2018
		Page 1 of 1	

BOREHOLE NUMBER	DEPTH m	$I_{S(50)}$ MPa	ESTIMATED UNCONFINED COMPRESSIVE STRENGTH (MPa)
1	2.10 - 2.13	0.7	14
	3.00 - 3.03	0.02	<1
	3.92 - 3.96	1.6	32
	4.27 - 4.31	1.3	26
	4.72 - 4.75	0.2	4
	5.34 - 5.37	2.2	44
	5.59 - 5.62	1.9	38
	6.38 - 6.41	0.2	4
	6.80 - 6.83	0.7	14
	7.40 - 7.44	0.7	14
	7.80 - 7.84	0.7	14
	8.17 - 8.20	0.4	8
	8.78 - 8.82	1.1	22
	9.12 - 9.16	0.8	16
	9.78 - 9.82	0.8	16
	10.23 - 10.26	0.5	10
	10.77 - 10.81	1.1	22
	11.34 - 11.37	1.6	32
	11.60 - 11.64	2.6	52
	12.14 - 12.17	2.8	56
	12.67 - 12.71	1.3	26
	13.25 - 13.29	0.8	16
	13.86 - 13.90	1.5	30
	14.06 - 14.09	1.3	26

NOTES:

1. In the above table testing was completed in the Axial direction.
2. The above strength tests were completed at the 'as received' moisture content.
3. Test Method: RMS T223.
4. For reporting purposes, the $I_{S(50)}$ has been rounded to the nearest 0.1MPa, or to one significant figure if less than 0.1MPa
5. The Estimated Unconfined Compressive Strength was calculated from the point load Strength Index by the following approximate relationship and rounded off to the nearest whole number : U.C.S. = 20 IS (50)

All services provided by STS are subject to our standard terms and conditions. A copy is available on request.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 199990

Client Details	
Client	JK Geotechnics
Attention	B Jonak
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details	
Your Reference	**31791SY, Whale Beach**
Number of Samples	1 Soil
Date samples received	04/09/2018
Date completed instructions received	04/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details	
Date results requested by	11/09/2018
Date of Issue	10/09/2018

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Nick Sarlamis, Inorganics Supervisor

Authorised By



Jacinta Hurst, Laboratory Manager

Client Reference: 31791SY, Whale Beach

Misc Inorg - Soil		
Our Reference		199990-1
Your Reference	UNITS	BH1
Depth		1.25-1.35
Date Sampled		30/08/2018
Type of sample		Soil
Date prepared	-	05/09/2018
Date analysed	-	05/09/2018
pH 1:5 soil:water	pH Units	5.3
Chloride, Cl 1:5 soil:water	mg/kg	22
Sulphate, SO4 1:5 soil:water	mg/kg	23
Resistivity in soil*	ohm m	240

Client Reference: 31791SY, Whale Beach

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyer.

Client Reference: 31791SY, Whale Beach

QUALITY CONTROL: Misc Inorg - Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	199990-1
Date prepared	-			05/09/2018	1	05/09/2018	05/09/2018		05/09/2018	05/09/2018
Date analysed	-			05/09/2018	1	05/09/2018	05/09/2018		05/09/2018	05/09/2018
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	1	5.3	5.3	0	102	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	22	28	24	87	98
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	23	25	8	90	90
Resistivity in soil*	ohm m	1	Inorg-002	<1	1	240	220	9	[NT]	[NT]

Client Reference: 31791SY, Whale Beach

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions	
Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Client Reference: 31791SY, Whale Beach

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

JKGeotechnics

BOREHOLE LOG

Borehole No.
1
1 / 3

Client: THE APPLICANT
Project: PROPOSED RESIDENCE
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW

Job No.: 31791SY **Method:** HAND AUGER **R.L. Surface:** ~56.2 m
Date: 30/8/18 **Datum:** AHD
Plant Type: **Logged/Checked By:** J.B.J/W.T.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION					REFER TO DCP TEST RESULTS (1)	56			-	SANDSTONE PAVING: 100mm.t.				
										FILL: Silty sand, fine to medium grained, dark brown orange.	M			APPEARS POORLY COMPACTED
										FILL: Silty gravelly sand, fine to medium grained, light grey brown, trace of sandstone, fine to coarse grained gravel and root fibres.				
									CI-CH		w>PL	St		RESIDUAL
							1		SP	FILL: Clayey sand, fine to medium grained, light grey brown, trace of sandstone, medium to coarse grained, gravel.	M	MD		
						55			CI	Sandy CLAY: medium to high plasticity, light orange brown, with ash, trace of ironstone gravel.	w>PL	St		
									SC		M	MD		
									-	SAND: fine to medium grained, brown.	XW	D		
							2			Sandy CLAY: medium plasticity, orange brown.				
						54				Clayey SAND: fine to medium grained, orange.				
										Extremely Weathered sandstone: SAND, fine to medium grained, orange grey.				
							3			REFER TO CORED BOREHOLE LOG				
						53								
							4							
						52								
							5							
						51								
							6							
						50								

JK 902.4 LIB GLB Log JK AUGERHOLE - MASTER 31791SY PALMBEACH.GPJ <<DrawingFile>> 05/03/2021 16:04 1001.00.01 Datgel Lab and In Situ Tool - DGD | Lib: JK 9.02.4 2019-05-31 Prj: JK 9.01.0 2018-03-20

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CORED BOREHOLE LOG

Borehole No. 1 2 / 3

Client: THE APPLICANT
Project: PROPOSED RESIDENCE
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW

Job No.: 31791SY **Core Size:** NMLC **R.L. Surface:** ~56.2 m
Date: 30/8/18 **Inclination:** VERTICAL **Datum:** AHD
Plant Type: MELVELLE **Bearing:** N/A **Logged/Checked By:** J.B.J/W.T.

Water Loss/Level	Barrel Lift	RL (m AHD)	Depth (m)	Graphic Log	CORE DESCRIPTION: Rock Type, grain characteristics, colour, texture and fabric, features, inclusions and minor components	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_s(50)$ (VL-0.1, L-0.3, M-1, H-3, VH-10, EH)	DEFECT DETAILS: SPACING (mm) (600, 200, 60, 20)	DEFECT DETAILS: DESCRIPTION (Type, orientation, defect shape and roughness, defect coatings and seams, openness and thickness) Specific / General	Formation
		55			START CORING AT 1.85m						
		54	2		SANDSTONE: fine to coarse grained, dark orange, with bands of extremely weathered material, clayey sand, bedding at 2-5°.	HW	VL - L	0.70		(1.94m) J, 50°, P, R, Cn	Newport Formation
					NO CORE 0.64m						Newport Formation
		53	3		SANDSTONE: fine to medium grained, orange grey, bedded at 2-5°	HW	VL - L	0.020			Newport Formation
					NO CORE 0.46m						
		52	4		SANDSTONE: fine to medium grained, orange grey, with extremely weathered bands, bedding at 2-5°.	HW	L	1.6 1.3	200 60 20	(3.80m) J, 80°, Ir, R, Cn (3.95m) J, 80°, C, Fe Vn (4.14m) J, 80°, Ir, R, Fe Vn	Newport Formation
					NO CORE 0.19m						
		51	5		SANDSTONE: fine to medium grained, light grey, with some orange red banding, bedding at 2-5°.	HW	L	0.20			Newport Formation
						MW	M	2.2 1.9		(5.28m) XWS, 20 mm.t (5.82m) J, 80°, Un, R, Clay, 1 mm.t	
		50	6		NO CORE 0.19m						
					SANDSTONE: fine to medium grained, light grey with slight orange staining, bedding at 2-5°.	MW	M	0.20 0.70		(7.13m) J, 45°, P, R, Clay, 1 mm.t	Newport Formation
		49	7		NO CORE 0.10m						
					SANDSTONE: fine to medium grained, light grey, with slight orange staining.	MW	M	0.70 0.70	200 60 20	(7.32m) Be, 5°, Ir, R, Cn (7.65m) J, 30°, Ir, R, Fe, 1 mm.t (7.97m) J, 50°, P, R, Fe, 3 mm.t	

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FRACTURES NOT MARKED ARE CONSIDERED TO BE DRILLING AND HANDLING BREAKS

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CORED BOREHOLE LOG

Borehole No.
1
3 / 3

Client: THE APPLICANT
Project: PROPOSED RESIDENCE
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW

Job No.: 31791SY **Core Size:** NMLC **R.L. Surface:** ~56.2 m
Date: 30/8/18 **Inclination:** VERTICAL **Datum:** AHD
Plant Type: MELVELLE **Bearing:** N/A **Logged/Checked By:** J.B.J/W.T.

Water Loss/Level	Barrel Lift	RL (m AHD)	Depth (m)	Graphic Log	CORE DESCRIPTION (Rock Type, grain characteristics, colour, texture and fabric, features, inclusions and minor components)	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_s(50)$	DEFECT DETAILS: SPACING (mm)	DEFECT DETAILS: DESCRIPTION (Type, orientation, defect shape and roughness, defect coatings and seams, openness and thickness)	Formation
		48			SANDSTONE: fine to medium grained, light grey, trace of claystone lenses, dark grey, bedding at 2-5°.	FR	M	0.40		(8.28m) J, 45°, Ir, Vr, Cn	Newport Formation
		47	9					1.1			
								0.80			
			10		NO CORE 0.04m	FR	M	0.80		(9.87m) J, 90°, Ir, Qz, 1 mm.t	Newport Formation
		46			SANDSTONE: fine to medium grained, light grey, trace ofclaystone lenses, dark grey, bedded at 2-5°.			0.50		(10.00m) Be, 5°, P, R, Clay, 1 mm.t	
										(10.34m) J, 30°, Ir, Vr, Cn	
					SILTSTONE: dark grey, bedding at 0°.		H	1.1		(10.56m) Be, 0°, St, S, Cn (10.63m) J, 25°, St, S, Cn	
			11		NO CORE 0.09m						
		45			SANDSTONE: fine to medium grained, light grey with bands of siltstone, bedding at 2-5°.	FR	H	1.6		(11.37m) Be, 2°, Un, S, Cn	Newport Formation
								2.6		(11.58m) Be, 0°, P, S, Cn	
										(11.76m) Be, 2°, Un, S, Cn	
		44	12					2.8		(12.33m) Be, 2°, Un, S, Cn	
										(12.43m) Be, 2°, Un, S, Cn	
								1.3		(12.62m) Be, 2°, Un, S, Cn	
			13								
		43			SANDSTONE: fine to medium grained, light grey, bedding at 2-5°.			0.80		(13.52m) Be, 2°, Un, S, Cn	
								1.5			
			14					1.3			
		42			END OF BOREHOLE AT 14.14 m						

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FRACTURES NOT MARKED ARE CONSIDERED TO BE DRILLING AND HANDLING BREAKS


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JOB N° 317915Y BH1 START CORING AT 1.77m
2
CORE LOSS 0.64m
3
CORE LOSS 0.46m
4
CORE LOSS 0.19m
5
6
CORE LOSS 0.19
7
C/L 0.1
8
9
C/L
10
11
C/L 0.09
12
13
14
END OF HOLE 14.14m

JK Geotechnics

GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS

DYNAMIC CONE PENETRATION TEST RESULTS

Client:	THE APPLICANT						
Project:	PROPOSED RESIDENCE						
Location:	346-352 WHALE BEACH ROAD, PALM BEACH, NSW						
Job No.	31791SY			Hammer Weight & Drop: 9kg/510mm			
Date:	30-8-18			Rod Diameter: 16mm			
Tested By:	J.B.J.			Point Diameter: 20mm			
Test Location	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Surface RL	≈56.2m	≈66.5m	≈65.0m	≈57.4m	≈55.0m	≈70.0m	≈71.5m
Depth (mm)	Number of Blows per 100mm Penetration						
0 - 100	PAVER	3	6	1	1	1	1
100 - 200	7	3	8	3	4	3	4/100mm
200 - 300	3	4	10	4	6	6/50mm	REFUSAL
300 - 400	3	5	REFUSAL	4	10	REFUSAL	
400 - 500	6	10		5	REFUSAL		
500 - 600	3	REFUSAL		8			
600 - 700	3			8			
700 - 800	3			8			
800 - 900	3			6/10mm			
900 - 1000	5			REFUSAL			
1000 - 1100	4						
1100 - 1200	4						
1200 - 1300	5						
1300 - 1400	5						
1400 - 1500	5						
1500 - 1600	8						
1600 - 1700	14						
1700 - 1800	20/100mm						
1800 - 1900	REFUSAL						
1900 - 2000							
2000 - 2100							
2100 - 2200							
2200 - 2300							
2300 - 2400							
2400 - 2500							
2500 - 2600							
2600 - 2700							
2700 - 2800							
2800 - 2900							
2900 - 3000							
Remarks:	1. The procedure used for this test is described in AS1289.6.3.2-1997 (R2013) 2. Usually 8 blows per 20mm is taken as refusal 3. Datum of levels is AHD						

Ref: JK Geotechnics DCP 0-3m Rev3 Feb18



AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM.

This plan should be read in conjunction with the JK Geotechnics report.

Title: **SITE LOCATION PLAN**

Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW

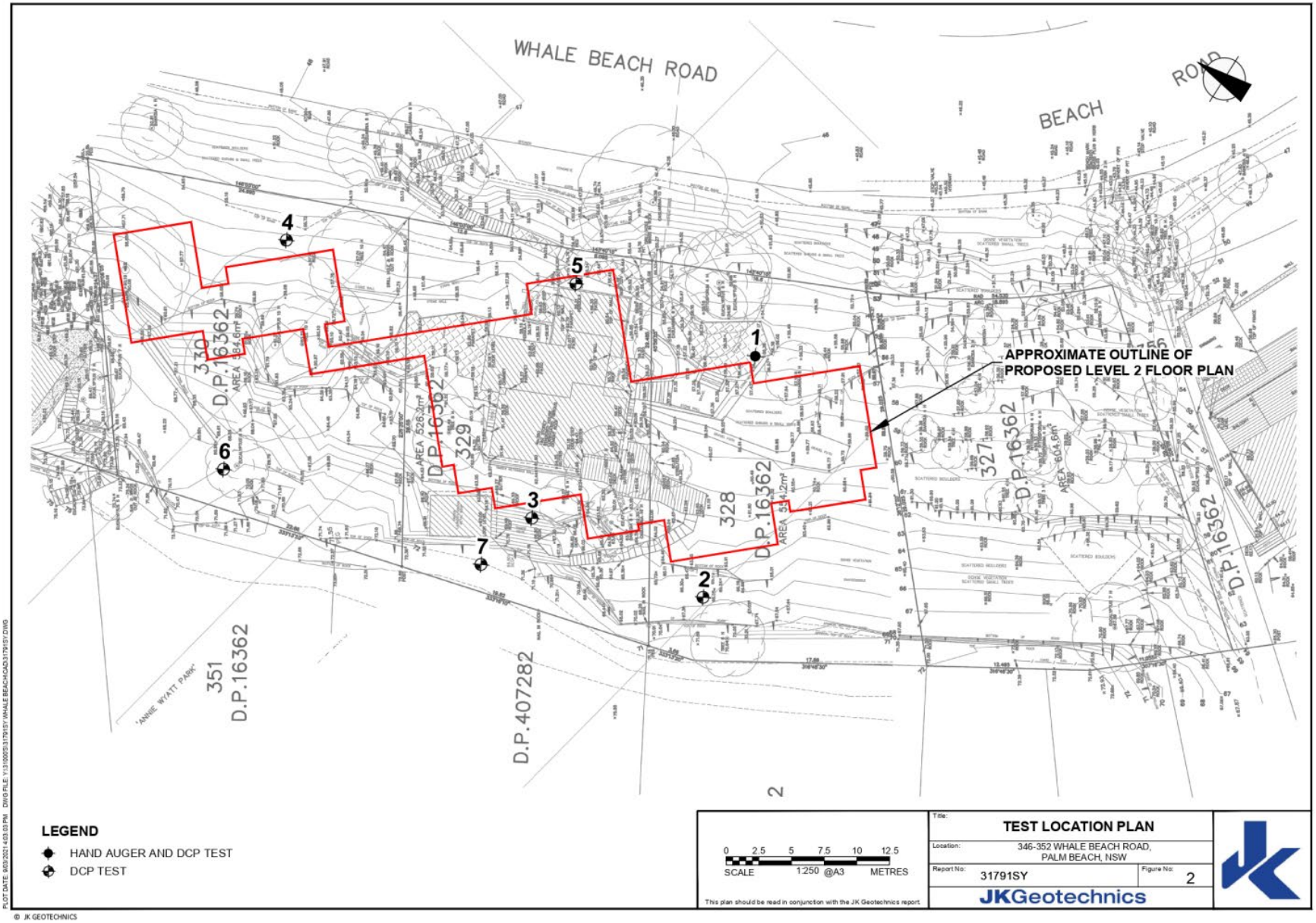
Report No: 31791SY

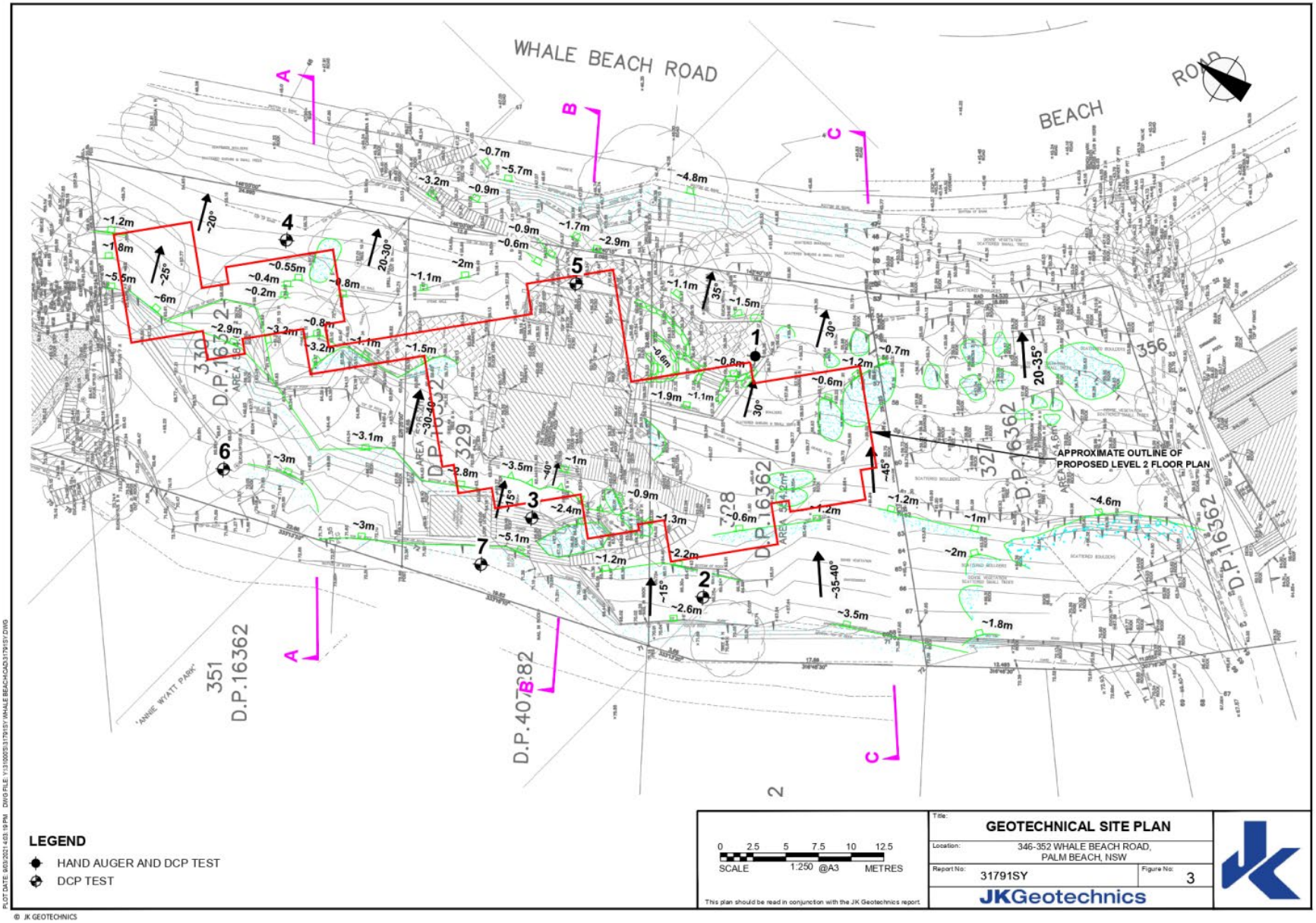
Figure No: 1

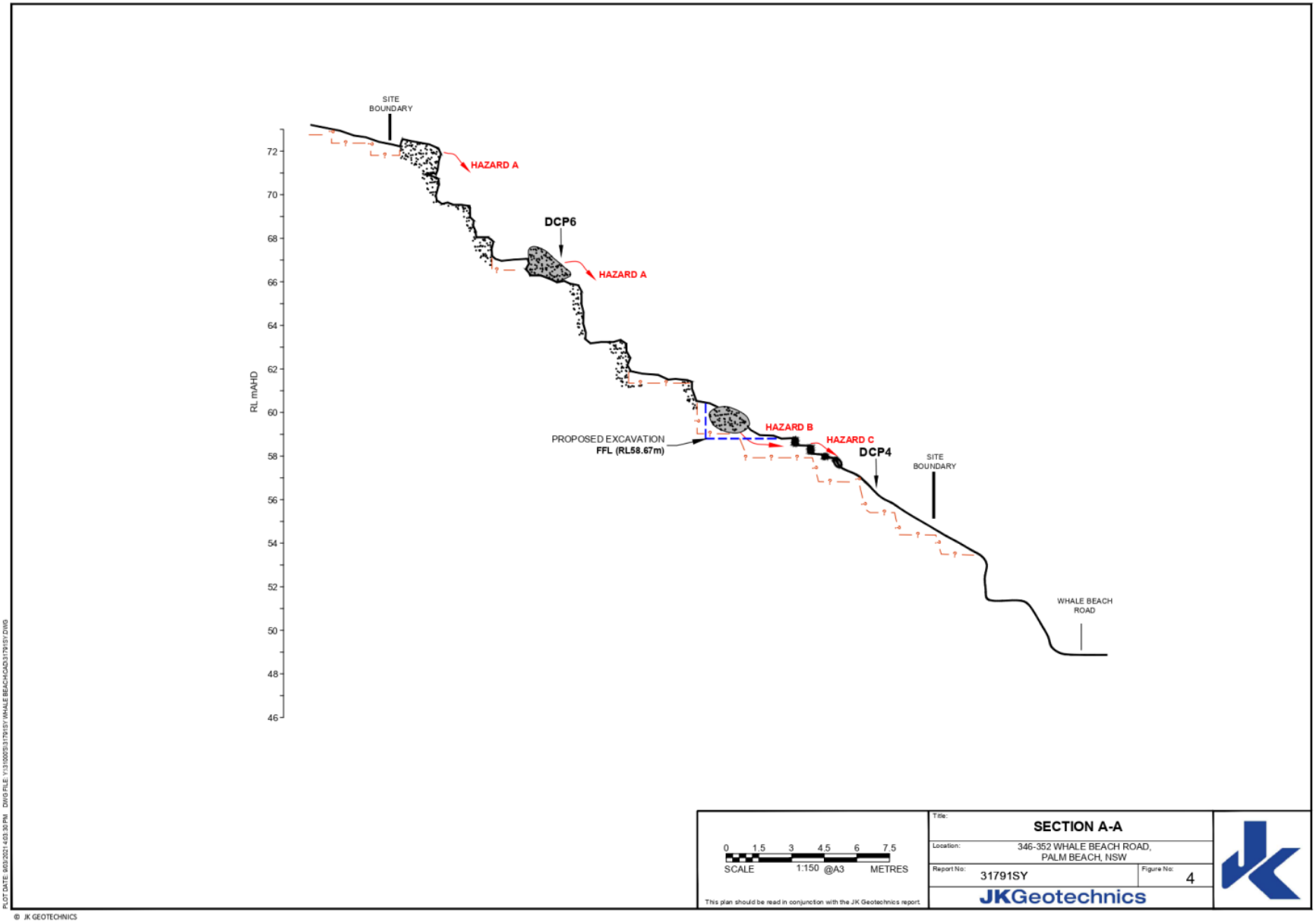
JKGeotechnics

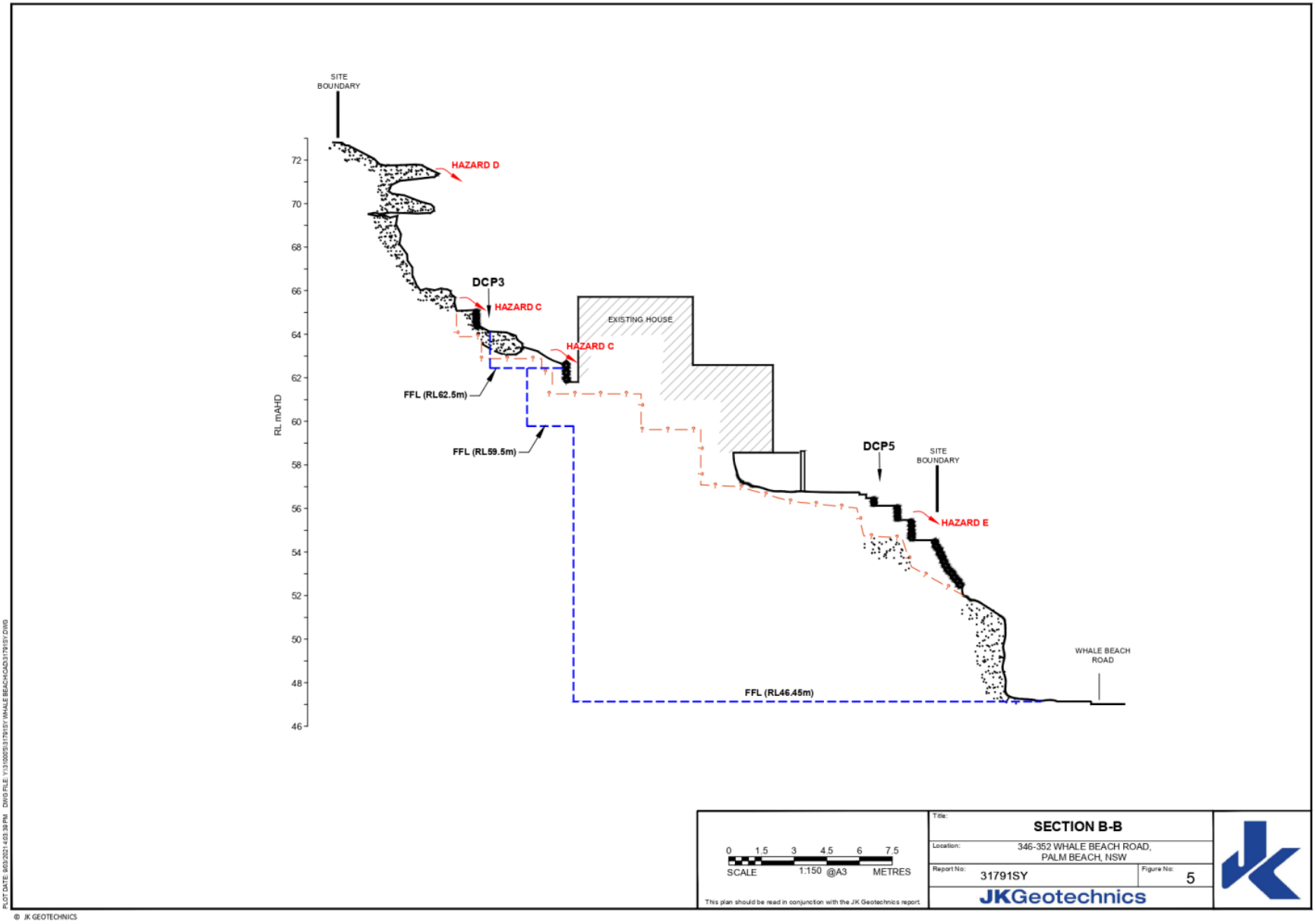
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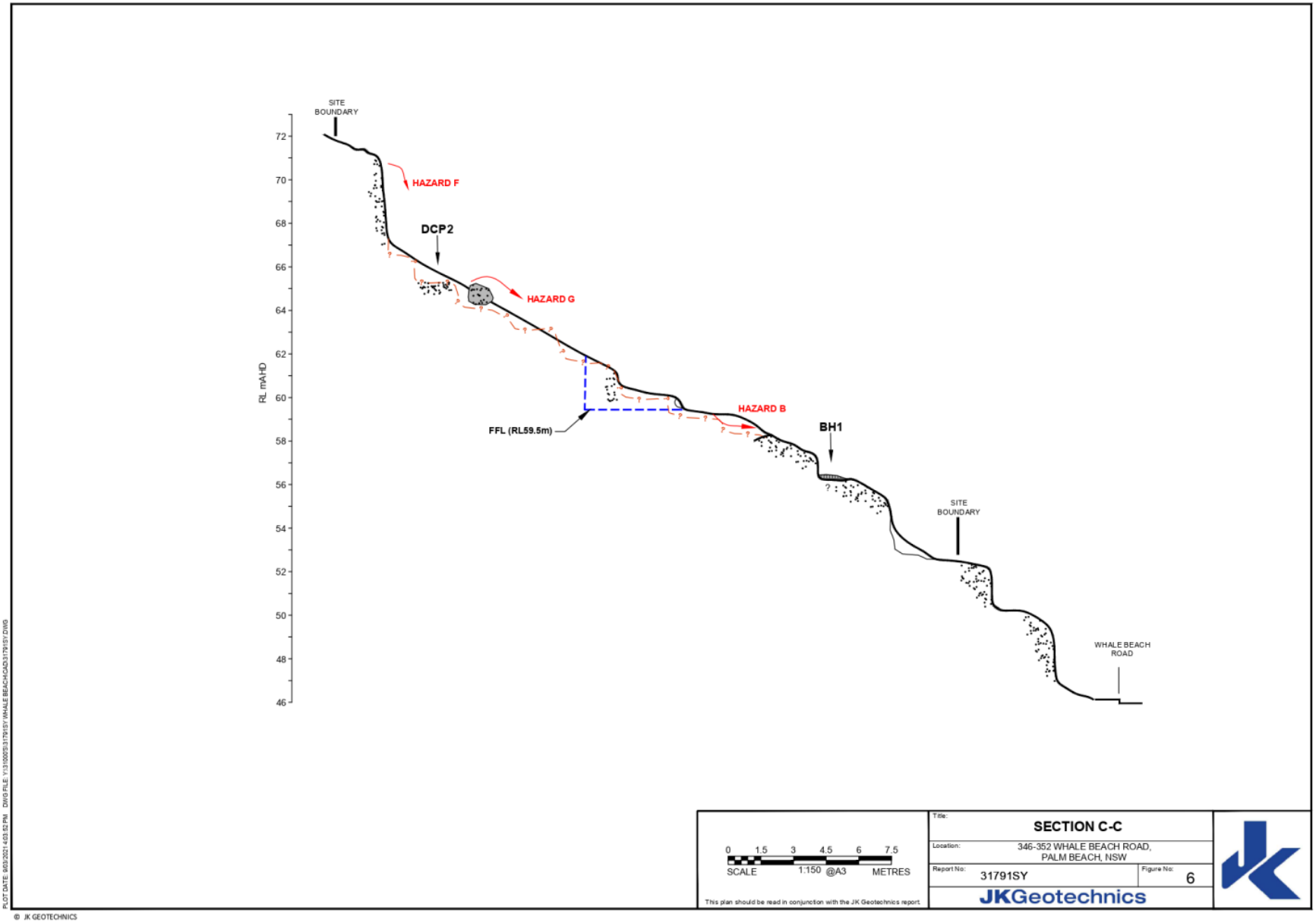
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WHALE BEACH ROAD
BEACH
ROAD
APPROXIMATE OUTLINE OF PROPOSED LEVEL 2 FLOOR PLAN
1
2
3
4
5
6
7
330
D.P.16362
AREA 584.6m²
329
D.P.16362
AREA 526.2m²
328
D.P.16362
AREA 544.2m²
327
D.P.16362
AREA 604.6m²
D.P.16362
351
D.P.16362
'ANNIE WYATT PARK'
D.P.407282
2
LEGEND
HAND AUGER AND DCP TEST
DCP TEST
0 2.5 5 7.5 10 12.5
SCALE 1:250 @A3 METRES
This plan should be read in conjunction with the JK Geotechnics report
Title: TEST LOCATION PLAN
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No: 31791SY
Figure No: 2
JKGeotechnics
PLOT DATE: 9/03/2021 4:03:03 PM DWG FILE: Y:\31000\31791SY\WHALE BEACH\CAD\31791SY.DWG
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WHALE BEACH ROAD
BEACH
ROAD
APPROXIMATE OUTLINE OF PROPOSED LEVEL 2 FLOOR PLAN
LEGEND
HAND AUGER AND DCP TEST
DCP TEST
SCALE 1:250 @A3 METRES
0 2.5 5 7.5 10 12.5
This plan should be read in conjunction with the JK Geotechnics report
Title: GEOTECHNICAL SITE PLAN
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No: 31791SY
Figure No: 3
JKGeotechnics
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SITE BOUNDARY
HAZARD A
DCP6
HAZARD A
HAZARD B
HAZARD C
DCP4
PROPOSED EXCAVATION
FFL (RL58.67m)
SITE BOUNDARY
WHALE BEACH ROAD
RL mAHD
72
70
68
66
64
62
60
58
56
54
52
50
48
46
0 1.5 3 4.5 6 7.5
SCALE 1:150 @A3 METRES
This plan should be read in conjunction with the JK Geotechnics report
Title: SECTION A-A
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No: 31791SY
Figure No: 4
JKGeotechnics
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SITE BOUNDARY
HAZARD D
DCP3
HAZARD C
EXISTING HOUSE
HAZARD C
FFL (RL62.5m)
FFL (RL59.5m)
DCP5
SITE BOUNDARY
HAZARD E
WHALE BEACH ROAD
FFL (RL46.45m)
RL mAHD
72
70
68
66
64
62
60
58
56
54
52
50
48
46
0 1.5 3 4.5 6 7.5
SCALE 1:150 @A3 METRES
This plan should be read in conjunction with the JK Geotechnics report
Title: SECTION B-B
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No: 31791SY
Figure No: 5
JKGeotechnics
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SITE BOUNDARY
HAZARD F
DCP2
HAZARD G
HAZARD B
BH1
FFL (RL59.5m)
SITE BOUNDARY
WHALE BEACH ROAD
RL mAHD
72
70
68
66
64
62
60
58
56
54
52
50
48
46
0 1.5 3 4.5 6 7.5
SCALE 1:150 @A3 METRES
This plan should be read in conjunction with the JK Geotechnics report
Title: SECTION C-C
Location: 346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No: 31791SY
Figure No: 6
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TOPOGRAPHY

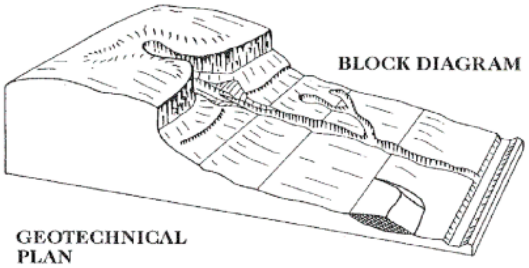
Symbol *Ground Profile*

- convex / concave — well defined or angular break of slope
- convex / concave — poorly defined or smooth change of slope
- breaks of slope / changes of slope — convex and concave too close together to allow the use of separate symbols
- sharp / rounded — ridge crest
- Cliff or escarpment or sharp break 40° or more (estimated height in metres) — 3
- 15 Uniform Slope; 10 Concave Slope; 8 Convex Slope — Slope direction and angle (Degrees)
- Top / Bottom — Cut or fill slope, arrows pointing down slope
- Hummocky or irregular ground

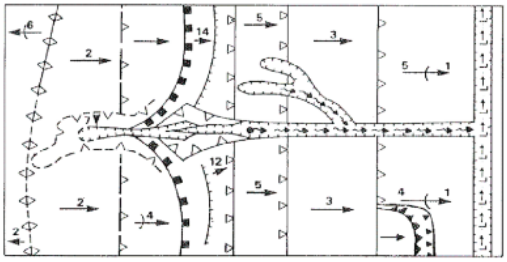
OTHER FEATURES

- Boulder
- Seepage/spring
- Swallow hole for runoff
- Natural water course
- Open drain, unlined
- Open drain, lined
- Fenceline
- Property boundary
- Dry Stone Wall
- J 200 J Major joint in rock face (opening in millimetres)
- T 10 T Tension crack (opening in millimetres)
- Masonry or concrete wall
- Ponding water
- Boggy or swampy area

EXAMPLE OF USE OF TOPOGRAPHIC SYMBOLS:



GEOTECHNICAL PLAN



(After Gardiner, V & Dackombe, R. V. (1983), Geomorphological Field Manual; George Allen & Unwin).

Title:	**GEOTECHNICAL MAPPING SYMBOLS**
Location:	346-352 WHALE BEACH ROAD, PALM BEACH, NSW
Report No:	31791SY
Figure No:	7

This plan should be read in conjunction with the JK Geotechnics report.

JKGeotechnics

PLOT DATE: 9/03/2021 4:04:00 PM DWG FILE: Y:\31000\31791SY WHALE BEACH\CAD\31791SY.DWG

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APPENDIX A

LANDSLIDE RISK MANAGEMENT TERMINOLOGY

LANDSLIDE RISK MANAGEMENT

Definition of Terms and Landslide Risk

Risk Terminology	Description
Acceptable Risk	A risk for which, for the purposes of life or work, we are prepared to accept as it is with no regard to its management. Society does not generally consider expenditure in further reducing such risks justifiable.
Annual Exceedance Probability (AEP)	The estimated probability that an event of specified magnitude will be exceeded in any year.
Consequence	The outcomes or potential outcomes arising from the occurrence of a landslide expressed qualitatively or quantitatively, in terms of loss, disadvantage or gain, damage, injury or loss of life.
Elements at Risk	The population, buildings and engineering works, economic activities, public services utilities, infrastructure and environmental features in the area potentially affected by landslides.
Frequency	A measure of likelihood expressed as the number of occurrences of an event in a given time. See also 'Likelihood' and 'Probability'.
Hazard	A condition with the potential for causing an undesirable consequence (the landslide). The description of landslide hazard should include the location, volume (or area), classification and velocity of the potential landslides and any resultant detached material, and the likelihood of their occurrence within a given period of time.
Individual Risk to Life	The risk of fatality or injury to any identifiable (named) individual who lives within the zone impacted by the landslide; or who follows a particular pattern of life that might subject him or her to the consequences of the landslide.
Landslide Activity	The stage of development of a landslide; pre failure when the slope is strained throughout but is essentially intact; failure characterised by the formation of a continuous surface of rupture; post failure which includes movement from just after failure to when it essentially stops; and reactivation when the slope slides along one or several pre-existing surfaces of rupture. Reactivation may be occasional (eg. seasonal) or continuous (in which case the slide is 'active').
Landslide Intensity	A set of spatially distributed parameters related to the destructive power of a landslide. The parameters may be described quantitatively or qualitatively and may include maximum movement velocity, total displacement, differential displacement, depth of the moving mass, peak discharge per unit width, or kinetic energy per unit area.
Landslide Risk	The AGS Australian GeoGuide LR7 (AGS, 2007e) should be referred to for an explanation of Landslide Risk.
Landslide Susceptibility	The classification, and volume (or area) of landslides which exist or potentially may occur in an area or may travel or retrogress onto it. Susceptibility may also include a description of the velocity and intensity of the existing or potential landsliding.
Likelihood	Used as a qualitative description of probability or frequency.
Probability	A measure of the degree of certainty. This measure has a value between zero (impossibility) and 1.0 (certainty). It is an estimate of the likelihood of the magnitude of the uncertain quantity, or the likelihood of the occurrence of the uncertain future event. These are two main interpretations: (i) Statistical – frequency or fraction – The outcome of a repetitive experiment of some kind like flipping coins. It includes also the idea of population variability. Such a number is called an 'objective' or relative frequentist probability because it exists in the real world and is in principle measurable by doing the experiment.

Risk Terminology	Description
Probability *(continued)*	(ii) Subjective probability (degree of belief) – Quantified measure of belief, judgment, or confidence in the likelihood of an outcome, obtained by considering all available information honestly, fairly, and with a minimum of bias. Subjective probability is affected by the state of understanding of a process, judgment regarding an evaluation, or the quality and quantity of information. It may change over time as the state of knowledge changes.
Qualitative Risk Analysis	An analysis which uses word form, descriptive or numeric rating scales to describe the magnitude of potential consequences and the likelihood that those consequences will occur.
Quantitative Risk Analysis	An analysis based on numerical values of the probability, vulnerability and consequences and resulting in a numerical value of the risk.
Risk	A measure of the probability and severity of an adverse effect to health, property or the environment. Risk is often estimated by the product of probability x consequences. However, a more general interpretation of risk involves a comparison of the probability and consequences in a non-product form.
Risk Analysis	The use of available information to estimate the risk to individual, population, property, or the environment, from hazards. Risk analyses generally contain the following steps: scope definition, hazard identification and risk estimation.
Risk Assessment	The process of risk analysis and risk evaluation.
Risk Control or Risk Treatment	The process of decision-making for managing risk and the implementation or enforcement of risk mitigation measures and the re-evaluation of its effectiveness from time to time, using the results of risk assessment as one input.
Risk Estimation	The process used to produce a measure of the level of health, property or environmental risks being analysed. Risk estimation contains the following steps: frequency analysis, consequence analysis and their integration.
Risk Evaluation	The stage at which values and judgments enter the decision process, explicitly or implicitly, by including consideration of the importance of the estimated risks and the associated social, environmental and economic consequences, in order to identify a range of alternatives for managing the risks.
Risk Management	The complete process of risk assessment and risk control (or risk treatment).
Societal Risk	The risk of multiple fatalities or injuries in society as a whole: one where society would have to carry the burden of a landslide causing a number of deaths, injuries, financial, environmental and other losses.
Susceptibility	See 'Landslide Susceptibility'.
Temporal Spatial Probability	The probability that the element at risk is in the area affected by the landsliding, at the time of the landslide.
Tolerable Risk	A risk within a range that society can live with so as to secure certain net benefits. It is a range of risk regarded as non-negligible and needing to be kept under review and reduced further if possible.
Vulnerability	The degree of loss to a given element or set of elements within the area affected by the landslide hazard. It is expressed on a scale of 0 (no loss) to 1 (total loss). For property, the loss will be the value of the damage relative to the value of the property; for persons, it will be the probability that a particular life (the element at risk) will be lost, given the person(s) is affected by the landslide.

NOTE: Reference should be made to Figure A1 which shows the inter-relationship of many of these terms and the relevant portion of Landslide Risk Management.

Reference should also be made to the paper referenced below for Landslide Terminology and more detailed discussion of the above terminology.

This appendix is an extract from PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT as presented in Australian Geomechanics, Vol 42, No 1, March 2007, which discusses the matter more fully.

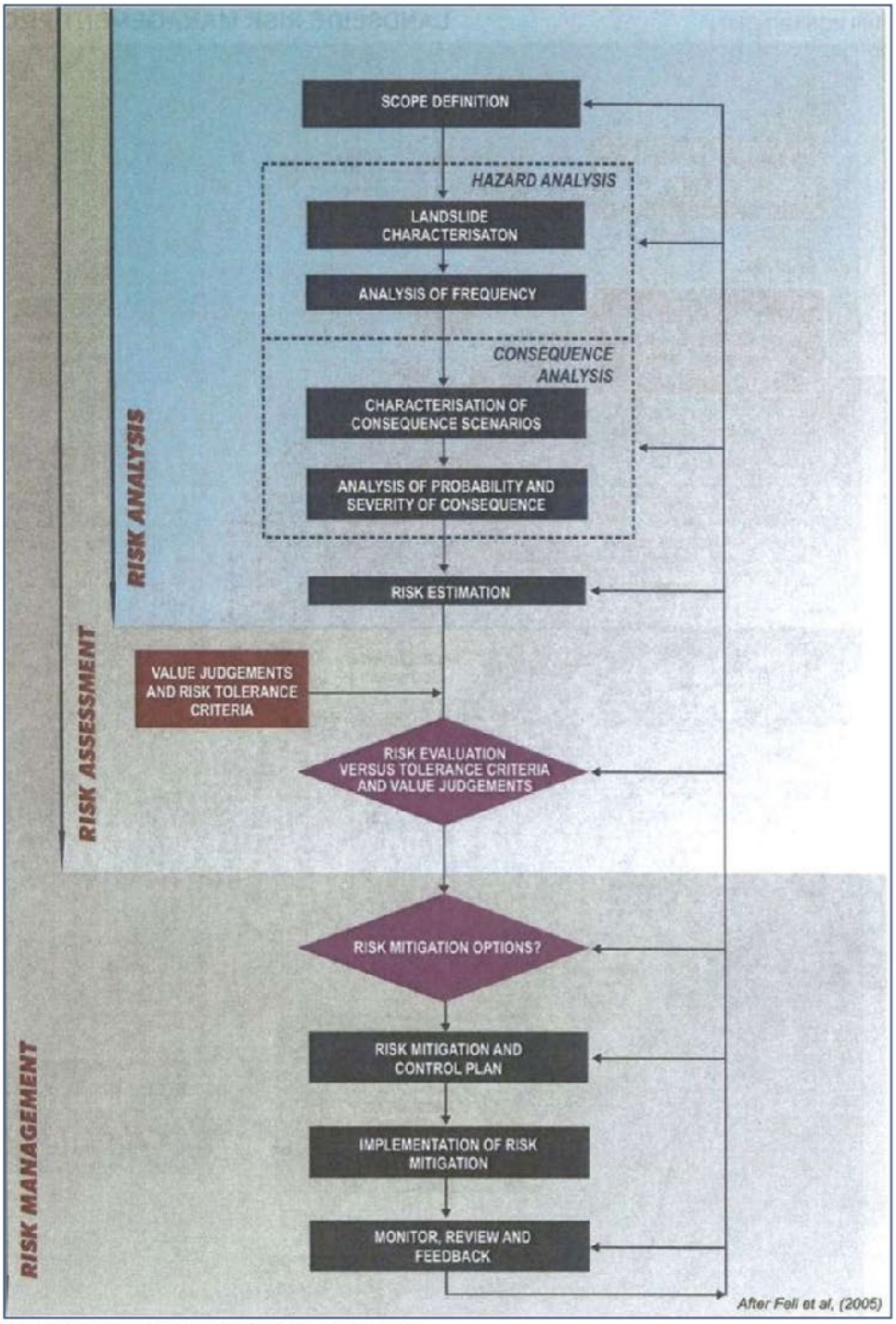


FIGURE A1: Flowchart for Landslide Risk Management.

This figure is an extract from GUIDELINE FOR LANDSLIDE SUSCEPTIBILITY, HAZARD AND RISK ZONING FOR LAND USE PLANNING, as presented in Australian Geomechanics Vol 42, No 1, March 2007, which discusses the matter more fully.

TABLE A1: LANDSLIDE RISK ASSESSMENT
QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10^{-1}	5×10^{-2}	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10^{-2}	5×10^{-3}	100 years	200 years	The event will probably occur under adverse conditions over the design life.	LIKELY	B
10^{-3}	5×10^{-4}	1000 years	2000 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10^{-4}	5×10^{-5}	10,000 years	20,000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10^{-5}	5×10^{-2}	100,000 years	200,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10^{-6}		1,000,000 years		The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%	40%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	10%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	1%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%		Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

Notes: (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.

(3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilisation works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.

(4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not vice versa.

Extract from PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT as presented in Australian Geomechanics, Vol 42, No 1, March 2007, which discusses the matter more fully.

TABLE A1: LANDSLIDE RISK ASSESSMENT
QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (continued)

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or **L** (5)
B - LIKELY	10^{-2}	VH	VH	H	M	**L**
C - POSSIBLE	10^{-3}	VH	H	M	M	**VL**
D - UNLIKELY	10^{-4}	H	M	**L**	**L**	**VL**
E - RARE	10^{-5}	M	**L**	**L**	**VL**	**VL**
F - BARELY CREDIBLE	10^{-6}	**L**	**VL**	**VL**	**VL**	**VL**

Notes: (5) Cell A5 may be subdivided such that a consequence of less than 0.1% is Low Risk.
(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
VH	VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H	HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	MODERATE RISK	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

Extract from PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT as presented in Australian Geomechanics, Vol 42, No 1, March 2007, which discusses the matter more fully.

AUSTRALIAN GEOGUIDE LR2 (LANDSLIDES)

What is a Landslide?

Any movement of a mass of rock, debris, or earth, down a slope, constitutes a "landslide". Landslides take many forms, some of which are illustrated. More information can be obtained from Geoscience Australia, or by visiting its Australian landslide Database at www.ga.gov.au/urban/factsheets/landslide.jsp. Aspects of the impact of landslides on buildings are dealt with in the book "Guideline Document Landslide Hazards" published by the Australian Building Codes Board and referenced in the Building Code of Australia. This document can be purchased over the internet at the Australian Building Codes Board's website www.abcb.gov.au.

Landslides vary in size. They can be small and localised or very large, sometimes extending for kilometres and involving millions of tonnes of soil or rock. It is important to realise that even a 1 cubic metre boulder of soil, or rock, weighs at least 2 tonnes. If it falls, or slides, it is large enough to kill a person, crush a car, or cause serious structural damage to a house. The material in a landslide may travel downhill well beyond the point where the failure first occurred, leaving destruction in its wake. It may also leave an unstable slope in the ground behind it, which has the potential to fall again, causing the landslide to extend (regress) uphill, or expand sideways. For all these reasons, both "potential" and "actual" landslides must be taken very seriously. The present a real threat to life and property and require proper management.

Identification of landslide risk is a complex task and must be undertaken by a geotechnical practitioner (GeoGuide LR1) with specialist experience in slope stability assessment and slope stabilisation.

What Causes a Landslide?

Landslides occur as a result of local geological and groundwater conditions, but can be exacerbated by inappropriate development (GeoGuide LR8), exceptional weather, earthquakes and other factors. Some slopes and cliffs never seem to change, but are actually on the verge of failing. Others, often moderate slopes (Table 1), move continuously, but so slowly that it is not apparent to a casual observer. In both cases, small changes in conditions can trigger a landslide with series consequences. Wetting up of the ground (which may involve a rise in groundwater table) is the single most important cause of landslides (GeoGuide LR5). This is why they often occur during, or soon after, heavy rain. Inappropriate development often results in small scale landslides which are very expensive in human terms because of the proximity of housing and people.

Does a Landslide Affect You?

Any slope, cliff, cutting, or fill embankment may be a hazard which has the potential to impact on people, property, roads and services. Some tell-tale signs that might indicate that a landslide is occurring are listed below:

- Open cracks, or steps, along contours
- Groundwater seepage, or springs
- Bulging in the lower part of the slope
- Hummocky ground
- trees leaning down slope, or with exposed roots
- debris/fallen rocks at the foot of a cliff
- tilted power poles, or fences
- cracked or distorted structures

These indications of instability may be seen on almost any slope and are not necessarily confined to the steeper ones (Table 1). Advice should be sought from a geotechnical practitioner if any of them are observed. Landslides do not respect property boundaries. As mentioned above they can "run-out" from above, "regress" from below, or expand sideways, so a landslide hazard affecting your property may actually exist on someone else's land.

Local councils are usually aware of slope instability problems within their jurisdiction and often have specific development and maintenance requirements. **Your local council is the first place to make enquiries if you are responsible for any sort of development or own or occupy property on or near sloping land or a cliff.**

TABLE 1 – Slope Descriptions

Appearance	Slope Angle	Maximum Gradient	Slope Characteristics
Gentle	0° - 10°	1 on 6	Easy walking.
Moderate	10° - 18°	1 on 3	Walkable. Can drive and manoeuvre a car on driveway.
Steep	18° - 27°	1 on 2	Walkable with effort. Possible to drive straight up or down roughened concrete driveway, but cannot practically manoeuvre a car.
Very Steep	27° - 45°	1 on 1	Can only climb slope by clutching at vegetation, rocks, etc.
Extreme	45° - 64°	1 on 0.5	Need rope access to climb slope.
Cliff	64° - 84°	1 on 0.1	Appears vertical. Can abseil down.
Vertical or Overhang	84° - 90±°	Infinite	Appears to overhang. Abseiler likely to lose contact with the face.

Some typical landslides which could affect residential housing are illustrated below:

Rotational or circular slip failures (Figure 1) - can occur on moderate to very steep soil and weathered rock slopes (Table 1). The sliding surface of the moving mass tends to be deep seated. Tension cracks may open at the top of the slope and bulging may occur at the toe. The ground may move in discrete "steps" separated by long periods without movement. More rapid movement may occur after heavy rain.

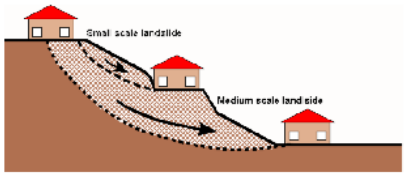
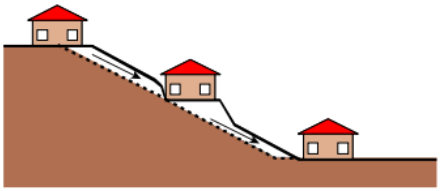


Figure 1

Translational slip failures (Figure 2) - tend to occur on moderate to very steep slopes (Table 1) where soil, or weak rock, overlies stronger strata. The sliding mass is often relatively shallow. It can move, or deform slowly (creep) over long periods of time. Extensive linear cracks and hummocks sometimes form along the contours. The sliding mass may accelerate after heavy rain.


Figure 2

Wedge failures (Figure 3) - normally only occur on extreme slopes, or cliffs (Table 1), where discontinuities in the rock are inclined steeply downwards out of the face.

Rock falls (Figure 3) - tend to occur from cliffs and overhangs (Table 1).

Cliffs may remain, apparently unchanged, for hundreds of years. Collections of boulders at the foot of a cliff may indicate that rock falls are ongoing. Wedge failures and rock falls do not "creep". Familiarity with a particular local situation can instil a false sense of security since failure, when it occurs, is usually sudden and catastrophic.

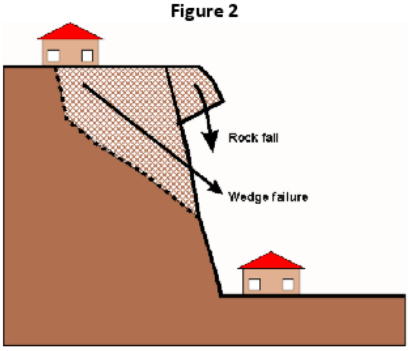


Figure 3

Debris flows and mud slides (Figure 4) - may occur in the foothills of ranges, where erosion has formed valleys which slope down to the plains below. The valley bottoms are often lined with loose eroded material (debris) which can "flow" if it becomes saturated during and after heavy rain. Debris flows are likely to occur with little warning; they travel a long way and often involve large volumes of soil. The consequences can be devastating.

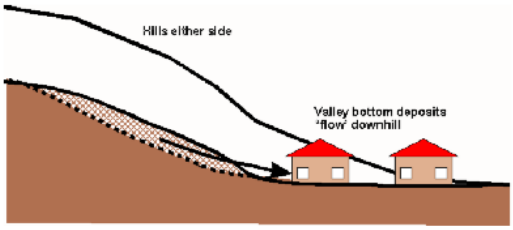


Figure 4

More information relevant to your particular situation may be found in other Australian GeoGuides:

- GeoGuide LR1 - Introduction
- GeoGuide LR3 - Soil Slopes
- GeoGuide LR4 - Rock Slopes
- GeoGuide LR5 - Water & Drainage
- GeoGuide LR6 - Retaining Walls
- GeoGuide LR7 - Landslide Risk
- GeoGuide LR8 - Hillside Construction
- GeoGuide LR9 - Effluent & Surface Water Disposal
- GeoGuide LR10 - Coastal Landslides
- GeoGuide LR11 - Record Keeping

The Australian GeoGuides (LR series) are a set of publications intended for property owners; local councils; planning authorities; developers; insurers; lawyers and, in fact, anyone who lives with, or has an interest in, a natural or engineered slope, a cutting, or an excavation. They are intended to help you understand why slopes and retaining structures can be a hazard and what can be done with appropriate professional advice and local council approval (if required) to remove, reduce, or minimise the risk they represent. The GeoGuides have been prepared by the Australian Geomechanics Society, a specialist technical society within Engineers Australia, the national peak body for all engineering disciplines in Australia, whose members are professional geotechnical engineers and engineering geologists with a particular interest in ground engineering. The GeoGuides have been funded under the Australian governments' National Disaster Mitigation Program.

AUSTRALIAN GEOGUIDE LR7 (LANDSLIDE RISK)

Concept of Risk

Risk is a familiar term, but what does it really mean? It can be defined as *"a measure of the probability and severity of an adverse effect to health, property, or the environment."* This definition may seem a bit complicated. In relation to landslides, geotechnical practitioners (see GeoGuide LR1) are required to assess risk in terms of the likelihood that a particular landslide will occur and the possible consequences. This is called landslide risk assessment. The consequences of a landslide are many and varied, but our concerns normally focus on loss of, or damage to, property and loss of life.

Landslide Risk Assessment

Some local councils in Australia are aware of the potential for landslides within their jurisdiction and have responded by designating specific "landslide hazard zones". Development in these areas is normally covered by special regulations. If you are contemplating building, or buying an existing house, particularly in a hilly area, or near cliffs, then go first for information to your local council.

Landslide risk assessment must be undertaken by a geotechnical practitioner. It may involve visual inspection, geological mapping, geotechnical investigation and monitoring to identify:

- potential landslides (there may be more than one that could impact on your site);
- the likelihood that they will occur;
- the damage that could result;
- the cost of disruption and repairs; and
- the extent to which lives could be lost.

Risk assessment is a predictive exercise, but since the ground and the processes involved are complex, prediction tends to lack precision. If you commission a landslide risk assessment for a particular site you should expect to receive a report prepared in accordance with current professional guidelines and in a form that is acceptable to your local council, or planning authority.

Risk to Property

Table 1 indicates the terms used to describe risk to property. Each risk level depends on an assessment of how likely a landslide is to occur and its consequences in dollar terms. "Likelihood" is the chance of it happening in any one year, as indicated in Table 2. "Consequences" are related to the cost of the repairs and temporary loss of use if the landslide occurs. These two factors are combined by the geotechnical practitioner to determine the Qualitative Risk.

TABLE 2 – LIKELIHOOD

Likelihood	Annual Probability
Almost Certain	1:10
Likely	1:100
Possible	1:1,000
Unlikely	1:10,000
Rare	1:100,000
Barely credible	1:1,000,000

The terms "unacceptable", "may be tolerable" etc. in Table 1 indicate how most people react to an assessed risk level. However, some people will always be more prepared, or better able, to tolerate a higher risk level than others.

Some local councils and planning authorities stipulate a maximum tolerable risk level of risk to property for developments within their jurisdictions. In these situations the risk must be assessed by a geotechnical practitioner. If stabilisation works are needed to meet the stipulated requirements these will normally have to be carried out as part of the development, or consent will be withheld.

TABLE 1 – RISK TO PROPERTY

Qualitative Risk		Significance - Geotechnical engineering requirements
Very high	VH	**Unacceptable** without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low. May be too expensive and not practical. Work likely to cost more than the value of the property.
High	H	**Unacceptable** without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to acceptable level. Work would cost a substantial sum in relation to the value of the property.
Moderate	M	**May be tolerated** in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as possible.
Low	L	**Usually acceptable** to regulators. Where treatment has been needed to reduce the risk to this level, ongoing maintenance is required.
Very Low	VL	**Acceptable**. Manage by normal slope maintenance procedures.

Risk to Life

Most of us have some difficulty grappling with the concept of risk and deciding whether, or not, we are prepared to accept it. However, without doing any sort of analysis, or commissioning a report from an "expert", we all take risks every day. One of them is the risk of being killed in an accident. This is worth thinking about, because it tells us a lot about ourselves and can help to put an assessed risk into a meaningful context. By identifying activities that we either are, or are not, prepared to engage in, we can get some indication of the maximum level of risk that we are prepared to take. This knowledge can help us to decide whether we really are able to accept a particular risk, or to tolerate a particular likelihood of loss, or damage, to our property (Table 2).

In Table 3, data from NSW for the years 1998 to 2002, and other sources, is presented. A risk of 1 in 100,000 means that, in any one year, 1 person is killed for every 100,000 people undertaking that particular activity. The NSW data assumes that the whole population undertakes the activity. That is, we are all at risk of being killed in a fire, or of choking on our food, but it is reasonable to assume that only people who go deep sea fishing run a risk of being killed while doing it.

It can be seen that the risks of dying as a result of falling, using a motor vehicle, or engaging in water-related activities (including bathing) are all greater than 1:100,000 and yet few people actively avoid situations where these risks are present. Some people are averse to flying and yet it represents a lower risk than choking to death on food. The data also indicate that, even when the risk of dying as a consequence of a particular event is very small, it could still happen to any one of us today. If this were not so, there would be no risk at all and clearly that is not the case.

In NSW, the planning authorities consider that 1:1,000,000 is the maximum tolerable risk for domestic housing built near an obvious hazard, such as a chemical factory. Although not specifically considered in the NSW guidelines there is little difference between the hazard presented by a neighbouring factory and a landslide: both have the capacity to destroy life and property and both are always present.

TABLE 3 – RISK TO LIFE

Risk (deaths per participant per year)	**Activity/Event Leading to Death** (NSW data unless noted)
1:1,000	Deep sea fishing (UK)
1:1,000 to 1:10,000	Motor cycling, horse riding, ultra-light flying (Canada)
1:23,000	Motor vehicle use
1:30,000	Fall
1:70,000	Drowning
1:180,000	Fire/burn
1:660,000	Choking on food
1:1,000,000	Scheduled airlines (Canada)
1:2,300,000	Train travel
1:32,000,000	Lightning strike

More information relevant to your particular situation may be found in other Australian GeoGuides:

- GeoGuide LR1 - Introduction
- GeoGuide LR3 - Soil Slopes
- GeoGuide LR4 - Rock Slopes
- GeoGuide LR5 - Water & Drainage
- GeoGuide LR6 - Retaining Walls
- GeoGuide LR7 - Landslide Risk
- GeoGuide LR8 - Hillside Construction
- GeoGuide LR9 - Effluent & Surface Water Disposal
- GeoGuide LR10 - Coastal Landslides
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The Australian GeoGuides (LR series) are a set of publications intended for property owners; local councils; planning authorities; developers; insurers; lawyers and, in fact, anyone who lives with, or has an interest in, a natural or engineered slope, a cutting, or an excavation. They are intended to help you understand why slopes and retaining structures can be a hazard and what can be done with appropriate professional advice and local council approval (if required) to remove, reduce, or minimise the risk they represent. The GeoGuides have been prepared by the Australian Geomechanics Society, a specialist technical society within Engineers Australia, the national peak body for all engineering disciplines in Australia, whose members are professional geotechnical engineers and engineering geologists with a particular interest in ground engineering. The GeoGuides have been funded under the Australian governments' National Disaster Mitigation Program.

APPENDIX B

SOME GUIDELINES

FOR

HILLSIDE CONSTRUCTION

February 2019

JKGeotechnics

SOME GUIDELINES FOR HILLSIDE CONSTRUCTION

	GOOD ENGINEERING PRACTICE	POOR ENGINEERING PRACTICE
ADVICE		
GEOTECHNICAL ASSESSMENT	Obtain advice from a qualified, experienced geotechnical consultant at early stage of planning and before site works.	Prepare detailed plan and start site works before geotechnical advice.
PLANNING		
SITE PLANNING	Having obtained geotechnical advice, plan the development with the risk arising from the identified hazards and consequences in mind.	Plan development without regard for the Risk.
DESIGN AND CONSTRUCTION		
HOUSE DESIGN	Use flexible structures which incorporate properly designed brickwork, timber or steel frames, timber or panel cladding. Consider use of split levels. Use decks for recreational areas where appropriate.	Floor plans which require extensive cutting and filling. Movement intolerant structures.
SITE CLEARING	Retain natural vegetation wherever practicable.	Indiscriminately clear the site.
ACCESS & DRIVEWAYS	Satisfy requirements below for cuts, fills, retaining walls and drainage. Council specifications for grades may need to be modified. Driveways and parking areas may need to be fully supported on piers.	Excavate and fill for site access before geotechnical advice.
EARTHWORKS	Retain natural contours wherever possible.	Indiscriminant bulk earthworks.
CUTS	Minimise depth. Support with engineered retaining walls or batter to appropriate slope. Provide drainage measures and erosion control.	Large scale cuts and benching. Unsupported cuts. Ignore drainage requirements.
FILLS	Minimise height. Strip vegetation and topsoil and key into natural slopes prior to filling. Use clean fill materials and compact to engineering standards. Batter to appropriate slope or support with engineered retaining wall. Provide surface drainage and appropriate subsurface drainage.	Loose or poorly compacted fill, which if it fails, may flow a considerable distance (including onto properties below). Block natural drainage lines. Fill over existing vegetation and topsoil. Include stumps, trees, vegetation, topsoil, boulders, building rubble etc. in fill.
ROCK OUTCROPS & BOULDERS	Remove or stabilise boulders which may have unacceptable risk. Support rock faces where necessary.	Disturb or undercut detached blocks or boulders.
RETAINING WALLS	Engineer design to resist applied soil and water forces. Found on bedrock where practicable. Provide subsurface drainage within wall backfill and surface drainage on slope above. Construct wall as soon as possible after cut/fill operation.	Construct a structurally inadequate wall such as sandstone flagging, brick or unreinforced blockwork. Lack of subsurface drains and weepholes.
FOOTINGS	Found within bedrock where practicable. Use rows of piers or strip footings oriented up and down slope. Design for lateral creep pressures if necessary. Backfill footing excavations to exclude ingress of surface water.	Found on topsoil, loose fill, detached boulders or undercut cliffs.
SWIMMING POOLS	Engineer designed. Support on piers to rock where practicable. Provide with under-drainage and gravity drain outlet where practicable. Design for high soil pressures which may develop on uphill side whilst there may be little or no lateral support on downhill side.	
DRAINAGE		
SURFACE	Provide at tops of cut and fill slopes. Discharge to street drainage or natural water courses. Provide generous falls to prevent blockage by siltation and incorporate silt traps. Line to minimise infiltration and make flexible where possible. Special structures to dissipate energy at changes of slope and/or direction.	Discharge at top of fills and cuts. Allow water to pond bench areas.
SUBSURFACE	Provide filter around subsurface drain. Provide drain behind retaining walls. Use flexible pipelines with access for maintenance. Prevent inflow of surface water.	Discharge of roof run-off into absorption trenches.
SEPTIC & SULLAGE	Usually requires pump-out or mains sewer systems; absorption trenches may be possible in some areas if risk is acceptable. Storage tanks should be water-tight and adequately founded.	Discharge sullage directly onto and into slopes. Use of absorption trenches without consideration of landslide risk.
EROSION CONTROL & LANDSCAPING	Control erosion as this may lead to instability. Revegetate cleared area.	Failure to observe earthworks and drainage recommendations when landscaping.
DRAWINGS AND SITE VISITS DURING CONSTRUCTION		
DRAWINGS	Building Application drawings should be viewed by a geotechnical consultant.	
SITE VISITS	Site visits by consultant may be appropriate during construction.	
INSPECTION AND MAINTENANCE BY OWNER		
OWNER'S RESPONSIBILITY	Clean drainage systems; repair broken joints in drains and leaks in supply pipes. Where structural distress is evident seek advice. If seepage observed, determine cause or seek advice on consequences.	

This table is extracted from PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT as presented in *Australian Geomechanics*, Vol 42, No 1, March 2007 which discusses the matter more fully.

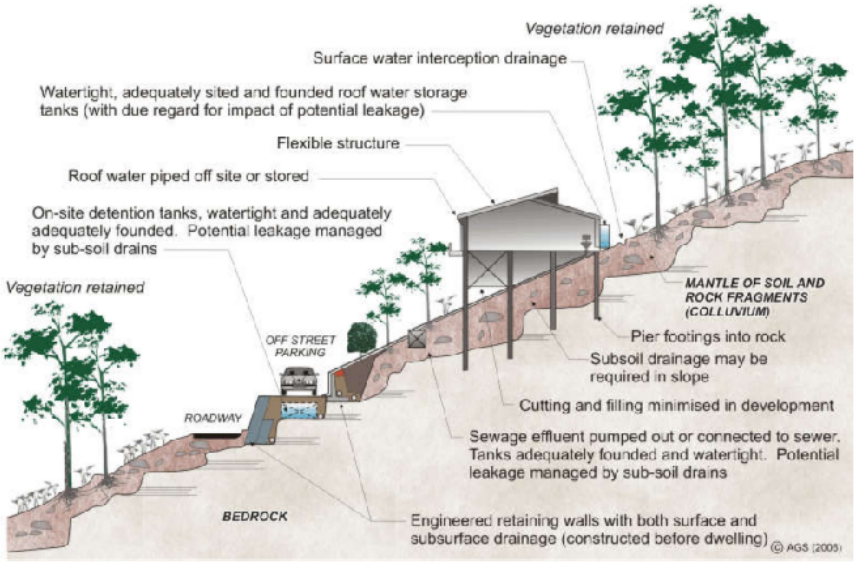
February 2019

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AUSTRALIAN GEOGUIDE LR8 (CONSTRUCTION PRACTICE)

Sensible development practices are required when building on hillsides, particularly if the hillside has more than a low risk of instability (GeoGuide LR7). Only building techniques intended to maintain, or reduce, the overall level of landslide risk should be considered. Examples of good hillside construction practice are illustrated below.

EXAMPLES FOR GOOD HILLSIDE CONSTRUCTION PRACTICE



WHY ARE THESE PRACTICES GOOD?

Roadways and parking areas - are paved and incorporate kerbs which prevent water discharging straight into the hillside (GeoGuide LR5).

Cuttings - are supported by retaining walls (GeoGuide LR6).

Retaining walls - are engineer designed to withstand the lateral earth pressures and surcharges expected, and include drains to prevent water pressures developing in the backfill. Where the ground slopes steeply down towards the high side of a retaining wall, the disturbing force (see GeoGuide LR6) can be two or more times that due to level ground. Retaining walls must be designed taking these forces into account.

Sewage - whether treated or not is either taken away in pipes or contained in properly founded tanks so it cannot soak into the ground.

Surface water - from roofs and other hard surfaces is piped away to a suitable discharge point rather than being allowed to infiltrate into the ground. Preferably, the discharge point will be in a natural creek where ground water exits, rather than enters, the ground. Shallow, lined, drains on the surface can fulfill the same purpose (GeoGuide LR5).

Surface loads - are minimised. No fill embankments have been built. The house is a lightweight structure. Foundation loads have been taken down below the level at which a landslide is likely to occur and, preferably, to rock. This sort of construction is probably not applicable to soil slopes (GeoGuide LR3). If you are uncertain whether your site has rock near the surface, or is essentially a soil slope, you should engage a geotechnical practitioner to find out.

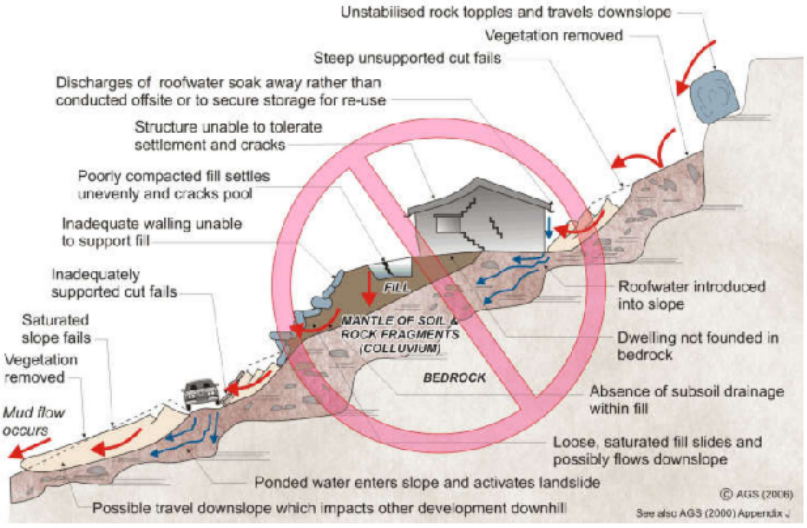
Flexible structures - have been used because they can tolerate a certain amount of movement with minimal signs of distress and maintain their functionality.

Vegetation clearance - on soil slopes has been kept to a reasonable minimum. Trees, and to a lesser extent smaller vegetation, take large quantities of water out of the ground every day. This lowers the ground water table, which in turn helps to maintain the stability of the slope. Large scale clearing can result in a rise in water table with a consequent increase in the likelihood of a landslide (GeoGuide LR5). An exception may have to be made to this rule on steep rock slopes where trees have little effect on the water table, but their roots pose a landslide hazard by dislodging boulders.

Possible effects of ignoring good construction practices are illustrated on page 2. Unfortunately, these poor construction practices are not as unusual as you might think and are often chosen because, on the face of it, they will save the developer, or owner, money. You should not lose sight of the fact that the cost and anguish associated with any one of the disasters illustrated, is likely to more than wipe out any apparent savings at the outset.

ADOPT GOOD PRACTICE ON HILLSIDE SITES

EXAMPLES FOR POOR HILLSIDE CONSTRUCTION PRACTICE



WHY ARE THESE PRACTICES POOR?

Roadways and parking areas - are unsurfaced and lack proper table drains (gutters) causing surface water to pond and soaks into the ground.

Cut and fill - has been used to balance earthworks quantities and level the site leaving unstable cut faces and added large surface loads to the ground. Failure to compact the fill properly has led to settlement, which will probably continue for several years after completion. The house and pool have been built on the fill and have settled with it and cracked. Leakage from the cracked pool and the applied surface loads from the fill have combined to cause landslides.

Retaining walls - have been avoided, to minimise cost, and hand placed rock walls used instead. Without applying engineering design principles, the walls have failed to provide the required support to the ground and have failed, creating a very dangerous situation.

A heavy, rigid, house - has been built on shallow, conventional, footings. Not only has the brickwork cracked because of the resulting ground movements, but it has also become involved in a man-made landslide.

Soak-away drainage - has been used for sewage and surface water run-off from roofs and pavements. This water soaks into the ground and raises the water table (GeoGuide LR5). Subsoil drains that run along the contours should be avoided for the same reason. If felt necessary, subsoil drains should run steeply downhill in a chevron, or herringbone, pattern. This may conflict with the requirements for effluent and surface water disposal (GeoGuide LR9) and if so, you will need to seek professional advice.

Rock debris - from landslides higher up on the slope seems likely to pass through the site. Such locations are often referred to by geotechnical practitioners as "debris flow paths". Rock is normally even denser than ordinary fill, so even quite modest boulders are likely to weigh many tonnes and do a lot of damage once they start to roll. Boulders have been known to travel hundreds of metres downhill leaving behind a trail of destruction.

Vegetation - has been completely cleared, leading to a possible rise in the water table and increased landslide risk (GeoGuide LR5).

DON'T CUT CORNERS ON HILLSIDE SITES - OBTAIN ADVICE FROM A GEOTECHNICAL PRACTITIONER

More information relevant to your particular situation may be found in other Australian GeoGuides:

- GeoGuide LR1 - Introduction
- GeoGuide LR3 - Soil Slopes
- GeoGuide LR4 - Rock Slopes
- GeoGuide LR5 - Water & Drainage
- GeoGuide LR6 - Retaining Walls
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APPENDIX 6 - ARBORIST REPORT

EARTHSCAPE HORTICULTURAL SERVICES
Arboricultural, Horticultural and Landscape Consultants

ABN 36 082 126 027

ARBORICULTURAL IMPACT ASSESSMENT REPORT

PROPOSED NEW DWELLING

346-352 WHALE BEACH ROAD, PALM BEACH

March 2021

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Member of Arboriculture Australia
Member International Society of Arboriculture - Australian Chapter (ISAAC)
Member Local Government Tree Resources Association (LGTRA)

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1 INTRODUCTION

1.1.1 This report was commissioned by the applicant to assess the health and condition of seventy-four (74) trees located within or immediately adjacent to 346-352 Whale Beach Road, Palm Beach. The report has been prepared to aid in the assessment of a Development Application (DA) for the demolition of the existing dwelling (at No. 350) and construction of a new dwelling within the property.

1.1.2 The purpose of this report is to assess the potential impact of the proposed development on the subject trees, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended tree protection measures to ensure the long-term preservation of the trees to be retained where appropriate.

1.1.3 This report has been prepared in accordance with the Northern Beaches Council's *Guidelines for Arborists Reports* as outlined on Council's website, Section 2.4.1 & 2.4.2 of Appendix 9 of the *Pittwater 21 Development Control Plan 2015* (PDCP) and Sections 2.3.2 -2.3.5 of the *Australian Standard for Protection of Trees on Development Sites* (AS 4970:2009).

2 THE SITE

2.1.1 The subject property consists of four (4) residential allotments known as Lots 327, 328, 329 and 330 in DP 16362, being 346 to 352 Whale Beach Road, Palm Beach. For the purposes of this report, the subject allotments will be referred to as 'the site'. The total area of the site is 2,269.6 m². The site is zoned Environmental Living [E4] under the *Pittwater Local Environmental Plan 2014* (PLEP). The site adjoins a public reserve known as 'Annie Wyatt Reserve' to the west. Lot 329 (No. 350) contains an existing dwelling with adjoining paved terraces and decks. Lots 326, 328 & 330 are presently vacant. The vegetation within the site consists of coastal scrub and heath with predominantly locally-indigenous species. Cleared areas around the dwellings also contain a variety of non-local native and exotic (introduced) species.

2.1.2 Soils of this area are typical of the Watagan Soil Landscape Group (as classified in the *Soil Landscapes of the Sydney 1:100,000 Sheet*), consisting of "shallow to deep (300 – 2000 mm) *Lithosols/Siliceous Sands* and *Yellow Podzolic soils* on sandstone and moderately deep (1000 - 2000 mm) *Brown Podzolic soils, Red Podzolic soils* and *Gleyed Podzolic soils* on shales". Soil materials are derived from Narrabeen Group sediments with occasional rock outcrop. The landscape is typically rolling to very steep hills and steep colluvial side slopes with occasional sandstone boulders and benches [1]

2.1.3 The original vegetation of this area consisted of coastal heath and woodland [2] typical of the 'Sandstone Crest – Coastal Heaths',[3] subject to some coastal exposure. Most of the original vegetation in surrounding areas has now been cleared for residential development. The dominant locally-indigenous tree species formerly found in this area included *Angophora costata* (Sydney Red Gum), *Eucalyptus umbra* (Bastard Mahogany) and *Eucalyptus racemosa* (Scribbly Gum). Other species found in this vegetation community may include *Allocasuarina torulosa* (Forest Oak), *Syncarpia glomulifera* (Turpentine). *Banksia integrifolia* (Coast Banksia), *Banksia serrata* (Old Man Banksia) and *Eucalyptus botryoides* (Bangalay). *Elaeocarpus reticulatus* (Blueberry Ash), *Ficus rubiginosa* (Port Jackson Fig), *Glochidion ferdinandi* (Cheese Tree), *Syzygium paniculatum* (Magenta Cherry), *Acmena smithii* (Lillypilly), *Livistona australis* (Cabbage Tree Palm) and *Ficus coronata* (Sandpaper Fig) may also be found in sheltered sites and lower slopes.

3 SUBJECT TREES

3.1.1 The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 6th April 2018. Each tree has been provided with an identification number for reference purposes denoted on the attached Tree Location Plan (**Appendix 5**), based on the survey prepared by Adam Clerke Surveyors Pty Ltd, Dwg. Ref No. 15204 dated 01/08/2014. The numbers used on this plan correlate with the Tree Assessment Schedule (**Appendix 3**). Tree No.s T2a, T4a, T9a, T11a, T11b, T19a, T21a, T24a, T29a, T29b, T34a, T34b & T34c were not shown on the original survey and have been plotted on the drawing in their approximate positions.

4 HEALTH AND CONDITION ASSESSMENT

4.1 Methodology

4.1.1 An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure.[4] All of the trees were assessed in view from the ground. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

4.1.2 The following information was collected for each tree:-

- **Tree Species** (Botanical & Common Name);
- **Approximate height**;
- **Canopy spread** (measured using laser distance measurer in four directions and an average taken);
- **Trunk diameter** (measured with a diameter tape at 1.4 metres from ground level);
- **Live Crown Size** (measured by subtracting the total height of the tree from the lowest point of the crown and multiplying by the average crown spread to give a value in square metres);
- **Maturity Class** - the Maturity Class for each tree has been divided into the following categories:-
  - **OM** Over-mature – greater than 80% of the life expectancy for the species;
  - **M** Mature – 50-80% of the life expectancy for the species;
  - **SM** Semi-mature – 20-50% of the life expectancy for the species;
  - **I** Immature – less than 20% of the life expectancy for the species.
- **Health & vigour** (using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators),
- **Condition** (using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators); and
- **Suitability** of the tree to the site and its existing location (in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues).

4.1.3 This information is presented in a tabulated form in **Appendix 3**.

4.2 Safe Useful Life Expectancy (SULE)

4.2.1 The remaining Safe Useful Life Expectancy[5] of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated SULE of each tree is shown in **Appendix 3.**

4.2.2 The following ranges have been allocated to each tree:-

- Greater than 40 years (Long)
- Between 15 and 40 years (Medium)

- Between 5 and 15 years (Short)
- Less than 5 years (Transient)
- Dead or immediately hazardous (defective or unstable)

4.2.1 SULE ratings are intended to provide a general overview of the long term sustainability of the trees within the site in consideration of these factors. The allocated ranges are not intended to be absolute. This information is useful in guiding future planning by highlighting the probable lifespan of individual trees, for which a clear pattern may emerge. This information may be helpful in forecasting likely tree senescence and planning for replacement planting to ensure continuity in tree canopy across the site. It should be noted that SULEs *may* be extended or reduced depending on the way trees are managed. Intervention and remedial works may extend the SULE of some trees.

5 LANDSCAPE SIGNIFICANCE

5.1 Methodology for Determining Landscape Significance

5.1.1 The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. Whilst these values may be fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the retention value of each tree. To ensure a consistent approach, the assessment criteria shown in **Appendix 1** have been used in this assessment.

5.1.2 A rating has been applied to each tree to give an understanding of the relative significance of each tree in the landscape and to assist in determining priorities for retention, in accordance with the following categories:-

1. **Significant**
2. **Very High**
3. **High**
4. **Moderate**
5. **Low**
6. **Very Low**
7. **Insignificant**

5.2 Environmental Significance

5.2.1 Tree Management Controls

Prescribed Trees within the Northern Beaches (former Pittwater) Local Government Area (LGA) are protected under the provisions under Volume 2, Section B4.22 (Preservation of Trees and Bushland Vegetation) of the *Pittwater 21 Development Control Plan 2014* (PDCP) (as amended 25/11/2015), made pursuant to Clause 5.9 of the *Pittwater Local Environmental Plan* 2014 (PLEP). The PDCP generally protects all trees with a height of five (5) metres or greater and all Bushland Vegetation. Some exemptions apply. The following trees are exempt (not protected) under the provisions of the PDCP 2014:-

Tree No.	Species	Exemption
T2a*#	*Brachychiton acerifolius* (Illawarra Flame Tree)	Exempt species
T16	*Cupressus macrocarpa* 'Aurea' (Golden Monterey Cypress)	Exempt species
T24	*Cupressus macrocarpa* 'Brunniana Aurea' (Golden Brunnings Cypress)	Exempt species

T21a, T24a*	*Cotoneaster sp.* (Cotoneaster)	Environmental Weed Species
T3*, T6*, T8*, T13*, T15*, T32, T37, T52, T53, T54, T58a	*Pittosporum undulatum* (Native Daphne)	Exempt species (less than 8 metres)
11a*, T51	*Glochidion ferdinandi* (Cheese Tree)	Less than the prescribed dimensions
T14*	*Macrozamia communis* (Burrawang)	Less than the prescribed dimensions
T45, T46, T48	*Banksia serrata* (Old Man Banksia)	Less than the prescribed dimensions
T36	*Glochidion ferdinandi* (Cheese Tree)	Located within 2 metres of an existing dwelling
T1*#	*Melaleuca armillaris* (Bracelet Honey Myrtle)	Dead tree
T7*	*Eucalyptus umbra* (Bastard Mahogany)	Dead tree
T10*	*Casuarina cunninghamiana* (River Oak)	Dead tree
T23*	*Allocasuarina littoralis* (Black She-oak)	Dead tree
T39	*Banksia integrifolia* (Coast Banksia)	Dead tree

* Note that these trees are located within the adjoining property.

Note that these trees are located within an adjoining property listed as a Heritage Item under the WLEP.

The remainder of the trees are protected under the PDCP 2014.

5.2.2 Wildlife Habitat

Allocasuarina littoralis (Black She-oak) [T22 & T23], *Allocasuarina torulosa* (Forest Oak) [T38], *Banksia integrifolia* (Coast Banksia) [T34c, T39], *Banksia serrata* (Old Man Banksia) [T21, T43, T44, T45, T46, T48 & T62], *Elaeocarpus reticulatus* (Blueberry Ash) [T49], *Eucalyptus umbra* (Bastard Mahogany) [T7, T17, T18, T20, T20a, T28, T31a & T57], *Eucalyptus umbra x resinifera* (Bastard Mahogany) [T31], *Ficus rubiginosa* (Port Jackson Fig) [T19a, T34a, T55], *Glochidion ferdinandi* (Cheese Tree) [T5, T9a, T11a, T11b, T34b, T36, T40, T47, T51 & T60], *Macrozamia communis* (Burrawang) [T14], *Pittosporum undulatum* (Native Daphne) [T3, T6, T8, T13, T15, T32, T37, T52, T53, T54 & T58a] and *Syncarpia glomulifera* (Turpentine) [T9, T25 & T26] are all locally-indigenous species, representative of the original vegetation of the area and would be of benefit to native wildlife. However, none of the trees contain cavities that would be suitable as nesting hollows for arboreal mammals or birds or other visible signs of wildlife habitation.

5.2.3 Noxious Plants & Environmental Weeds

None of the subject trees are scheduled as a potential biosecurity risk (Noxious Weed or 'Priority Weed') within the Northern Beaches LGA under the provisions of the *Biosecurity Act 2015.*

5.2.4 Threatened Species & Ecological Communities

None of the subject trees are listed as Threatened or Vulnerable Species or form part of Endangered Ecological Communities (EECs) under the provisions of the *Threatened Species Conservation Act* 1995 (NSW) or the *Environmental Protection and Biodiversity Conservation Act* 1999.

5.2.5 Biodiversity

The eastern portion of Lot 327 (346 Whale Beach Road) is indicated as containing an area of Biodiversity Significance as indicated on Council's Biodiversity Map forming part of the PDCP 2014.

5.3 Heritage Significance

5.3.1 Heritage Items

The subject property is *not* listed as a Heritage Item under Schedule 5, Part 1 of the *Pittwater Local Environmental Plan 2014* (PLEP). However, the property to the north-west (Lot 332 in DP 16362, being 356 Whale Beach Road) is listed as a Heritage Item (Item No 2270014) under the PLEP. This item is described as 'Cox House' (also known as 'Chanen Palm Beach House' and 'Ocean House'), originally constructed in the 1950's for Mr & Mrs Chanen and altered in the 1970's. The dwelling was further altered in 1988-89 to a design by Phillip Cox (The Cox Group) and is considered a good example of contemporary Australian residential architecture. None of the subject trees have any association with this item.

5.3.2 Heritage Conservation Area

The site is *not* located within a Heritage Conservation Area under Schedule 5, Part 2 of the PLEP 2014.

5.3.3 Significant Tree Register

Pittwater Council does *not* currently maintain a Register of Significant Trees.

5.4 Amenity Value

5.4.1 Criteria for the assessment of amenity values are incorporated into **Appendix 1**. The amenity value of a tree is a measure of its live crown size, visual appearance (form, habit, crown density), visibility and position in the landscape and contribution to the visual character of an area. Generally the larger and more prominently located the tree, and the better its form and habit, the higher its amenity value.

6 TREE RETENTION VALUES

6.1.1 The Retention Values shown in **Appendix 3** and **Appendix 5** have been determined on the basis of the estimated longevity of the trees and their landscape significance rating, in accordance with **Table One**. Together with guidelines contained in **Section 7** (Tree Protection Zones) this information should be used to determine the most appropriate position of building footprints and other infrastructure within the site, with due consideration to other site constraints, to minimise the impact on trees considered worthy of preservation.

TABLE 1 – TREE RETENTION VALUES – ASSESSMENT METHODOLOGY

	Landscape Significance Rating						
Estimated Life Expectancy	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Long - Greater than 40 Years	High Retention Value						
Medium- 15 to 40 Years			Moderate Retention Value				
Short - 5 to 15 years				Low Ret. Value			
Transient - Less than 5 Years				Very Low Retention Value			
Dead or Potentially Hazardous							

TABLE 2 – TREE RETENTION PRIORITES.

6.1.2 The following table describes the implications of the retention values on site layout and design.

RETENTION VALUE	RECOMMENDED ACTION
"High"	• These trees considered worthy of preservation; as such careful consideration should be given to their retention as a priority. • Proposed site design and placement of buildings and infrastructure should consider the recommended setbacks as discussed in the following section (refer also **Appendix 2**) to avoid any adverse impact on these trees. • In addition to Tree Protection Zones, the extent of the canopy (canopy drip-line) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.
"Moderate"	• The retention of these trees is desirable, but not essential. • These trees should be retained as part of any proposed development if possible. However, these trees are considered less critical for retention. • If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replenishment Policy to compensate for loss of amenity (refer also **Section 9**).
"Low"	• These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their SULE. • These trees should not be considered as a constraint to the future development of the site.
"Very Low"	• These trees are considered potentially hazardous or very poor specimens, or may be environmental or noxious weeds. • The removal of these trees is therefore recommended regardless of the implications of any proposed development.

7 TREE PROTECTION ZONES

7.1.1 The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree as specified in **Appendix 4**. These have been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).[6]

7.1.2 The intention of the TPZ is to ensure protection of the root system and canopy from the potential damage from construction works and ensure the long-term health and stability of each tree to be retained. Incursions to the root zone may occur due to excavations, changes in ground levels, (either lowering or raising the grade), trenching or other forms or soil disturbance such as ripping, grading or inverting the soil profile. Such works may cause damage or loss of part of the root system, leading to an adverse impact on the tree.

7.2 Structural Root Zone (SRZ)

7.2.1 The Structural Root Zone (SRZ) provides the bulk of mechanical support and anchorage for a tree. This is also a radial distance measured from the centre of the trunk as specified in **Appendix 4**. The SRZ has been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).

7.2.2 Incursions within the SRZ are not recommended as they are likely to result in the severance of woody roots which may compromise the stability of the tree or lead to its decline and demise.

7.3 Acceptable Encroachments to the Tree Protection Zone.

7.3.1 Where encroachment to the TPZ is unavoidable, an incursion to the TPZ of not exceeding 10% of the area of the TPZ and outside the SRZ may be acceptable. Examples of acceptable incursions are shown in **Appendix 2**. Greater incursions to the TPZ may result in an adverse impact on the tree.

7.3.2 Where incursions greater than 10% of the TPZ are unavoidable, exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system affected and determine whether or not the tree can remain viable

7.4 Acceptable Encroachments to the Canopy

7.4.1 The removal of a small portion of the crown (foliage and branches) is generally tolerable provided that the extent of pruning required is less than 10% of the total foliage volume of the tree and the removal of branches does not create large wounds or disfigure the natural form and habit of the tree. All pruning cuts must be undertaken in accordance with AS 4373:2007. This generally involves reduction of the affected branches back to the nearest branch collar at the junction with the parent branch, rather than at an intermediate point. The latter is referred to as "lopping" and is no longer an acceptable arboricultural practice. Generally speaking, the minimum pruning as required to accommodate any proposed works is desirable. Extensive pruning can result in a detrimental impact on tree health and may lead to exposure of remaining branches to wind forces that they were previously sheltered from, leading to a greater risk of branch failure.

7.4.2 Clearance to between the building line and canopy should take into account any projecting structures, such as balconies, awnings and the roofline and any requirement for temporary scaffolding to be erected during construction (typically 1-1.5 metres wide). High structures should preferably be located outside the canopy dripline (as shown indicatively on the attached plans) in order to avoid or minimise canopy pruning.

7.5 Legal Protection

7.5.1 Notwithstanding the above recommendations, Council may require a greater setback from certain types of structures to ensure the on-going legal protection of the tree (i.e. its legal status under Council's Tree Management Controls). In the Northern Beaches LGA, a tree located within two (2) metres of the wall of a dwelling is not protected under the PDCP. As such, if a tree is considered worthy of preservation, Council is unlikely to approve the construction of a dwelling within two (2) metres of the tree (regardless of whether this can be undertaken without having an

adverse impact on its health or longevity). It should be noted that this does not necessarily apply to other structures

8 PROPOSED DEVELOPMENT

8.1.1 The proposed development includes the demolition of the existing dwelling and construction of a new dwelling and in-ground swimming pool within the site.

9 IMPACT ASSESSMENT

9.1.1 The intention of this assessment is to determine the incursions to the root zones and canopies created by the proposed development and evaluate the likely impact of the proposed works on the subject trees. Details shown on the following plans were used in this assessment:-

Title	Author	Dwg No.	Date
Hydraulic Services Site Plan	Harris Page & Associates Pty Ltd	6651 SW-01 [A]	05/02/2021
Site Analysis Plan	Harry Seidler & Associates	DA003 [B]	25/01/2021
Site Plan (Level 1)	Harry Seidler & Associates	DA005 [B]	25/01/2021
Site Plan (Level 2)	Harry Seidler & Associates	DA006 [J]	25/01/2021
Demolition Plan	Harry Seidler & Associates	DA007 [D]	25/01/2021
Excavation & Fill Plan	Harry Seidler & Associates	DA008 [E]	25/01/2021
Plan Level 0-1	Harry Seidler & Associates	DA010 [E]	02/02/2021
Plan Level 0-2	Harry Seidler & Associates	DA011 [D]	02/02/2021
Plan Level 0-3	Harry Seidler & Associates	DA012 [D]	02/02/2021
Plan Level 0-4	Harry Seidler & Associates	DA013 [D]	02/02/2021
Plan Level 1	Harry Seidler & Associates	DA020 [P]	05/02/2021
Plan Level 2	Harry Seidler & Associates	DA030 [N]	05/02/2021
Plan Roof	Harry Seidler & Associates	DA041 [M]	02/02/2021
Elevations	Harry Seidler & Associates	DA050 - 052 [D]	08/02/2021
Sections A to G	Harry Seidler & Associates	DA060 - 066 [E]	02/02/2021

9.1.2 A summary of the impact of the proposed development on each tree within the site is shown in **Appendix 5**. The following criteria have been examined as part of this assessment:-

- Existing Relative Levels (R.L.);
- Tree Protection Zone (TPZ);
- Structural Root Zone (SRZ);
- Footprint and envelope of the proposed development and temporary structures (scaffolding, hoardings etc);
- Incursions to the TPZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures; and
- Assessment of the likely impact of the works on existing trees.

9.1.3 The proposed development will necessitate the removal of seventeen (17) trees of low and very low retention value. These include Tree No.s T16 (Golden Monterey Cypress), T21a & T24a (Cotoneaster), T23 (Black She-oak), T32, T37, T52, T53 & T54 (Sweet Pittosporum), T34 (River Oak), T29 (Willow Myrtle), T29a & T29b (Sally Wattle), T36 (Cheese Tree), T39 (Coast Banksia) and T46 & T48 (Old Man Banksia). None of these trees are considered significant or worthy of special measures to ensure their preservation. It should be noted that Trees T16, T21a, T23, T32, T36, T37, T39, T46 & T48 are exempt from Council's tree management controls (refer to **Section 5.2.1** of this report).

9.1.4 The proposed development will also necessitate the removal of nine (9) trees of moderate retention value. These include Tree No.s T26 (Turpentine), T31a (Bastard Mahogany), T30 & T33 (River Oak), T34a (Port Jackson Fig), T34b (Cheese Tree), T34c (Coast Banksia), T35 (Giant White Bird of Paradise) and T38 (Forest Oak). These trees are not considered significant, but are in good health and condition and make a fair contribution to the amenity of the site and surrounding properties. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting within the site in accordance with Section 11.

9.1.5 The proposed development will also necessitate the removal of three (3) trees of high retention value. These include Tree No.s T25 (Turpentine), T27 (Sydney Blue Gum) and T31 (Large-fruited Red Mahogany). Trees T25 & T31 are both locally-indigenous species and T27 is a planted, non-local species in fair to good health and condition. All of these trees make a positive contribution to the amenity of the site. Consideration has been given to the retention of these trees. However, are no feasible options that can be recommended in this instance to preserve these trees given their position within the site, the extent of development proposed and the requirements for Asset Protection. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees elsewhere within the site in accordance with Section 11.

9.1.6 No other trees will be adversely affected by the proposed development.

10 RECOMMENDED TREE PROTECTION MEASURES

10.1 Tree Protection Plan

10.1.1 The following Tree Protection Measures should be read in accordance with the Tree Protection Plan (**Appendix 6**). The Tree Protection Plan (TPP) indicates the position of tree protection devices and other recommended measures to ensure the protection of trees within the site to be retained as part of the proposed development.

10.2 Prohibited Activities

10.2.1 The following activities should be avoided within specified Tree Protection Zones (refer **Appendix 4 & 6** for extent of the TPZ for each tree):-

- Excavations and trenching (with exception of the approved remediation works, underground services, building foundations or pavement sub-grade);
- Soil disturbance, surface grading, compaction, tyning, ripping or cultivation of soil;
- Mechanical removal of vegetation, including extraction of tree stumps;
- Soil level changes including the placement of fill material (excluding imported validated fill for remediation works or placement of fill for approved works)
- Movement and storage of plant, equipment & vehicles (except within defined temporary haul roads, where ground protection has been installed, or within the footprint of existing floor slabs or paved areas);
- Erection of site sheds (except where approved by the site arborist);

- Affixing of signage, barricades or hoardings to trees;
- Storage of building materials, waste and waste receptacles;
- Stockpiling of spoil or fill;
- Stockpiling of bulk materials, such as soil, sand, gravel, roadbase or the like;
- Stockpiling of demolition waste;
- Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and other toxic liquids;
- Other physical damage to the trunk or root system; and
- Any other activity likely to cause damage to the tree.

10.3 Tree Protection Fencing

10.3.1 Trees [**T17 & T18**] shall be protected prior to and during construction from all activities that may result in detrimental impact by erecting a suitable protective fence in the positions as indicated on the Tree Protection Plan (**Appendix 6**). As a minimum, the fence shall consist of temporary chain wire panels of 1.8 metres in height, supported by steel stakes as required and fastened together and supported to prevent sideways movement using corner braces where required. The fence shall be erected prior to the commencement of any work on-site and shall be maintained in good condition for the duration of construction. Where tree protection zones merge together a single fence encompassing the area is deemed to be adequate. Existing site boundary fences may form part of the enclosure.

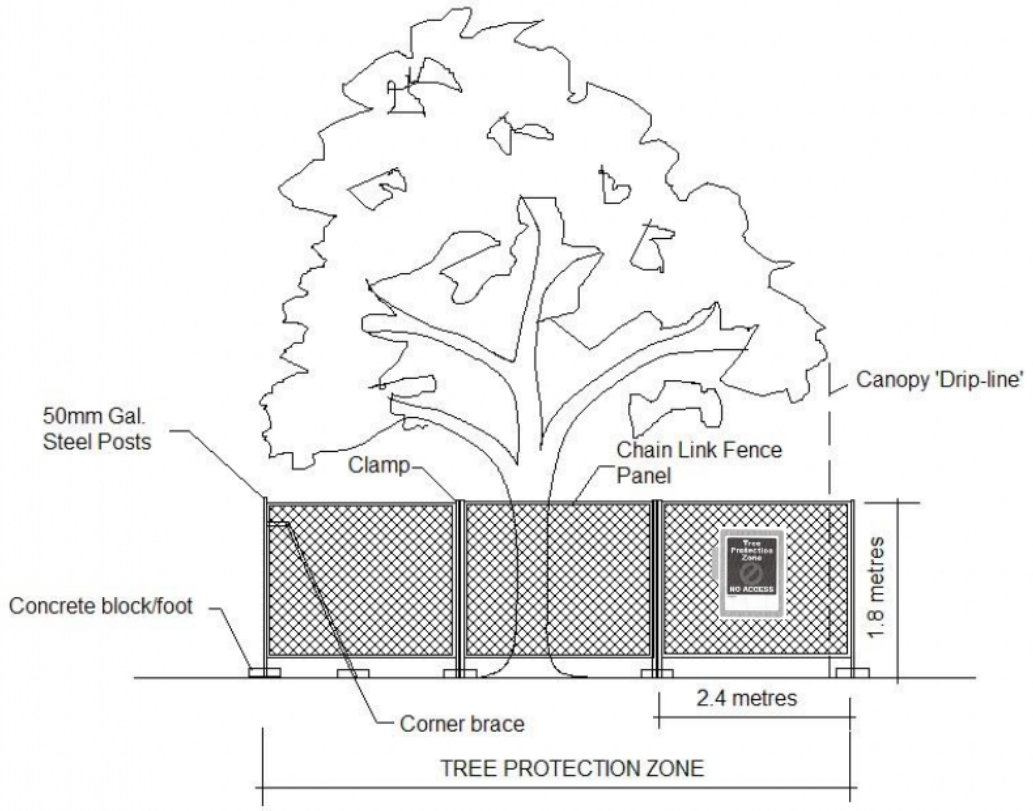


Figure 1 – Detail of Tree Protection Fence

10.4 Tree Protection Signs

10.4.1 Signs shall be installed on the Tree Protection Fence to prevent unauthorised movement of plant and equipment or entry to the Tree Protection Zone. The signs shall be securely attached to the fence using cable ties or equivalent. Signs shall be placed at minimum 10 metre intervals. The wording and layout of the sign shall comply with AS 4970-2009 as shown in **Figure 2**.

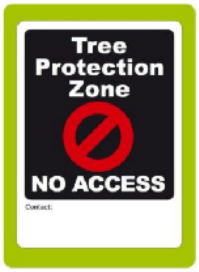


Figure 2 – Detail of Tree Protection Sign

10.5 Demolition Works within Tree Protection Zones

10.5.1 Demolition of paved areas within the Tree Protection Zones (TPZs) of trees [**any tree nominated for retention**] shall be undertaken under the supervision of a qualified Arborist [Australian Qualification Framework (AQF) Level 5].

10.5.2 Concrete and stone pavements shall be demolished by breaking the slab into manageable sections (using a rock hammer or similar) and asphalt pavements shall be removed by breaking the topcoat into manageable pieces. The broken sections shall be carefully lifted and folded over the remaining paved surface to minimise disturbance and compaction of the underlying soil profile. Special care shall be taken where underlying woody roots have lifted or displaced the pavement. Any plant or equipment used in demolition work shall operate within the footprint of existing paved areas and avoid traversing soft landscape areas. Where this is unavoidable, suitable ground protection shall first be installed in accordance with **Section 10.14**.

10.5.3 The pavement sub-base within the TPZ shall be gradually removed (where required) in layers of no greater than 50mm thick using a small rubber tracked excavator or alternative approved method to avoid excessive disturbance and compaction of the underlying soil profile and damage to underlying roots and minimise. The machine shall work within the footprint of the existing path footprint to avoid compaction of the underlying soil. The final layer of sub-base material shall be removed using hand tools were required to avoid compaction of the underlying soil profile and avoid damage to any underlying woody roots.

10.5.4 Following removal of the pavement surface and sub-base, clean, friable topsoil shall be used to fill in the excavated area and bring flush with surrounding levels within new landscape areas. Soil shall only be imported and spread when the underlying soil conditions are dry to avoid compaction of the soil profile.

10.5.5 Demolition of existing walls, kerbs and other structures within the TPZ of trees [**any tree nominated for retention**] shall be undertaken under the supervision of a qualified Arborist [AQF level 5]. The structures shall be demolished using equipment on stationed outside the TPZ where possible or within the footprint of existing hardstand areas.

10.5.6 Care shall be taken to avoid the root systems, trunks and lower branches of trees in the vicinity of the structures during demolition works, with special attention required during demolition of the footings and other sub-surface members to avoid damage to woody roots. An observer ('spotter') shall be employed to assist the plant operator in order to detect and avoid damage to underlying woody roots during demolition. Trunk and/or branch protection shall be installed where there is a potential risk of damage to trees in proximity or overhead of the work.

10.6 Excavations within Tree Protection Zones

10.6.1 Prior to any mechanical excavations for building foundations or pavement sub-grade within the TPZs of Trees [**any tree nominated for retention**] exploratory excavation using non-destructive techniques shall be taken along the perimeter of the structure or pavement within the TPZ. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure. The exploratory excavation shall be undertaken along the perimeter of the foundation or pavement (within the TPZ) to the depth of the foundation or to a maximum of 800mm from surface levels, to locate and expose any woody roots prior to any mechanical excavation.

10.6.2 All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 50mm in diameter may be cleanly severed with clean sharp pruning implements at the face of the excavation. The root zone in the vicinity of the excavation shall be kept moist following excavation for the duration of construction to minimise moisture stress on the tree. Where large woody roots (greater than 50mm diameter) are encountered during exploratory excavations, further advice from a qualified arborist shall be sought prior to severance.

10.6.3 Where necessary, (to avoid severing large woody roots) consideration should be given to the installation of an elevated structure (e.g. pier and beam footing, suspended slab or floor supported on piers, cantilevered slab, up-turned edge beam etc) in preference to structures requiring a deep edge beam or continuous perimeter strip footing. The beam section of any pier and beam footing should be placed **above** grade to avoid excavation within the SRZ. Pier footings intersecting large woody roots should be slightly offset where necessary to avoid root severance.

10.6.4 For masonry walls or fences it may be acceptable to delete continuous concrete strip footings and replace with suspended in-fill panels (eg steel or timber pickets, lattice etc) fixed to pillars. For paved areas, consideration should be given to raising the proposed pavement level and using a porous fill material in preference to excavation where large woody roots are found within the sub-base.

10.7 Underground Services

10.7.1 All proposed stormwater lines and other underground services should be located outside TPZs of trees proposed to be retained wherever possible or installed by alternative measures. Alternative measures include suspending pipelines beneath the floor of a building or structure (to avoid excavation with the TPZ), non-destructive excavation methods or Horizontal Directional Drilling (HDD). Where the installation of service lines within TPZs is unavoidable, the pipelines or conduits should be installed as follows.

10.7.2 Trenching for underground services and stormwater pipes within the TPZs of Trees [**any tree nominated for retention**], shall be undertaken using non-destructive excavation in accordance with **Section 10.6**. Where large woody roots are encountered during excavation or trenching (root diameter greater than 50mm), these shall be retained intact wherever possible (e.g. by tunnelling beneath roots and inserting the pipeline or conduit beneath or re-routing the service etc). Where this is not practical and root pruning is the only alternative, proposed root pruning should be assessed by a qualified arborist [AQF 5] to evaluate the potential impact on the health and stability of the subject tree.

10.7.3 Installation of underground services and stormwater pipes within the SRZs of Trees [**any tree nominated for retention**], shall only be undertaken by Horizontal Directional Drilling (HDD) (also referred to as sub-surface boring or Micro-tunnelling for large diameter pipes). The Invert

Level of the pipe, plus the pipe diameter, must be lower than the estimated root zone depth as specified. At this site a minimum depth of 1 metre to the invert level of the pipe is specified.

10.8 Root Pruning

10.8.1 Where root pruning of [**any tree nominated for retention**] is required to facilitate construction, roots shall be severed with clean, sharp pruning implements and retained in a moist condition during the construction phase using Hessian material or mulch where practical. Severed roots shall be treated with a suitable root growth hormone containing the active constituents Indol-3-yl-Butric Acid (IBA) and 1-Naphthylacetic Acid (NAA) to stimulate rapid regeneration of the root system. Root pruning (where required) shall be carried out in accordance with Australian Standard 4373-2007 – *Pruning of Amenity Trees*. All pruning work shall be carried out by a qualified and experienced arborist or tree surgeon [Australian Qualification Framework Level 3] in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). No roots of greater than 50mm in diameter should be removed or pruned without further advice from a Consulting Arborist [Australian Qualification Framework Level 5].

10.9 Tree Damage

10.9.1 Care shall be taken when operating cranes, drilling rigs and similar equipment near trees to avoid damage to tree canopies (foliage and branches). Under no circumstances shall branches be torn-off by construction equipment. Where there is potential conflict between tree canopy and construction activities, the advice of the Site Arborist must be sought.

10.9.2 In the event of any tree becoming damaged for any reason during the construction period a consulting arborist [Australian Qualification Framework Level 5] shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

10.10 Tree Removal

10.10.1 The removal of Trees [**any tree within the site nominated for removal**] shall be carried out by an experienced tree surgeon in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). Care shall be taken to avoid damage to other trees during the felling operation.

10.10.2 Stumps located within the TPZs of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Stumps within the Tree Protection Zone of other trees to be retained shall **not** be pulled out using excavation equipment or similar.

10.11 Ground Protection

10.11.1 Construction haul routes shall be confined to existing paved areas wherever possible. Where this is not feasible and construction haul routes or access for plant and equipment must traverse soft landscape areas within TPZs of [**any tree nominated for retention**], 20mm thick marine ply sheets or truck mats (such as Envirex Versadeck® access mats) (refer **Figure 6** shall be placed over the top of the ground surface to minimise compaction and disturbance of the underlying soil profile and root zone.



Figure 6 – Showing typical detail for truck mats.

10.11.2 Ground protection shall be installed prior to any site works and maintained in good condition for the duration of the construction period. On completion of the works, ground protection shall be removed without damage or disturbance to the underlying soil profile.

11 REPLACEMENT PLANTING

11.1.1 In order to compensate for loss of amenity resulting from the removal of trees to accommodate the proposed development, a minimum number of ten (10) new trees capable of attaining a height of at least ten (10) metres at maturity should be planted within the allotment.

11.1.2 Replacement trees should preferably include some locally indigenous species. These will be most appropriate to the site conditions and be most valuable in terms of preserving the landscape character and wildlife habitat of the area. The following species are appropriate to the site conditions and could be considered for replacement planting:-

- *Ficus rubiginosa* (Port Jackson Fig)
- *Ficus coronata* (Sandpaper Fig)
- *Syzygium paniculatum* (Magenta Cherry)
- *Acmena smithii* (Lillypilly)
- *Glochidion ferdinandi* (Cheese Tree)
- *Syncarpia glomulifera* (Turpentine)
- *Eucalyptus umbra* (Bastard Mahogany),
- *Angophora costata* (Sydney Red Gum),
- *Corymbia maculata* (Spotted Gum)
- *Allocasuarina torulosa* (Forest Oak)
- *Livistona australis* (Cabbage Tree Palm).



Andrew Morton
EARTHSCAPE HORTICULTURAL SERVICES
9th March 2021

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Standards Australia, Sydney

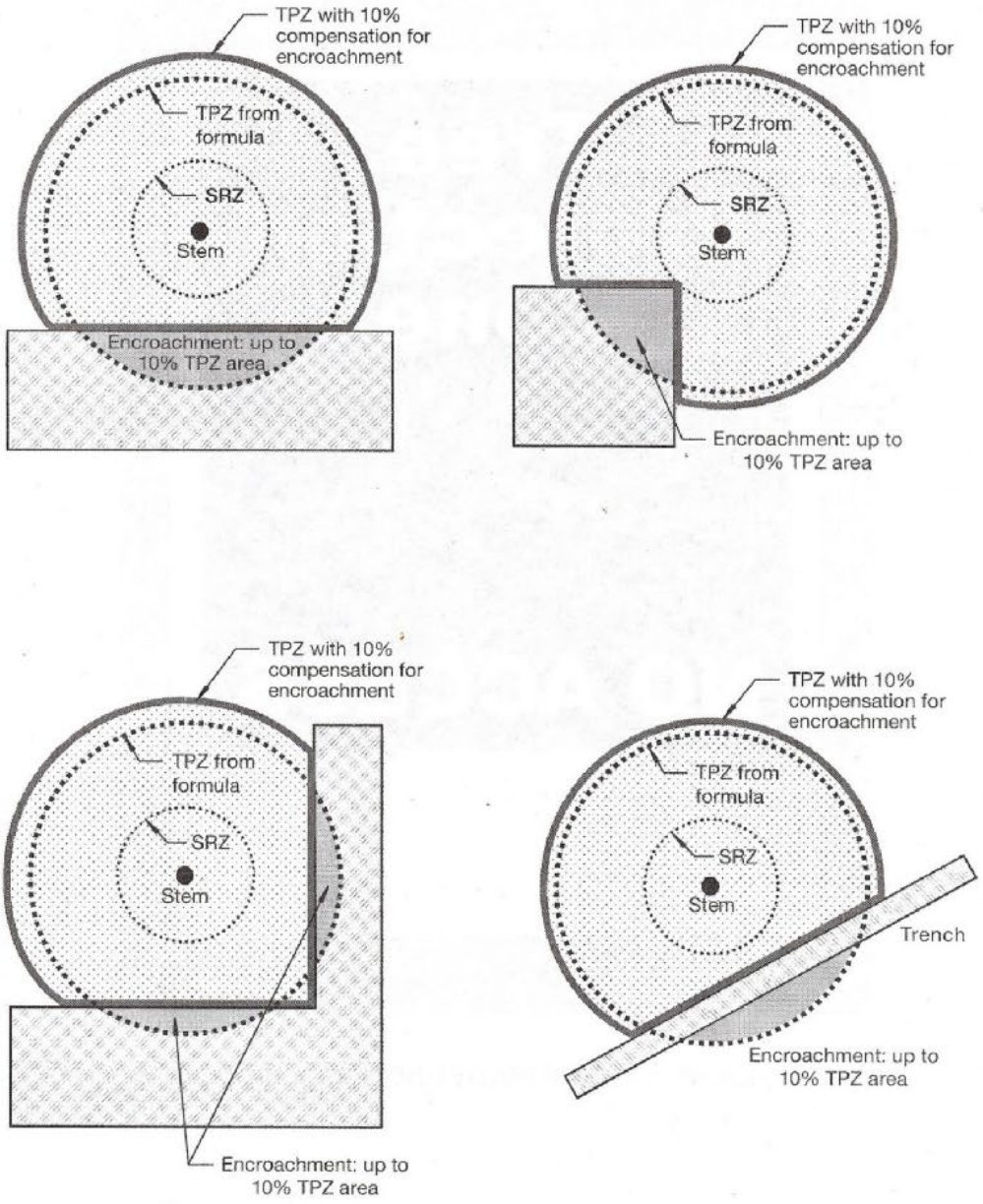
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APPENDIX 1 - CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
1. SIGNIFICANT	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999	The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species
	The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has a known or documented association with that item	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area
3. HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence	The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value	The subject tree has a large live crown size exceeding 100m²; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this DCP.	The subject tree has a medium live crown size exceeding 40m²;The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values or diminishes the value of a heritage item	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown size of less than 40m² and can be replaced within the short term (5-10 years) with new tree planting
6. VERY LOW	The subject tree is causing significant damage to a heritage Item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
7. INSIGNIFICANT	The tree is completely dead and has no visible habitat value	The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993 within the relevant Local Government Area.	The tree is completely dead and represents a potential hazard.

Ref:- Morton, A (2006) **Determining the Retention Value of Trees on Development Sites**
TreeNet - Proceedings of the 7th National Street Tree Symposium 2006 Government of South Australia Department for Transport, Energy and Infrastructure

APPENDIX 2 – ACCEPTABLE INCURSIONS TO THE TREE PROTECTION ZONE (TPZ)



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

REF:- Council of Standards Australia (August 2009)
AS 4970 – 2009 – Protection of Trees on Development Sites
Standards Australia, Sydney

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
1	***Melaleuca armillaris*** (Bracelet Honey Myrtle)	4	6	400	0	OM	Stability suspect with poor branching structure. Exhibits a very prominent lean to the north. Growing in horizontal plane from rock face. Crown suppressed south side due crowding.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Adjacent property
2a	***Brachychiton acerifolius*** (Illawarra Flame Tree)	6	4	180	16	SM	Appears stable with poor branching structure. Exhibits multiple elite epicormic sprouts arising from old pruning wound.	Previously topped at 3 metres (crown restored)	Very Good	No Evidence	Short 5-15 Years	6	Very Low	Adjacent property
3	***Pittosporum undulatum*** (Native Daphne)	4	5	220	15	OM	Appears stable with fair branching structure. Exhibits a prominent lean to the north-east. Multiple moderate wounds to PLs & SLs due branch loss (borer damage). 70% deadwood.	No Evidence	Poor with sparse crown	Moderate Pittosporum Borer infestation	Transient (less than 5 years)	6	Very Low	Adjoining property
4	***Strelitzia nicolai*** (Giant White Bird of Paridise)	9	9	150x20	81	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	Adjoining property
4a	***Casuarina cunninghamiana*** (River Oak)	6	7	200	35	SM	Appears stable with sound branching structure. Some dieback with 10% deadwood. Crown suppressed on south-west side due crowding.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	5	Low	Adjoining property
5	***Glochidion ferdinandi*** (Cheese Tree)	6	6	200 + 120	36	SM	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	Moderate foliar insect infestation.	Medium 15-40 Years	4	Moderate	Adjoining property
6	***Pittosporum undulatum*** (Native Daphne)	4	4	250	0	OM	Stability suspect with poor branching structure.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Nature strip
7	***Eucalyptus umbra*** (Bastard Mahogany)	4	3	150	0	I	Stability suspect with poor branching structure.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Nature strip
8	***Pittosporum undulatum*** (Native Daphne)	4	2	80	8	I	Appears stable with sound branching structure.	No Evidence	Fair	No Evidence	Short 5-15 Years	6	Very Low	Adjoining property
9	***Syncarpia glomulifera*** (Turpentine)	8	9	330 + 270	54	M	Appears stable with sound branching structure. Exhibits some dieback with 20% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	Adjoining property

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348-352 WHALE BEACH ROAD, PALM BEACH, NSW

PL = Primary Limb; SL = Secondary Limb;
TL = Tertiary Limb. GL = Ground Level

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
9a	***Glochidion ferdinandi*** (Cheese Tree)	6	6	200	36	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	Nature strip
10	***Casuarina cunninghamiana*** (River Oak)	12	7	350	0	OM	Stability suspect with poor branching structure.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Adjoining property
11a	***Glochidion ferdinandi*** (Cheese Tree)	4	4	200	16	SM	Stability suspect with poor branching structure. Exhibits a very prominent lean to the east. Multiple moderate bark inclusions at GL.	No Evidence	Fair with thinning crown	Moderate foliar insect infestation	Short 5-15 Years	6	Very Low	Nature strip
11b	***Glochidion ferdinandi*** (Cheese Tree)	5	5	200	25	SM	Appears stable with poor branching structure. Exhibits multiple elite epicormic sprouts at 1.5 metres.	No Evidence	Fair with thinning crown	Moderate foliar insect infestation	Short 5-15 Years	5	Low	Nature strip
12	***Melaleuca styphelioides*** (Prickly Paperbark)	7	5	200	15	SM	Appears stable with fair branching structure. Exhibits some dieback with 20% deadwood. Crown suppressed east side due sea breeze.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	Adjoining property
13	***Pittosporum undulatum*** (Native Daphne)	5	3	220	15	OM	Stability suspect with poor branching structure. Exhibits a very prominent lean to the west.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Adjoining property
14	***Macrozamia communis*** (Burrawang)	1.5	2	200	3	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	Adjoining property
15	***Pittosporum undulatum*** (Native Daphne)	5	4	180	20	M	Appears stable with fair branching structure. Exhibits a prominent lean to the east (self-corrected). Exhibits some dieback with 10% deadwood.	Selectively pruned	Fair with thinning crown	No Evidence	Short 5-15 Years	6	Very Low	Adjoining property
16	***Cupressus macrocarpa*** **'Aurea'** (Golden Monterey Cypress)	18	14	600	238	OM	Stability suspect with poor branching structure. Exhibits multiple large wounds due previous branch loss (included bark). Substantial dieback in upper crown with 60% deadwood.	Selectively pruned & dead wooded	Poor with sparse crown	No Evidence	Transient (less than 5 years)	6	Very Low	On-site
17	***Eucalyptus umbra*** (Bastard Mahogany)	7	5	190 + 220	0	M	Appears stable with sound branching structure. Crown suppressed west side due crowding. Severe dieback with 90% deadwood.	No Evidence	Poor with sparse crown	Severe Possum defoliation	Transient (less than 5 years)	4	Low	Adjoining property

Earthscape Horticultural Services

348-352 WHALE BEACH ROAD, PALM BEACH, NSW

PL = Primary Limb; SL = Secondary Limb; TL = Tertiary Limb. GL = Ground Level

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
18	***Eucalyptus umbra*** (Bastard Mahogany)	8	7	318	42	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the south. Crown suppressed east side due crowding. Substantial dieback with 80% deadwood & 5% epicormic growth.	No Evidence	Poor with sparse crown	Severe Possum defoliation	Transient (less than 5 years)	4	Low	Adjoining property
19	***Podocarpus elatus*** (Brown Pine)	6	5	180	30	I	Appears stable with sound branching structure. Crown suppressed north-east side due salt laden winds. Minor dieback with 5% deadwood.	No Evidence	Fair with slightly thinning crown	No Evidence	Long - more than 40 years	5	Moderate	Adjacent property
19a	***Ficus rubiginosa*** (Port Jackson Fig)	4	4	240	16	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	Adjacent property
20	***Eucalyptus umbra*** (Bastard Mahogany)	5	6	120	30	I	Stability suspect with sound branching structure. Exhibits a prominent lean to the south-west. Crown suppressed north-east side due salt laden winds. Growing on rock outcrop - roots absent east side. Exhibits some dieback with 30% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	Adjacent property
20a	***Eucalyptus umbra*** (Bastard Mahogany)	7	4	180	24	SM	Appears stable with sound branching structure. Exhibits some dieback with 40% deadwood and 10% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Adjoining property
21	***Banksia serrata*** (Old Man Banksia)	6	5	200	30	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east. Crown suppressed on the south-west side. Exhibits some dieback with 10% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	Nature strip
21a	***Cotoneaster sp.*** (Cotoneaster)	4	8	110x4 + 200	32	M	Appears stable with sound branching structure.	Selectively pruned	Good	No Evidence	Short 5-15 Years	6	Very Low	On-site
22	***Allocasuarina littoralis*** (Black She-oak)	9	5	200	35	M	Appears stable with sound branching structure. Exhibits some dieback with 20% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
23	***Allocasuarina littoralis*** (Black She-oak)	8	4	200	0	M	Stability suspect with sound branching structure. Exhibits a prominent lean to the east. Located on a narrow sandstone terrace.	No Evidence	Dead	No Evidence	Nil	7	Very Low	Nature strip
24	***Cupressus macrocarpa* 'Brunniana Aurea'** (Golden Brunnings Cypress)	12	6	350	60	M	Appears stable with fair branching structure. Exhibits multiple moderate bark inclusions at 0.5 metres. 5% deadwood.	Crown lifted to 2 metres	Good	No Evidence	Medium 15-40 Years	6	Low	Nature strip
24a	***Cotoneaster sp.*** (Cotoneaster)	4	6	200	24	M	Stability suspect with sound branching structure. Located on edge of sandstone cliff.	No Evidence	Good	No Evidence	Short 5-15 Years	6	Very Low	Nature strip
25	***Syncarpia glomulifera*** (Turpentine)	13	8	400	88	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	On-site
26	***Syncarpia glomulifera*** (Turpentine)	9	6	250	54	M	Appears stable with sound branching structure. Main leader suppressed/distorted due conflict with T27.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	Moderate	On-site
27	***Eucalyptus saligna*** (Sydney Blue Gum)	18	15	538	225	M	Appears stable with sound branching structure. Growing in rock cleft. Multiple large woody surface roots visible for 4 metres radius. Roots absent NE side due to rock. Minor dieback in upper crown due to salt laden winds.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	On-site
28	***Eucalyptus umbra*** (Bastard Mahogany)	12	6	300	42	M	Appears stable with sound branching structure. Prominent lean to the NW. Crown suppressed on the east due to salt laden winds. Exhibits substantial dieback with 50% deadwood and 10% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	On-site
29	***Agonis flexuosa*** (WA Willow Myrtle)	10	7	255	56	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the east over house. Crown suppressed on the south-west side. Severe bark inclusion at 3.5 metres at junction of co-dominant PLs.	No Evidence	Good	No Evidence	Short 5-15 Years	4	Low	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
29a	***Acacia floribunda*** (Sally Wattle)	7	4	140	20	SM	Appears stable with sound branching structure. Exhibits some dieback with 20% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	On-site
29b	***Acacia floribunda*** (Sally Wattle)	6	5	140	20	SM	Stability suspect with sound branching structure. Exhibits some dieback with 20% deadwood. Very prominent lean to the SE Crown suppress on the NW side due overshadowing.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	On-site
30	***Casuarina cunninghamiana*** (River Oak)	15	14	550	168	M	Appears stable with sound branching structure. Growing on a narrow sandstone terrace. Exhibits moderate dieback with 30% deadwood (salt laden winds).	Selectively pruned	Fair with thinning crown	No Evidence	Short 5-15 Years	3	Moderate	Nature strip
31	***Eucalyptus scias*** (Large-fruited Red Mahogany)	15	10	400	90	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-west. Some dieback on south-east side due salt laden winds with 10% deadwood.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	On-site
31a	***Eucalyptus umbra*** (Bastard Mahogany)	10	6	223	42	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the east. Crown suppressed on west side due to crowding. Exhibits some dieback with 15% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
32	***Pittosporum undulatum*** (Native Daphne)	6	5	170	25	SM	Appears stable with sound branching structure. Exhibits moderate dieback with 30% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	6	Very Low	On-site
33	***Casuarina cunninghamiana*** (River Oak)	15	9	330	99	M	Appears stable with fair branching structure. Exhibits some dieback with 15% deadwood.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	3	Moderate	On-site
34	***Casuarina cunninghamiana*** (River Oak)	12	5	255	50	M	Appears stable with sound branching structure. Exhibits substantial dieback with 50% deadwood (salt laden winds).	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	On-site
34a	***Ficus rubiginosa*** (Port Jackson Fig)	5	4	100 + 80	20	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
34b	***Glochidion ferdinandi*** (Cheese Tree)	6	5	170	20	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	On-site
34c	***Banksia integrifolia*** (Coast Banksia)	6	4	160	24	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the east (self-corrected).	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	On-site
35	***Strelitzia nicolai*** (Giant White Bird of Paridise)	6	6	150x7	36	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	**Moderate**	On-site
36	***Glochidion ferdinandi*** (Cheese Tree)	9	10	315	60	M	Appears stable with fair branching structure. Exhibits a prominent lean to the south-east (self-corrected). High bark inclusion at 2.5 metres. Growing within deck, close to existing dwelling.	Selectively pruned east side to clear house.	Fair with slightly thinning crown	Moderate foliar insect infestation	Medium 15-40 Years	6	**Low**	On-site
37	***Pittosporum undulatum*** (Native Daphne)	6	5	120	25	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Short 5-15 Years	6	**Very Low**	On-site
38	***Allocasuarina torulosa*** (Forest Oak)	14	7	366	56	M	Appears stable with sound branching structure. Exhibits some dieback with 10% deadwood.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	**Moderate**	On-site
39	***Banksia integrifolia*** (Coast Banksia)	8	7	300	0	OM	Stability suspect with poor branching structure. Exhibits a very prominent lean to the west. Crown suppressed on the east side due to overshadowing.	No Evidence	Dead	No Evidence	Nil	7	**Very Low**	On-site
40	***Glochidion ferdinandi*** (Cheese Tree)	5	5	100 + 160x2	25	M	Appears stable with poor branching structure. Exhibits multiple high bark inclusions at 0.5 metres. Prominent lean to the east. Crown suppressed on the west side due to overshadowing. 10% deadwood.	No Evidence	Fair with thinning crown	Moderate foliar insect infestation	Short 5-15 Years	5	**Low**	On-site
43	***Banksia serrata*** (Old Man Banksia)	6	5	250	20	M	Appears stable with sound branching structure. Crown suppressed om west side due to overshadowing.	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	Nature strip

PL = Primary Limb; SL = Secondary Limb; TL = Tertiary Limb. GL = Ground Level

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
44	***Banksia serrata*** (Old Man Banksia)	6	5	300	30	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the east. Crown suppressed on the west side due overshadowing. Some dieback with 10% deadwood.	No Evidence	Fair with slightly thinning crown	Moderate vine infestation	Short 5-15 Years	4	Low	On-site
45	***Banksia serrata*** (Old Man Banksia)	3	4	200	12	SM	Appears stable with sound branching structure. Exhibits a very prominent lean to the east. Crown suppressed on the west side due overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	6	Low	On-site
46	***Banksia serrata*** (Old Man Banksia)	4	5	200	20	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the east. Crown suppressed on the west side due overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	6	Low	On-site
47	***Glochidion ferdinandi*** (Cheese Tree)	5	4	160	16	SM	Appears stable with sound branching structure. Exhibits moderate dieback with 30% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	On-site
48	***Banksia serrata*** (Old Man Banksia)	3	5	200	10	M	Stability suspect with sound branching structure. Growing on rock outcrop. Exhibits a very prominent lean to the north. Crown suppressed on the south side due to overshadowing. 15% deadwood.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	6	Very Low	On-site
49	***Elaeocarpus reticulatus*** (Blueberry Ash)	6	4	120 + 80	20	SM	Appears stable with sound branching structure. Crown suppressed on east side due to salt laden winds.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
50	***Acacia sp. [melanoxylon]*** (Blackwood)	5	3	120	15	I	Appears stable with poor branching structure. Multiple epicormics at 4 metres.	Previously topped at 4 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	5	Low	On-site
51	***Glochidion ferdinandi*** (Cheese Tree)	4	3	80	9	I	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	Moderate foliar insect infestation	Medium 15-40 Years	6	Low	On-site
52	***Pittosporum undulatum*** (Native Daphne)	5	4	100	16	SM	Appears stable with sound branching structure. Exhibits some dieback with 10% deadwood. Exhibits a prominent lean to the north (self-corrected)	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	6	Very Low	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
53	***Pittosporum undulatum*** (Native Daphne)	5	4	100	16	SM	Appears stable with sound branching structure. Exhibits some dieback with 10% deadwood. Exhibits a prominent lean to the north (self-corrected)	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	6	Very Low	On-site
54	***Pittosporum undulatum*** (Native Daphne)	5	4	100	16	SM	Appears stable with sound branching structure. Exhibits some dieback with 10% deadwood.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	6	Very Low	On-site
55	***Ficus rubiginosa*** (Port Jackson Fig)	6	7	200	42	SM	Appears stable with sound branching structure. Growing on rock outcrop.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
56	***Eucalyptus sp.*** (Gum)	12	7	250	56	SM	Appears stable with sound branching structure. Crown suppressed on NE side due to salt burn. Exhibits moderate dieback with 30% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	On-site
57	***Eucalyptus umbra*** (Bastard Mahogany)	7	8	250	48	SM	Appears stable with sound branching structure. Exhibits some dieback with 20% deadwood.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
58	***Acacia sp.*** (Wattle)	5	6	120x3	30	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Medium 15-40 Years	5	Low	Adjoining property
58a	***Pittosporum undulatum*** (Native Daphne)	4	4	100x2	16	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Short 5-15 Years	6	Low	Nature strip
59	***Cyathea cooperi*** (Rough Tree Fern)	4	3	100	6	M	Appears stable with sound branching structure.	No Evidence	Fair with thinning crown	No Evidence	Medium 15-40 Years	5	Low	Nature strip
60	***Glochidion ferdinandi*** (Cheese Tree)	5	3	100	15	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	Nature strip
61	***Acacia sp.*** (Wattle)	4	3	100	9	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	Nature strip

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APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
62	***Banksia serrata*** (Old Man Banksia)	6	4	300	24	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the east. Crown suppressed on the west side due overshadowing. Some dieback with 10% deadwood.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	Nature strip

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APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
1	***Melaleuca armillaris*** (Bracelet Honey Myrtle)	P	4.8	2.3	72.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
2a	***Brachychiton acerifolius*** (Illawarra Flame Tree)	M	2.2	1.6	14.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
3	***Pittosporum undulatum*** (Native Daphne)	M	2.6	1.8	21.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
4	***Strelitzia nicolai*** (Giant White Bird of Paridise)	G	4.8	2.3	72.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
4a	***Casuarina cunninghamiana*** (River Oak)	M	3.5	1.7	38.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
5	***Glochidion ferdinandi*** (Cheese Tree)	M	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
6	***Pittosporum undulatum*** (Native Daphne)	M	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
7	***Eucalyptus umbra*** (Bastard Mahogany)	P	1.8	1.5	10.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
8	***Pittosporum undulatum*** (Native Daphne)	M	1.5	1.1	7.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
9	***Syncarpia glomulifera*** (Turpentine)	M	5.4	2.4	91.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

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APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
9a	***Glochidion ferdinandi*** (Cheese Tree)	M	3.0	1.7	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
10	***Casuarina cunninghamiana*** (River Oak)	M	4.2	2.1	55.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
11a	***Glochidion ferdinandi*** (Cheese Tree)	M	2.4	1.7	18.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
11b	***Glochidion ferdinandi*** (Cheese Tree)	M	2.4	1.7	18.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
12	***Melaleuca styphelioides*** (Prickly Paperbark)	M	2.4	1.7	18.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
13	***Pittosporum undulatum*** (Native Daphne)	M	2.6	1.8	21.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
14	***Macrozamia communis*** (Burrawang)	G	2.4	1.7	18.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
15	***Pittosporum undulatum*** (Native Daphne)	M	2.2	1.6	14.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
16	***Cupressus macrocarpa*** **'Aurea'** (Golden Monterey Cypress)	M	7.2	2.7	162.8	Located within footprint of proposed building footprint.	Proposed work will necessitate removal.	Remove tree.

Earthscape Horticultural Services

348-352 WHALE BEACH ROAD, PALM BEACH, NSW

PL = Primary Limb; SL = Secondary Limb;
TL = Tertiary Limb. GL = Ground Level

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
17	***Eucalyptus umbra*** (Bastard Mahogany)	P	3.6	2.0	40.7	Proposed dwelling and associated retaining wall offset 3.3 metres east at RL63.00 (5 metres below grade). Excavations for building foundations within TPZ. Encroachment to TPZ (assuming 600mm over-excavation vertically through rock) = 3%.	Extent of encroachment to root zone is less than 10% of the TPZ, which is considered within acceptable limits under AS 4970:2009. No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3. Undertake all excavations for the building foundations within the TPZ in accordance with Section 10.6.
18	***Eucalyptus umbra*** (Bastard Mahogany)	P	3.8	2.0	45.9	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.
19	***Podocarpus elatus*** (Brown Pine)	M	3.0	1.6	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
19a	***Ficus rubiginosa*** (Port Jackson Fig)	M	2.9	1.8	26.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
20	***Eucalyptus umbra*** (Bastard Mahogany)	P	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
20a	***Eucalyptus umbra*** (Bastard Mahogany)	P	3.0	1.6	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
21	***Banksia serrata*** (Old Man Banksia)	M	2.5	1.7	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
21a	***Cotoneaster sp.*** (Cotoneaster)	M	3.6	2.0	40.7	Proposed dwelling and associated retaining wall offset 2.5 metres east at RL63.00 (6 metres above grade - elevated and supported by isolated pier footings). Excavations for building foundations (piers) within TPZ. No encroachment to TPZ.	No adverse impact. To be removed to accommodate new landscape works	Remove tree - (NB completely dead).
22	***Allocasuarina littoralis*** (Black She-oak)	M	2.5	1.7	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
23	***Allocasuarina littoralis*** (Black She-oak)	M	2.4	1.7	18.1	No proposed works within TPZ.	To be removed to accommodate new landscape works.	Remove tree - (NB completely dead).
24	***Cupressus macrocarpa* 'Brunniana Aurea'** (Golden Brunnings Cypress)	M	4.2	2.1	55.4	No proposed works within TPZ. Existing stairway within TPZ/SRZ to be maintained intact (TBC).	No adverse impact.	To be retained - no special tree protection measures required.
24a	***Cotoneaster sp.*** (Cotoneaster)	M	3.0	1.7	28.3	Located within footprint of proposed new driveway crossover.	Proposed works will necessitate removal.	Remove tree.
25	***Syncarpia glomulifera*** (Turpentine)	M	4.8	2.3	72.3	Proposed masonry blade wall supporting paved terrace area at RL59.17 (0.5 to 2.2 metres above grade). Excavations for wall foundations (continuous strip footing) and placement of engineered fill for terrace pavement sub-grade within SRZ/TPZ. Encroachment to TPZ = 34%. Proposed dwelling offset 1.7 metres north-west at RL 63.00 (6 metres above grade) extending to roofline at RL66.125 (9 metres above grade), 600mm clearance to eaves line. Substantial canopy pruning will be required to clear the building envelope and temporary scaffolding, estimated at 35-45% crown loss.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation for the continuous strip footing will result in severance of woody roots, leading to a significant adverse impact. Extent of incursion to canopy exceeds acceptable limits under AS 4373:2007. Likely to result in a significant adverse impact.	There are no feasible options that can be recommended in this instance that would permit the tree to be retained. Substantial re-design of the building would be required to accommodate the tree to minimise encroachments to the root zone and canopy. Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
26	***Syncarpia glomulifera*** (Turpentine)	M	3.5	1.8	38.5	Proposed masonry blade wall supporting walkway offset 0.3 metres south-east at RL63.00 (2.8 metres above grade). Excavations for wall foundations (continuous strip footing) within SRZ/TPZ. Proposed dwelling offset 1.0 metres north-east at RL63.00 (3 metres above grade) extending to roofline at RL66.125 (6 metres above grade), 1 metre clearance to eaves line. Substantial canopy pruning will be required to clear the building envelope and temporary scaffolding, estimated at 60-70% crown loss.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
27	***Eucalyptus saligna*** (Sydney Blue Gum)	P	9.0	2.6	254.3	Proposed dwelling offset 0.7 metres north-east at RL63.00 (3 metres above grade) extending to roofline at RL66.125 (6 metres above grade), 700mm clearance to eaves line. Substantial canopy pruning will be required to clear the building envelope and temporary scaffolding, estimated at 20% crown loss (crown lifting on north, east and south sides to 6 metres). Proposed masonry blade wall supporting walkway offset 2.3 metres south-east at RL63.00 (2.8 metres above grade). Excavations for wall foundations (continuous strip footing) within SRZ/TPZ. Proposed dwelling wall 2.3 metres north-west at RL 59.20 (within rock outcrop). no actual incursion to root zone. Proposed terrace offset 1.4 metres north-east at RL 59.17 and associated retaining wall 3.5 metres north-east. Cut and fill for terrace and excavations for retaining wall footings within SRZ/TPZ.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. The proposed works are likely to result in severance and damage to woody surface roots, leading to a significant adverse impact on this tree.	There are no feasible options that can be recommended in this instance that would permit the tree to be retained. Substantial re-design of the building would be required to accommodate the tree to minimise encroachments to the root zone and canopy. Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

Earthscape Horticultural Services

348-352 WHALE BEACH ROAD, PALM BEACH, NSW

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APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
28	***Eucalyptus umbra*** (Bastard Mahogany)	P	3.6	2.0	40.7	Proposed new masonry retaining wall offset 2.3 metres south-east at RL69.00 (top of wall close to existing grade). Excavations for path foundations within TPZ (beyond existing rock outcrop). No actual incursion to root zone.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.
29	***Agonis flexuosa*** (WA Willow Myrtle)	P	4.0	1.9	50.2	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
29a	***Acacia floribunda*** (Sally Wattle)	M	3.0	1.4	28.3	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
29b	***Acacia floribunda*** (Sally Wattle)	M	3.0	1.4	28.3	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
30	***Casuarina cunninghamiana*** (River Oak)	M	6.6	2.6	136.8	Located within footprint of proposed new driveway crossover.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
31	***Eucalyptus scias*** (Large-fruited Red Mahogany)	P	7.0	2.3	153.9	Proposed basement garage offset 2.9 metres north-west at RL 46.96 (8 metres below grade). Excavations for basement within TPZ. Encroachment to TPZ = 29%. Located within footprint of proposed stormwater dispersal trench.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Proposed works are likely to result in an adverse impact. Given the position of tree within the site and the extent of work proposed within the TPZ, there are no feasible option that can be recommended that would permit the retention of this tree.	There are no feasible options that can be recommended in this instance that would permit the tree to be retained. Substantial re-design of the building would be required to accommodate the tree to minimise encroachments to the root zone and canopy. Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
31a	***Eucalyptus umbra*** (Bastard Mahogany)	P	4.0	1.8	50.2	Proposed basement garage offset 3.5 metres north-west at RL 46.96 (8 metres below grade). Excavations for basement within TPZ. Encroachment to TPZ = <5%. Located within footprint of proposed stormwater dispersal trench.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
32	***Pittosporum undulatum*** (Native Daphne)	M	2.5	1.6	19.6	Located within footprint of proposed gravel terrace and associated rock retaining wall.	Proposed work will necessitate removal.	Remove tree.
33	***Casuarina cunninghamiana*** (River Oak)	M	4.0	2.1	49.2	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
34	***Casuarina cunninghamiana*** (River Oak)	M	3.1	1.9	29.4	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
34a	***Ficus rubiginosa*** (Port Jackson Fig)	G	2.0	1.5	12.6	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
34b	***Glochidion ferdinandi*** (Cheese Tree)	M	3.0	1.6	28.3	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
34c	***Banksia integrifolia*** (Coast Banksia)	P	2.5	1.5	19.6	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
35	***Strelitzia nicolai*** (Giant White Bird of Paridise)	G	4.0	2.3	50.2	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
36	***Glochidion ferdinandi*** (Cheese Tree)	M	6.0	2.0	113.0	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
37	***Pittosporum undulatum*** (Native Daphne)	M	3.0	1.4	28.3	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
38	***Allocasuarina torulosa*** (Forest Oak)	M	4.4	2.2	60.6	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
39	***Banksia integrifolia*** (Coast Banksia)	P	4.0	2.0	50.2	Located within footprint of proposed dwelling.	Proposed work will necessitate removal.	Remove tree.
40	***Glochidion ferdinandi*** (Cheese Tree)	M	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
43	***Banksia serrata*** (Old Man Banksia)	P	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
44	***Banksia serrata*** (Old Man Banksia)	M	3.6	2.0	40.7	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
45	***Banksia serrata*** (Old Man Banksia)	P	3.0	1.7	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

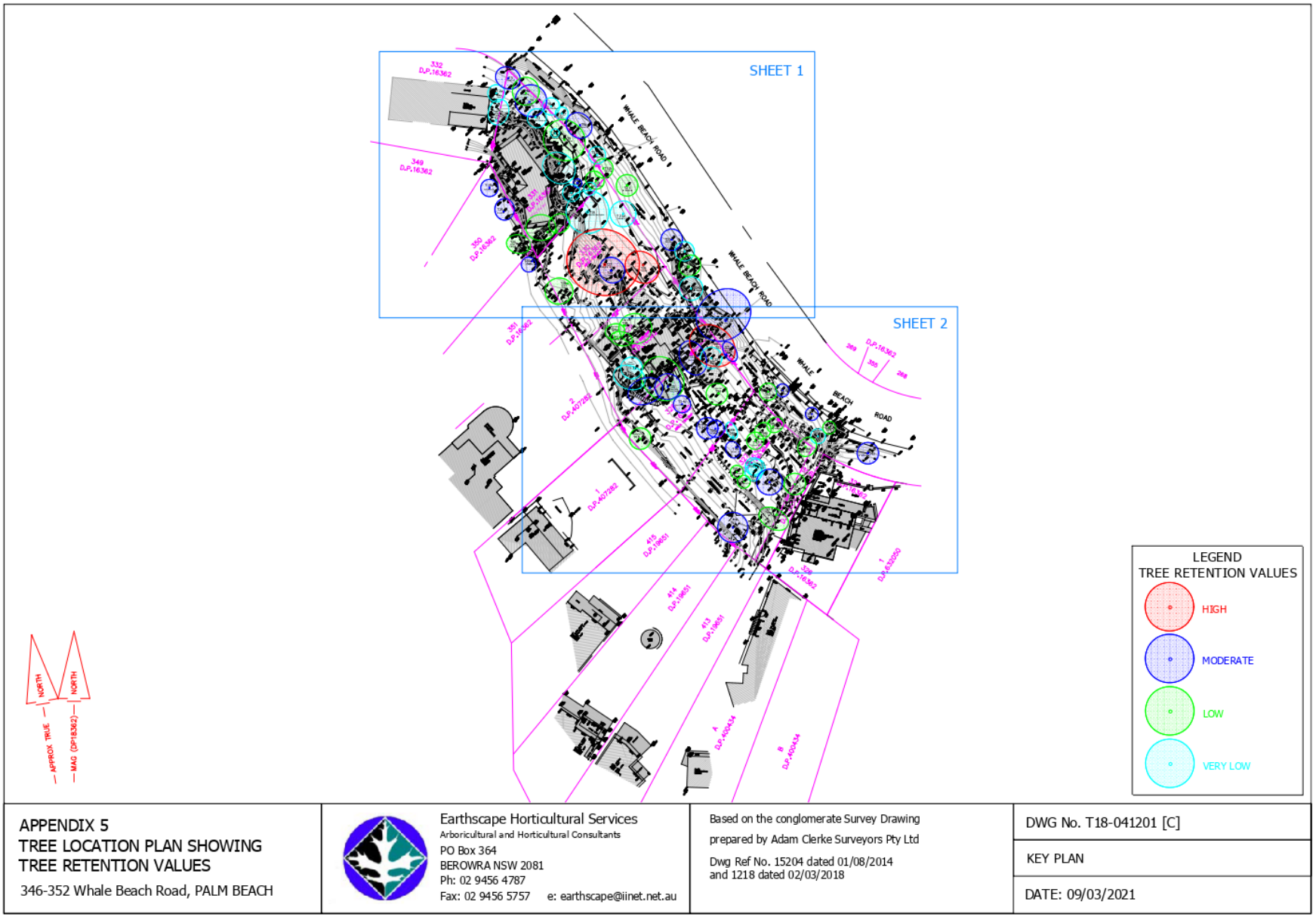
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APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
46	***Banksia serrata*** (Old Man Banksia)	P	3.0	1.7	28.3	Located within Asset Protection Zone (APZ).	Proposed to be removed for Asset Protection purposes.	Remove tree.
47	***Glochidion ferdinandi*** (Cheese Tree)	M	2.5	1.5	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
48	***Banksia serrata*** (Old Man Banksia)	P	2.4	1.7	18.1	Located within Asset Protection Zone (APZ).	Proposed to be removed for Asset Protection purposes.	Remove tree.
49	***Elaeocarpus reticulatus*** (Blueberry Ash)	M	1.8	1.5	10.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
50	***Acacia sp. [melanoxylon]*** (Blackwood)	M	2.0	1.4	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
51	***Glochidion ferdinandi*** (Cheese Tree)	M	2.0	1.1	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
52	***Pittosporum undulatum*** (Native Daphne)	M	2.0	1.3	12.6	Located within Asset Protection Zone (APZ).	Proposed to be removed for Asset Protection purposes.	Remove tree.
53	***Pittosporum undulatum*** (Native Daphne)	M	2.0	1.3	12.6	Located within Asset Protection Zone (APZ).	Proposed to be removed for Asset Protection purposes.	Remove tree.
54	***Pittosporum undulatum*** (Native Daphne)	M	2.0	1.3	12.6	Located within Asset Protection Zone (APZ).	Proposed to be removed for Asset Protection purposes.	Remove tree.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
55	***Ficus rubiginosa*** (Port Jackson Fig)	M	3.5	1.7	38.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
56	***Eucalyptus sp.*** (Gum)	M	4.0	1.8	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
57	***Eucalyptus umbra*** (Bastard Mahogany)	P	4.0	1.8	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
58	***Acacia sp.*** (Wattle)	M	3.0	1.6	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
58a	***Pittosporum undulatum*** (Native Daphne)	M	2.0	1.5	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
59	***Cyathea cooperi*** (Rough Tree Fern)	G	1.5	1.3	7.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
60	***Glochidion ferdinandi*** (Cheese Tree)	M	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
61	***Acacia sp.*** (Wattle)	M	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
62	***Banksia serrata*** (Old Man Banksia)	M	3.6	2.0	40.7	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

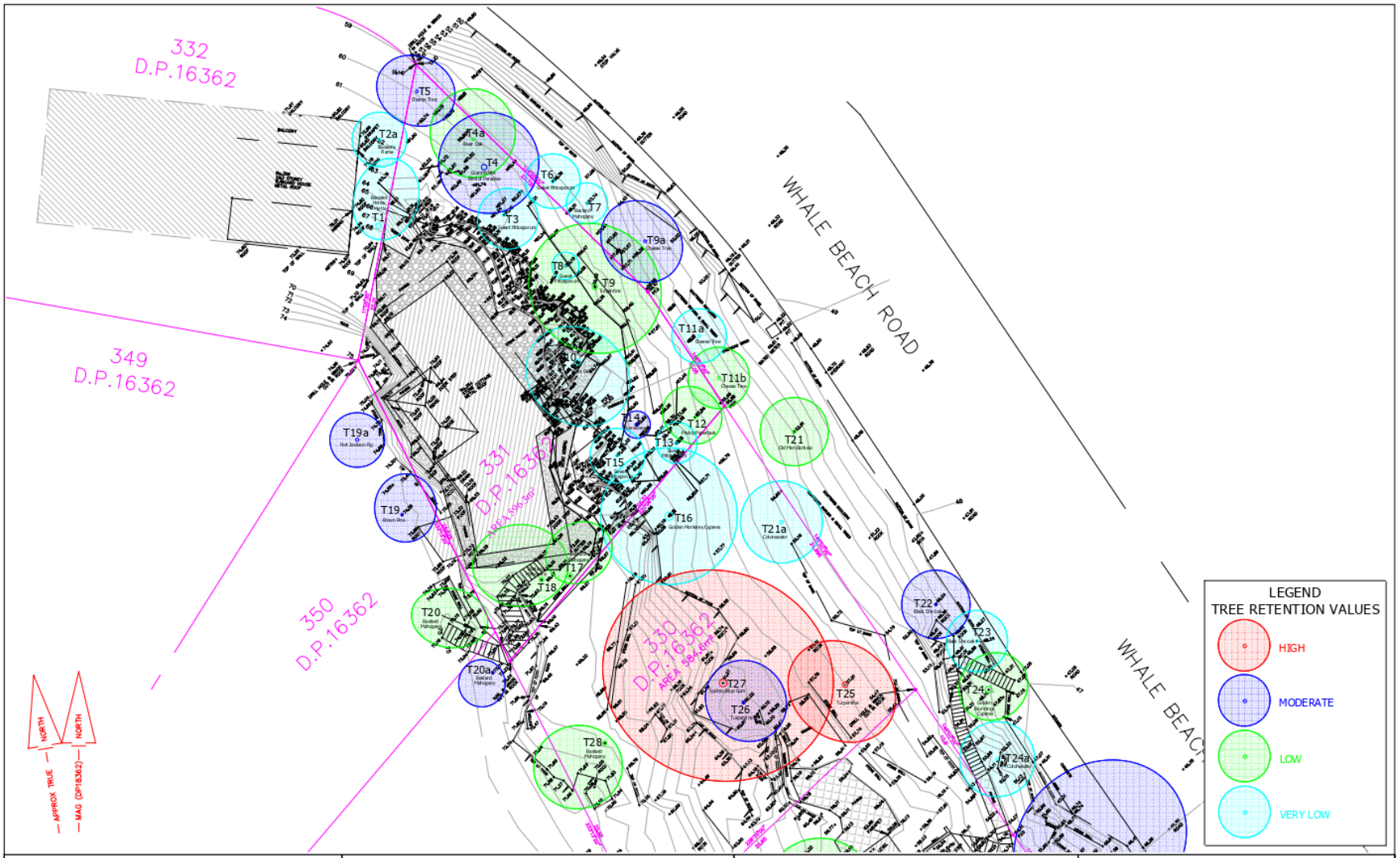


APPENDIX 5
TREE LOCATION PLAN SHOWING
TREE RETENTION VALUES
346-352 Whale Beach Road, PALM BEACH

Earthscape Horticultural Services
Arboricultural and Horticultural Consultants
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Based on the conglomerate Survey Drawing
prepared by Adam Clerke Surveyors Pty Ltd
Dwg Ref No. 15204 dated 01/08/2014
and 1218 dated 02/03/2018

DWG No. T18-041201 [C]
KEY PLAN
DATE: 09/03/2021

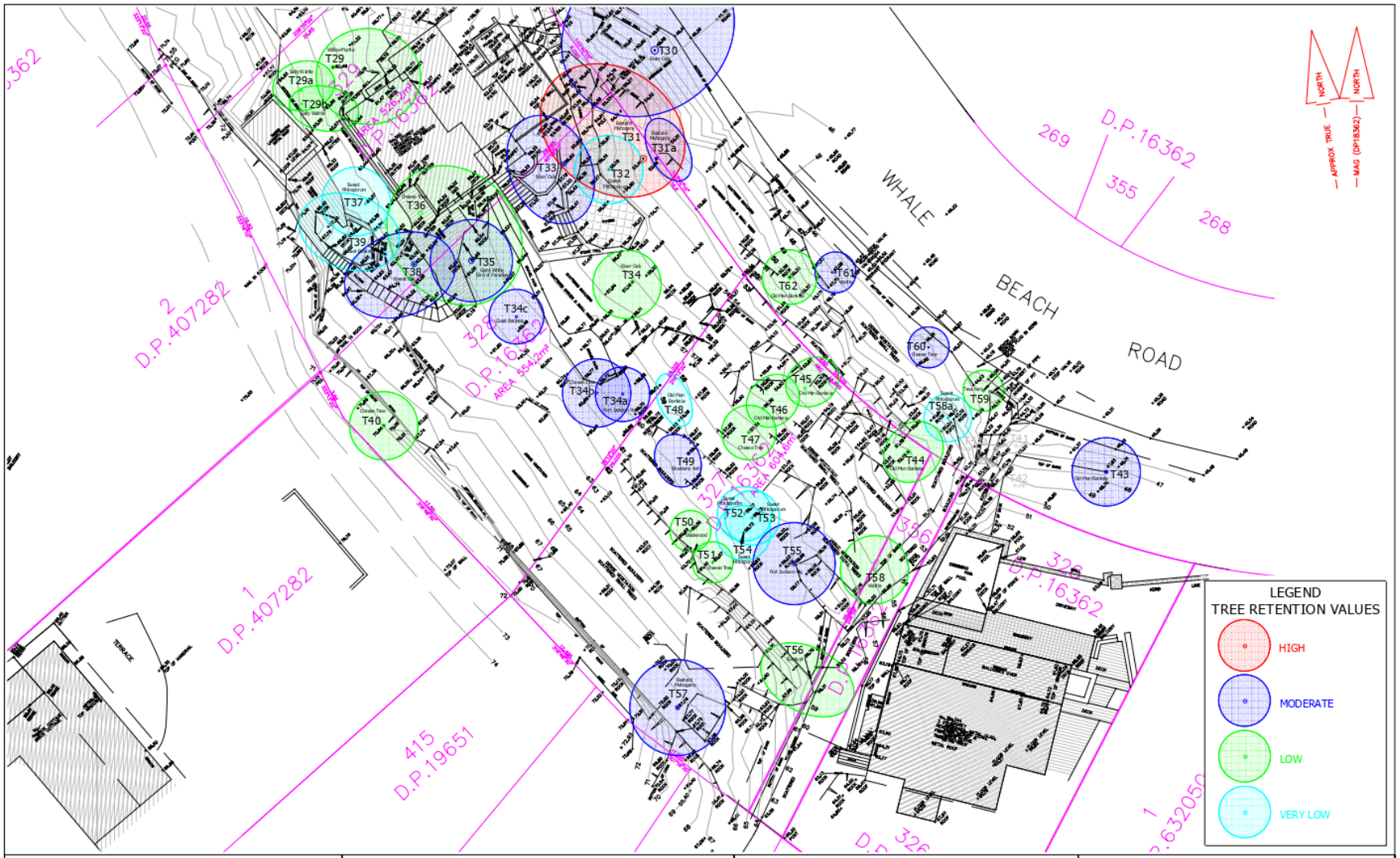


APPENDIX 5
TREE LOCATION PLAN SHOWING
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DWG No. T18-041201 [C]
SHEET 1
DATE: 09/03/2021

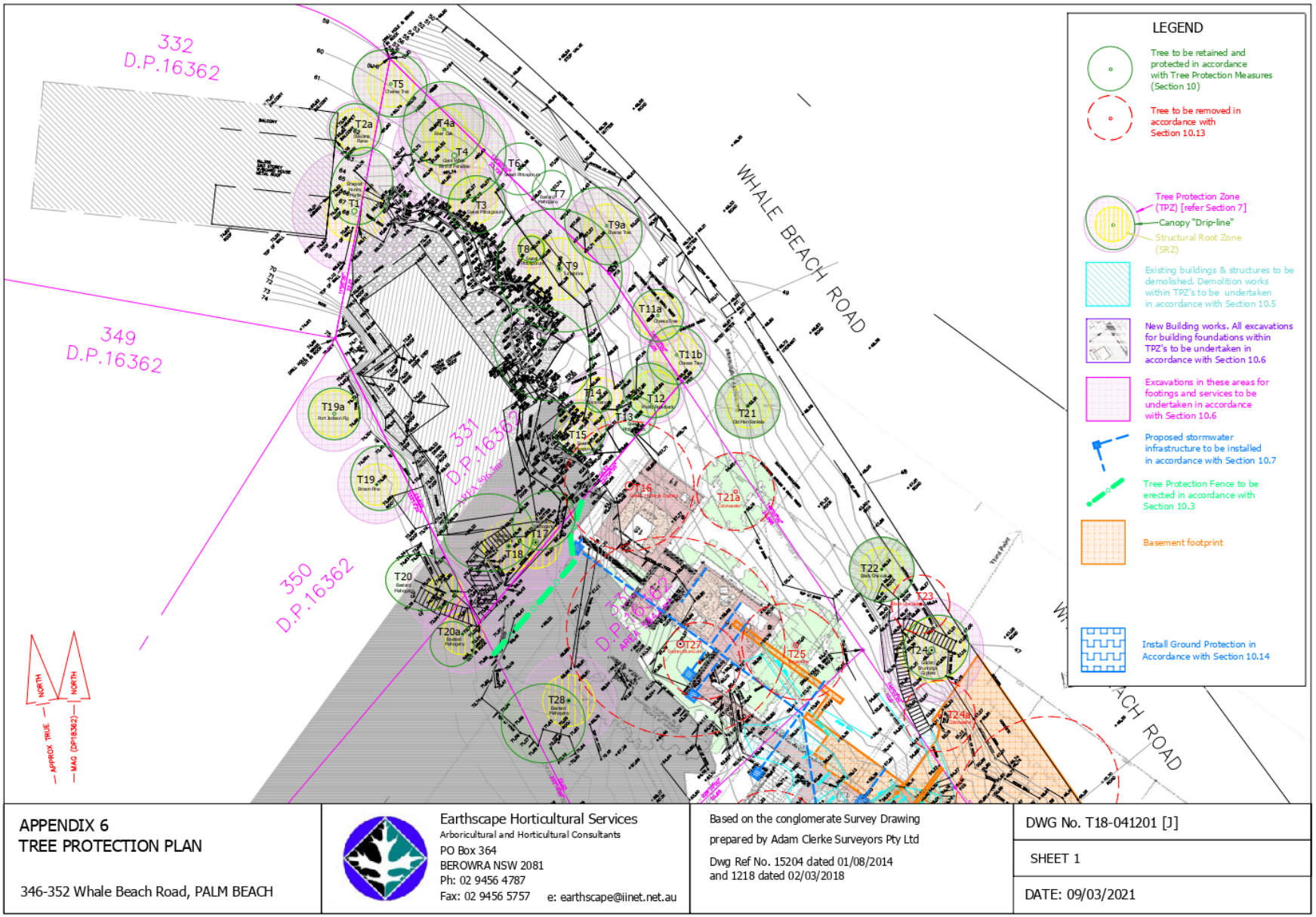


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DWG No. T18-041201 [C]
SHEET 2
DATE: 09/03/2021



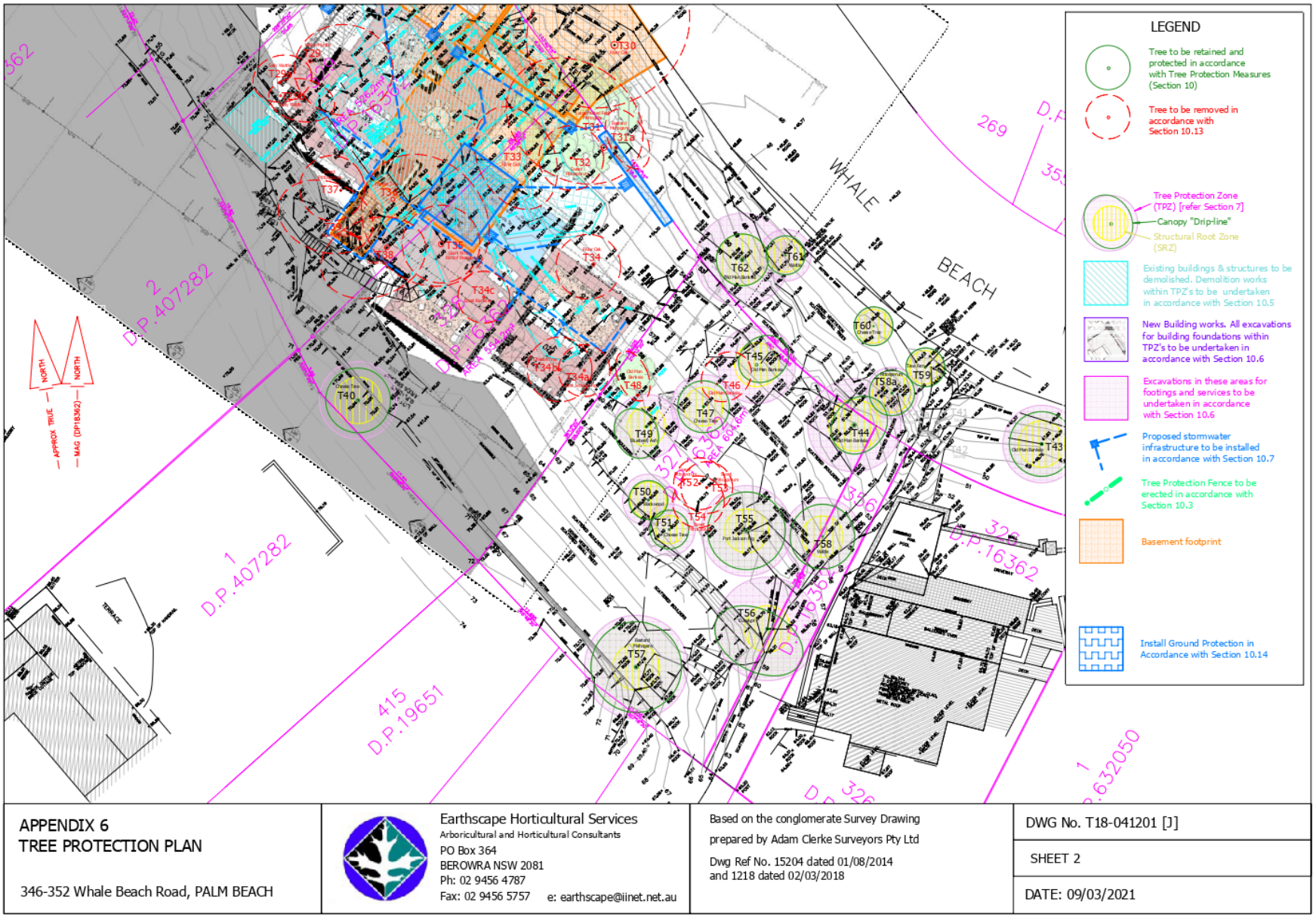
APPENDIX 6
TREE PROTECTION PLAN

346-352 Whale Beach Road, PALM BEACH

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SHEET 1
DATE: 09/03/2021



APPENDIX 6
TREE PROTECTION PLAN

346-352 Whale Beach Road, PALM BEACH

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DWG No. T18-041201 [J]
SHEET 2
DATE: 09/03/2021

APPENDIX 7 - LANDSCAPE PLANS



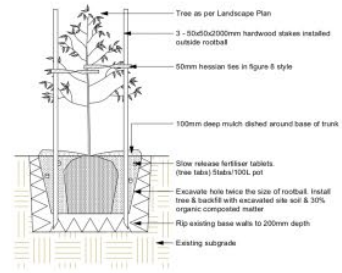
1 Site Plan
Scale 1:200 @ A1



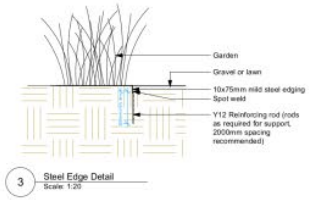
Satellite Site Location

PLANT SCHEDULE					
Botanic Name	Common Name	Pot Size	Mature Hgt	Qty	Notes
Plant Species					
Alpinia caerulea	Native Shell Ginger	200mm	1.5-2.5m	12	
Banksia spinulosa	Hair Pin Banksia	200mm	1-3m	17	
Banksia integrifolia	Coastal Banksia	150L	5-7m	3	
Callicoma serratifolia	Black Wattle	500mm	6-10m	2	
Ceratopetalum gummiferum	NSW Christmas Bush	300mm	2-5m	24	
Cissus antarctica	Kangaroo Vine	140mm	Groundcover	328	
Correa alba	White Correa	140mm	1-1.5m	56	
Dendrobium speciosum	Sydney Rock Orchid	300mm	0.4-0.8m	15	
Dianella caerulea	Native Flax Lily	200mm	0.3-0.7m	150	
Doodia aspera	Rasp Fern	140mm	0.4-0.8m	12	
Doryanthes excelsa	Gymea Lily	400mm	1-3m	19	
Elaeocarpus reticulatus	Blueberry Ash	100L	5-9m	2	
Ficinia nodosa	Knobby Headed Club Rush	200mm	0.7-1m	20	
Ficus rubiginosa	Port Jackson Fig	Advanced	8-12m	3	
Glochidion ferdinandi	Cheese Tree	300mm	1-1.5m	3	
Hibbertia scandens	Snake Vine	200mm	Spillover	80	
Livistona australis	Cabbage Tree Palm	Semi-Adv.	6-10m	5	
Lambertia formosa	Mountain Devil	200mm	1-2m	79	
Lomandra longifolia	Spiney Headed Matt Grass	200mm	1-1.5m	276	
Macrozamia communis	Australian Cycad	500-super	2-5m	32	
Muehlenbeckia axillaris	Maidenhair Vine	200mm	Groundcover	109	
Pandorea jasminoides	Bower Plant	100mm	Climber	200	
Pandorea pandorana	Wonga Wonga	140mm	Climber	27	
Pteris vittata	Concrete Fern	-mm	0.3m	500	
Syncarpia glomulifera	Turpentine	100L	15-25m	2	
Viola hederacea	Native Violet	100mm	0.3m	74	
Zoysia macrantha	Zoysia	200mm	Groundcover	lawn	

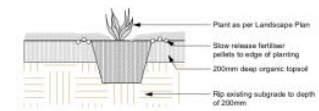
Indicates new native and locally endemic plant species as per Pittwater Council Species and Communities List



1 Staked Tree In Ground
Scale: 1:25



3 Steel Edge Detail
Scale: 1:20



2 Staked Tree In Ground
Scale: 1:20

GENERAL PLANTING NOTES:

NOTE: It is recommended that all plants used be subject to an establishment period. During this period maintenance work carried out will include; watering, mowing, weeding, fertilising, pest and disease control, reseeding, returfing, staking and tying, replanting, cultivating, pruning, hedge clipping, aerating, reinstatement of mulch, top dressing and keeping the site neat and tidy.

NOTE: Plants shall be vigorous, well established, of good form consistent with species or variety, not soft or forced, free from disease and insect pests, with large healthy root systems and no evidence of having been restricted in growth or damaged. Root system shall be well balanced in relation to the size of the plant.

NOTE: Install 'root barrier' or equivalent to manufacturers specifications to protect nearby structures and services.

NOTE: Install temporary drip irrigation system under mulch in tree protection zones and water on allotted days.

FIRE PRONE PLANTING NOTES:

NOTE: Shrub and feature tree plantings to be set out onsite as discontinuous clumps. Gaps are to be feature lawns of Zoysia macrantha or non-combustible gravel.

NOTE: Bush fire prone species must not be planted less than 5m from dwelling evacuation routes (ie. footpaths) or less than 10m from the dwelling and can not contribute to a continuous bed of fuel toward the dwelling.

NOTE: A pathway or non-combustible ground finish is to adjoin the dwelling for a distance of at least 1.0metre. Garden beds of flammable shrubs are not to be located under trees and must be no closer than 10 metres from an exposed window or door.

GENERAL NOTES:

GRAPHIC ILLUSTRATION
Please note that the plant graphics are indicative sizes only and not an accurate representation at time of purchase

SITE PREPARATION
All existing plants marked for retention shall be protected for the duration of works. Remove from site all perennial weeds and rubbish before commencing landscape works.

SOILWORKS
Thoroughly cultivate the subsoil to a depth of 200mm. Supply and install to a depth of 300mm quality garden soil mix to all planting beds and 150mm turf underlay to lawn areas.

MULCH
Supply and install a 75mm layer of hardwood horticultural grade mulch to all planting beds set down 25mm from adjacent paving or garden edge.

MAINTENANCE
All failed or defective plant species to be replaced by landscaper for a 3 months period following completion of work.
Further maintenance during and after this period should include watering, weeding, fertilising, pest and disease control, pruning and hedging, reinstatement of mulch and keeping the site neat and tidy.

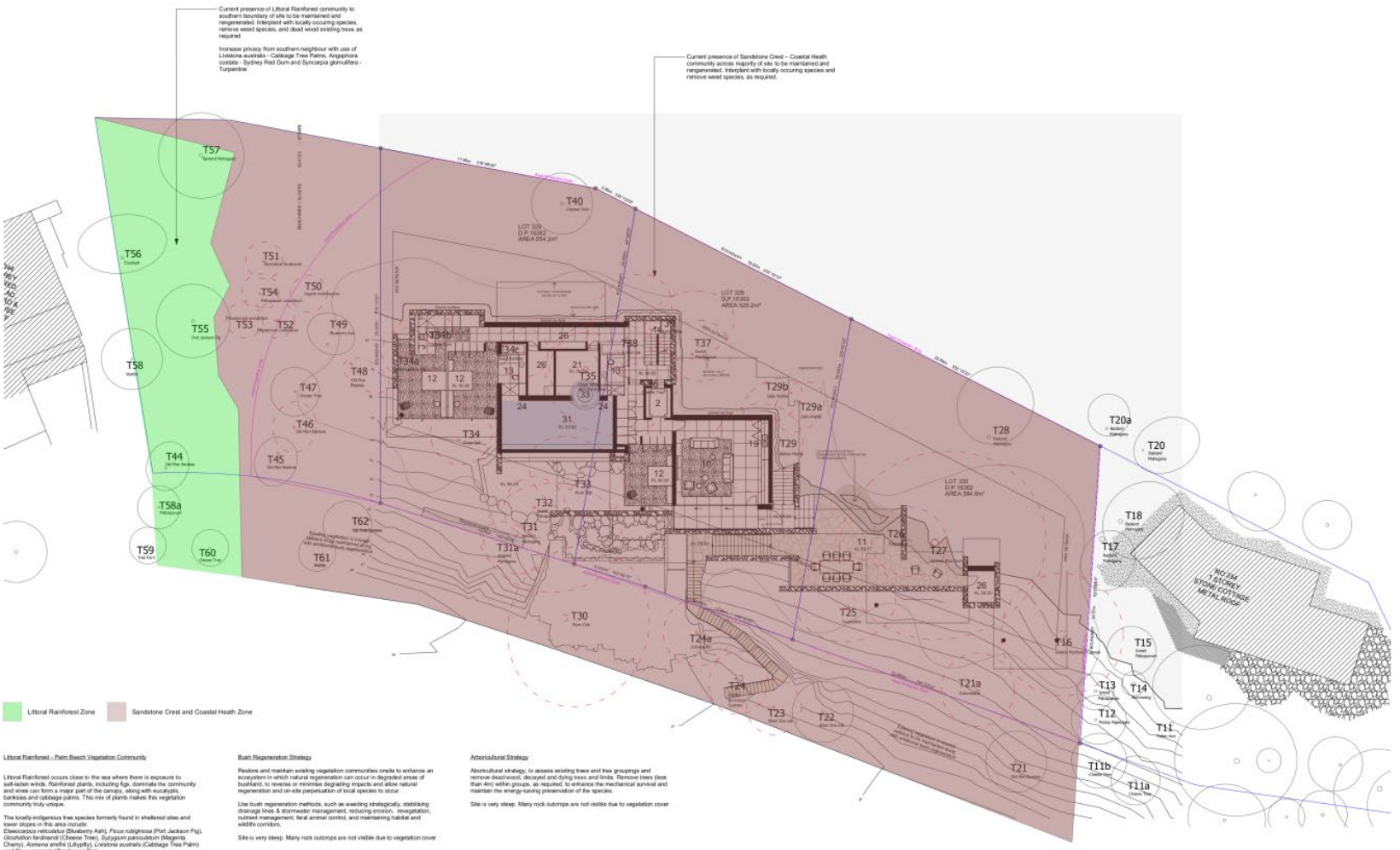
Project: Lots 327-330, DP 16362
346-352 Whale Beach Rd
Palm Beach, NSW 2108

Dwg no: DA01-D0821
Title: Site Plan

Drawn by: SH | Checked: WD | Scale: A1
Issue: 01 | Revision: B | Date: 10.03.2021

Landscape Design Sydney
53 Cowdroys Dr
Botany NSW 2019
Tel: (02) 9316 9542
Fax: (02) 9316 9696

DANGAR BARIN SMITH



Littoral Rainforest - Palm Beach Vegetation Community

Littoral Rainforest occurs close to the sea where there is exposure to salt-laden winds. Rainforest plants, including figs, dominate the community and vines can form a major part of the canopy, along with eucalypts, banksias and cabbage palms. This mix of plants makes this vegetation community truly unique.

The locally-indigenous tree species formerly found in sheltered sites and lower slopes in this area include: *Elaeocarpus reticulatus* (Blueberry Ash), *Ficus rubiginosa* (Port Jackson Fig), *Glochidion ferdiandi* (Cheese Tree), *Syzygium paniculatum* (Magenta Cherry), *Acmena smithii* (Lillypilly), *Livistona australis* (Cabbage Tree Palm) and *Ficus coronata* (Sandpaper Fig)

Sandstone Crest and Coastal Heaths - Palm Beach Vegetation Community

The original vegetation of this area consisted of coastal heath and woodland typical of the "Sandstone Crest - Coastal Heaths", subject to some coastal exposure. Exposed coastal sandstone plateaus with infertile, shallow, moderately damp soil.

The dominant locally-indigenous tree species formerly found on these site areas include: include *Angophora costata* (Sydney Red Gum), *Eucalyptus umbra* (Bastard Mahogany) and *Eucalyptus racemosa* (Scribbly Gum). Other species found in this vegetation community may include *Allocasuarina torulosa* (Forest Oak), *Syncarpia glomulifera* (Turpentine), *Banksia ellegrifolia* (Coast Banksia), *Banksia serrata* (Old Man Banksia) and *Eucalyptus botryoides* (Bangalay).

Bush Regeneration Strategy

Restore and maintain existing vegetation communities onsite to enhance an ecosystem in which natural regeneration can occur in degraded areas of bushland, to reverse or minimise degrading impacts and allow natural regeneration and on-site perpetuation of local species to occur.

Use bush regeneration methods, such as weeding strategically, stabilising drainage lines & stormwater management, reducing erosion, revegetation, nutrient management, feral animal control, and maintaining habitat and wildlife corridors.

Site is very steep. Many rock outcrops are not visible due to vegetation cover

Bush Regeneration Strategy within Asset Protection Zone - APZ

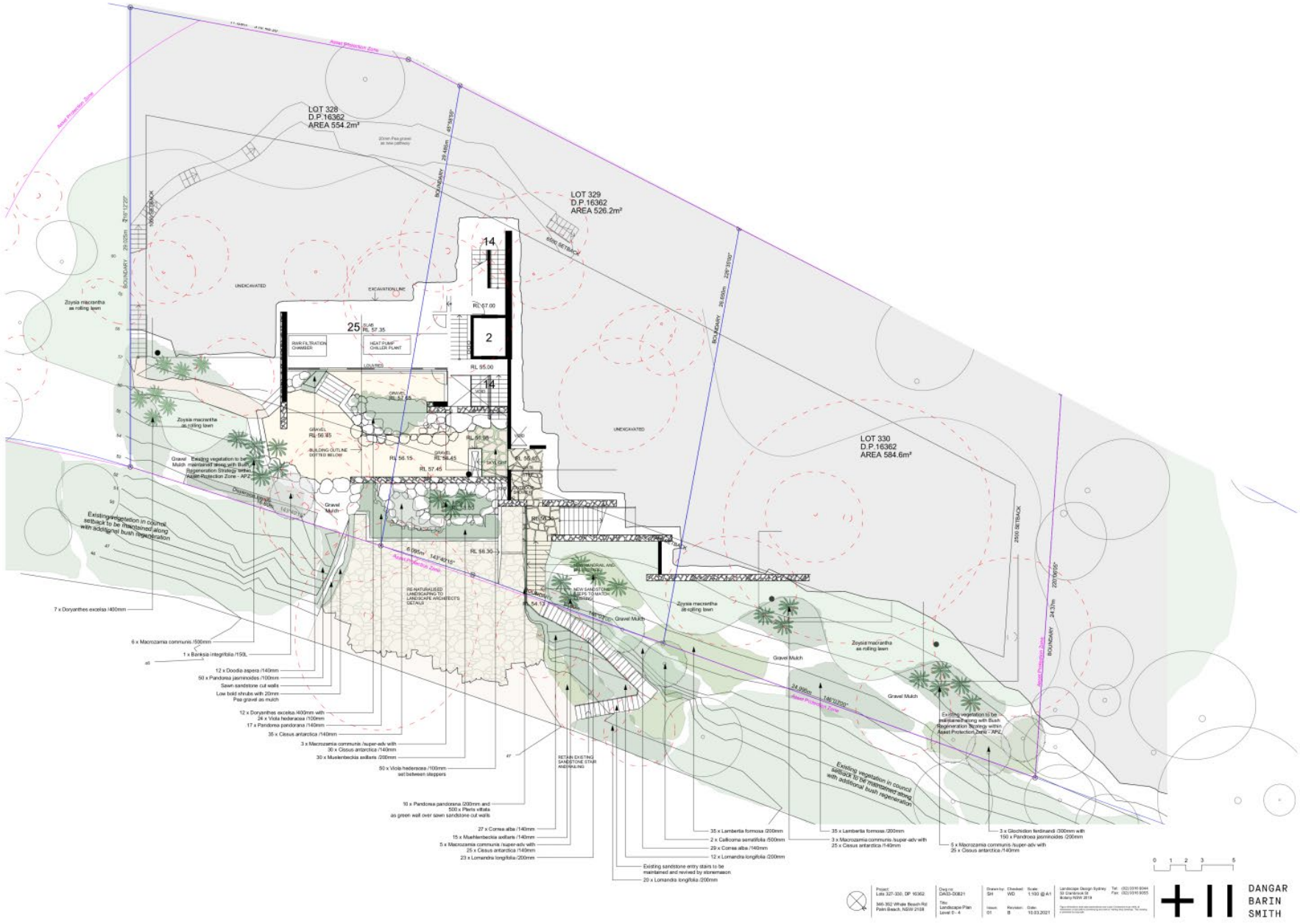
No trees or shrubs are to form part of the bush regeneration within the APZ - ground-covers only. Bush regeneration is to observe the conditions of Inner Protection Zone Condition as per the Rural Fire Service document - *Standards for Asset Protection Zones*. Refer to report and concept landscape plan from Abel Ecology

Arboricultural Strategy

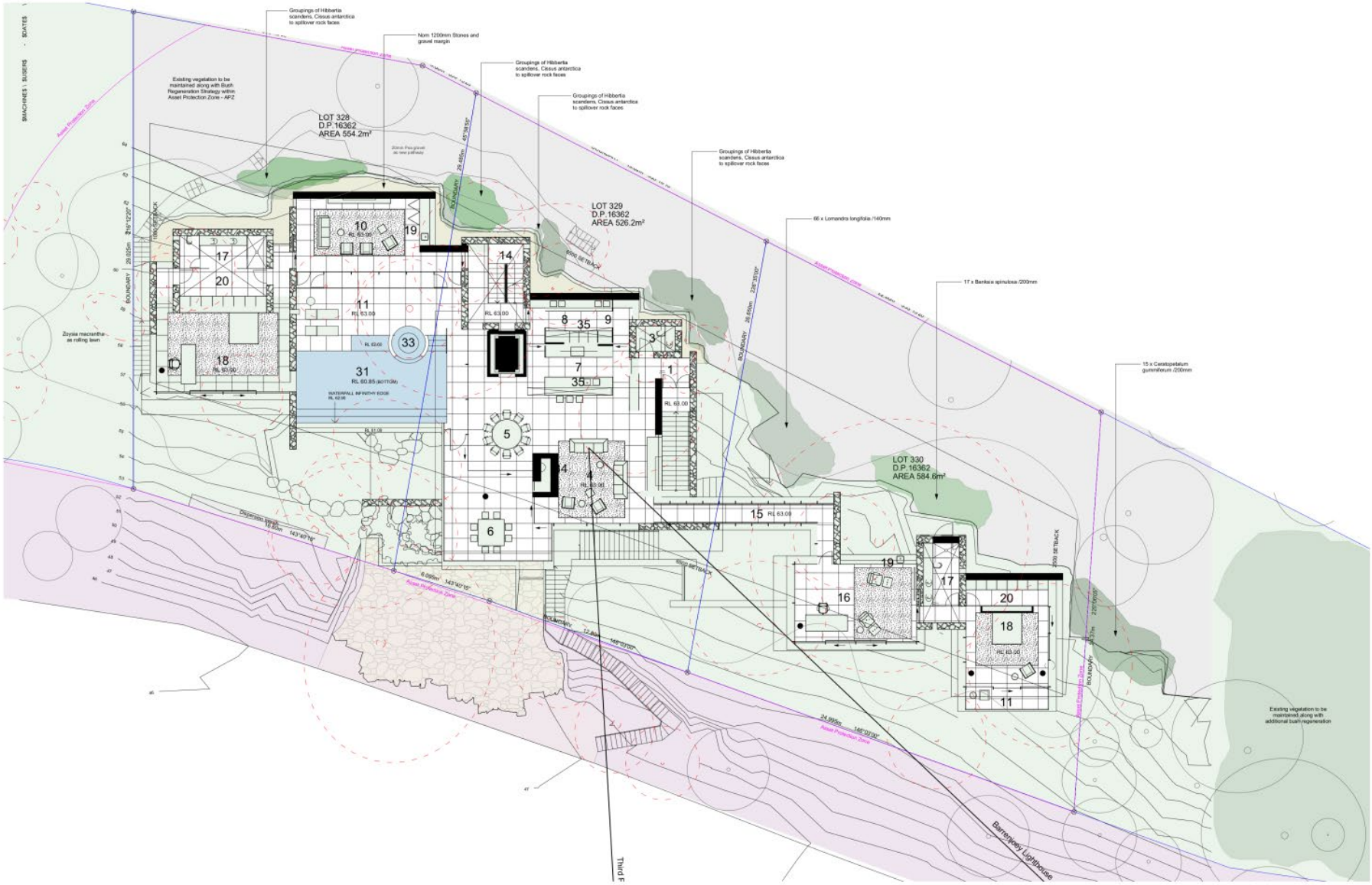
Aboricultural strategy, to assess existing trees and tree groupings and remove dead wood, decayed and dying trees and limbs. Remove trees (less than 4m) within groups, as required, to enhance the mechanical survival and maintain the energy-saving preservation of the species.

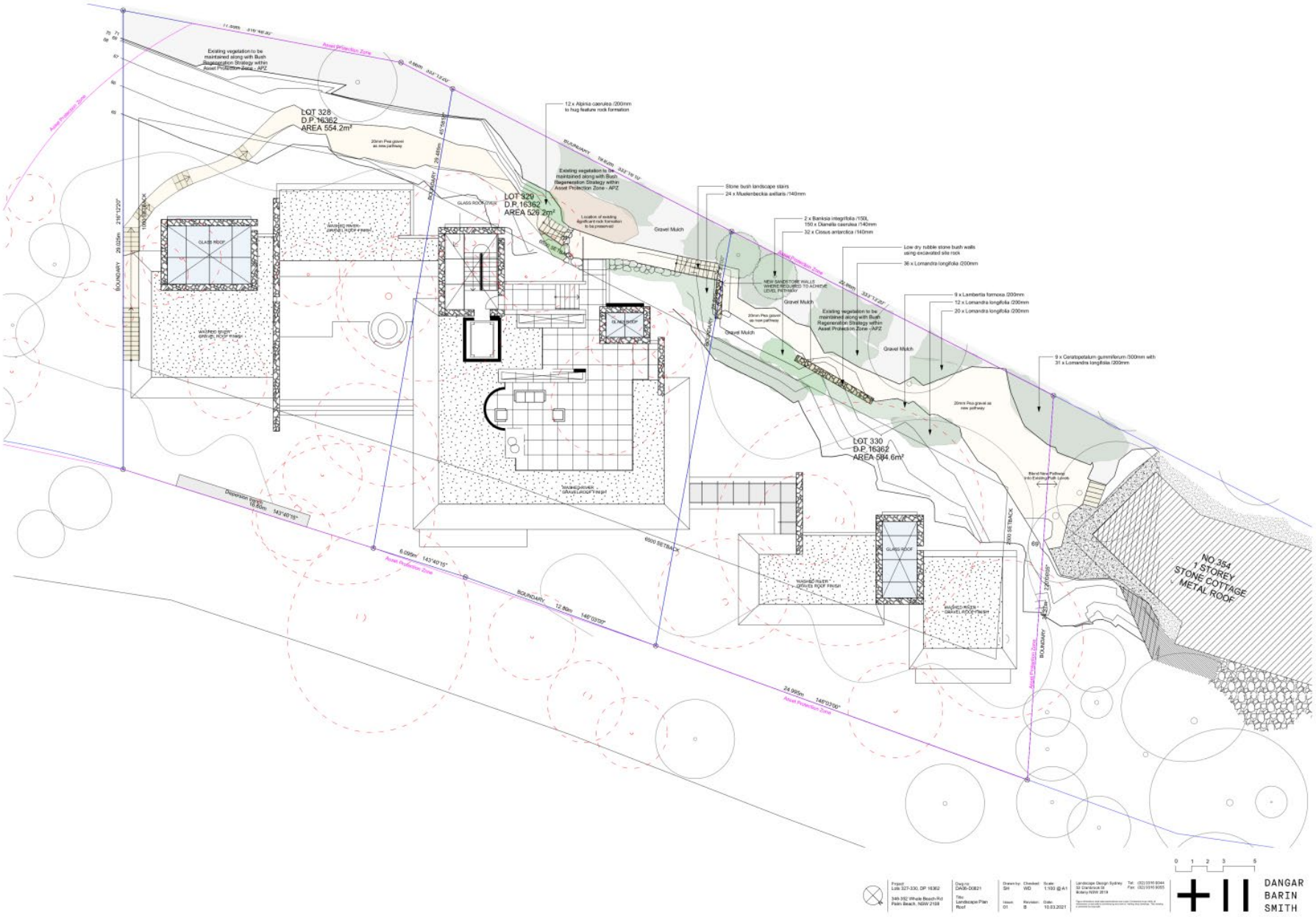
Site is very steep. Many rock outcrops are not visible due to vegetation cover

Project: Lots 327-330, DP 16362, 346-352 Whale Beach Rd Palm Beach, NSW 2108
Dwg no: DA02-D0821
Title: Landscape Strategies
Drawn by: SH | Checked: WD | Scale: 1:100 @ A1
Issue: 01 | Revision: B | Date: 10.03.2021
Landscape Design Sydney, 53 Cranbrook St Botany NSW 2019
Tel: (02) 9316 9042 Fax: (02) 9316 9096
0 1 2 3 5
DANGAR BARIN SMITH


LOT 328
D.P.16362
AREA 554.2m²
LOT 329
D.P.16362
AREA 526.2m²
LOT 330
D.P.16362
AREA 584.6m²
BOUNDARY
SIDE SETBACK
UNEXCAVATED
EXCAVATION LINE
RWR FILTRATION CHAMBER
HEAT PUMP CHILLER PLANT
LOUNGE
GRAVEL
BUILDING OUTLINE DOTTED BELOW
Zoysia macrantha as rolling lawn
Gravel Mulch
Existing vegetation in council setback to be maintained along with additional bush regeneration
Asset Protection Zone
RE-NATURALISED LANDSCAPING TO LANDSCAPE ARCHITECTS DETAILS
NEW SANDSTONE STEPS TO MATCH EXISTING
RETAIN EXISTING SANDSTONE STAIR AND RAILING
Existing sandstone entry stairs to be maintained and revived by stonemason.
Existing vegetation to be maintained/along with Bush Regeneration Strategy within Asset Protection Zone - APZ
7 x Doryanthes excelsa /400mm
6 x Macrozamia communis /500mm
1 x Banksia integrifolia /150L
12 x Doodia aspera /140mm
50 x Pandorea jasminoides /100mm
Sawn sandstone cut walls
Low bold shrubs with 20mm Pea gravel as mulch
12 x Doryanthes excelsa /400mm with 24 x Viola hederacea /100mm
17 x Pandorea pandorana /140mm
35 x Cissus antarctica /140mm
3 x Macrozamia communis /super-adv with 30 x Cissus antarctica /140mm
30 x Muelenbeckia axillaris /200mm
50 x Viola hederacea /100mm set between steppers
10 x Pandorea pandorana /200mm and 500 x Plants vittata as green wall over sawn sandstone cut walls
27 x Correa alba /140mm
15 x Muehlenbeckia axillaris /140mm
5 x Macrozamia communis /super-adv with 25 x Cissus antarctica /140mm
23 x Lomandra longifolia /200mm
20 x Lomandra longifolia /200mm
35 x Lambertia formosa /200mm
2 x Callicoma serratifolia /500mm
29 x Correa alba /140mm
12 x Lomandra longifolia /200mm
3 x Macrozamia communis /super-adv with 25 x Cissus antarctica /140mm
3 x Glochidion ferdinandi /300mm with 150 x Pandorea jasminoides /200mm
5 x Macrozamia communis /super-adv with 25 x Cissus antarctica /140mm
0 1 2 3 5
DANGAR BARIN SMITH


LOT 329
D.P.16362
AREA 526.2m²
LOT 330
D.P.16362
AREA 584.6m²
LOT 328
D.P.16362
AREA 554.2m²
Existing vegetation to be maintained along with additional bush regeneration
Existing vegetation to be maintained along with Bush Regeneration Strategy within Asset Protection Zone - APZ
Existing vegetation in council setback to be maintained along with additional bush regeneration
Asset Protection Zone
Gravel Mulch
Zoysia macrantha as rolling lawn
Gravel surface
Stone bush stairs
This space services access
Hatched area notes unexcavated zone. Refer to Landscape Level 2 for this area
EXTENT OF BUILDING ENVELOP OVER
EXCAVATION LINE
EXTENT OF BUILDING ABOVE
UNEXCAVATED
LOCATION OF EXISTING SIGNIFICANT ROCK FORMATIONS TO BE PRESERVED
Overland flow
BOUNDARY
1000 SETBACK
DANGAR BARIN SMITH


LOT 328
D.P.16362
AREA 554.2m²
LOT 329
D.P.16362
AREA 526.2m²
LOT 330
D.P.16362
AREA 584.6m²
Existing vegetation to be maintained along with Bush Regeneration Strategy within Asset Protection Zone - APZ
Groupings of Hibbertia scandens, Cissus antarctica to spillover rock faces
Norn 1200mm Stones and gravel margin
66 x Lomandra longifolia /140mm
17 x Banksia spinulosa /200mm
15 x Caratopetalum gummiferum /200mm
Zoysia macrantha as rolling lawn
Existing vegetation to be maintained along with additional bush regeneration
Asset Protection Zone
BOUNDARY
6.5m SETBACK
WATERFALL INFINITHY EDGE
RL 60.85 (BOTTOM)
Barrenjoey Lighthouse
DANGAR BARIN SMITH


LOT 328
D.P. 16362
AREA 554.2m²
LOT 329
D.P. 16362
AREA 526.2m²
LOT 330
D.P. 16362
AREA 584.6m²
NO.354
1 STOREY
STONE COTTAGE
METAL ROOF
Existing vegetation to be maintained along with Bush Regeneration Strategy within Asset Protection Zone - APZ
Stone bush landscape stairs
Gravel Mulch
20mm Pea gravel as new pathway
GLASS ROOF
WASHED RIVER GRAVEL ROOF FINISH
6500 SETBACK
BOUNDARY
Asset Protection Zone
DANGAR BARIN SMITH

ITEM 3.4	**DA2021/0279 - 42 WEEROONA AVENUE, ELANORA HEIGHTS - ALTERATIONS AND ADDITIONS TO A DWELLING HOUSE INCLUDING SECONDARY DWELLING**
REPORTING MANAGER	**Lashta Haidari**
TRIM FILE REF	**2021/490662**
ATTACHMENTS	**1 Assessment Report** **2 Working Plans** **3 Report - Clause 4.6**

PURPOSE

To refer the attached application for determination due to directions provided by the Department of Planning & Environment in relation to applications with a clause 4.6 variation to the building height.

RECOMMENDATION OF DEVELOPMENT ASSESSMENT MANAGER

THAT Council, as the consent authority, **approves** Development Consent to DA2021/0279 for Alterations and additions to a dwelling house including secondary dwelling on land at Lot 21 DP 13152, 42 Weeroona Avenue, Elanora Heights, subject to the conditions outlined in the Assessment Report.

DEVELOPMENT APPLICATION ASSESSMENT REPORT

Application Number:	DA2021/0279

Responsible Officer:	Jordan Davies
Land to be developed (Address):	Lot 21 DP 13152, 42 Weeroona Avenue ELANORA HEIGHTS NSW 2101
Proposed Development:	Alterations and additions to a dwelling house including secondary dwelling
Zoning:	E4 Environmental Living
Development Permissible:	Yes
Existing Use Rights:	No
Consent Authority:	Northern Beaches Council
Delegation Level:	DDP
Land and Environment Court Action:	No
Owner:	Thomas Steven Knox Benjamin Thomas Knox
Applicant:	Blue Sky Drafting

Application Lodged:	29/03/2021
Integrated Development:	No
Designated Development:	No
State Reporting Category:	Residential - Alterations and additions
Notified:	05/04/2021 to 19/04/2021
Advertised:	Not Advertised
Submissions Received:	1
Clause 4.6 Variation:	4.3 Height of buildings: 15.8%
Recommendation:	Approval

Estimated Cost of Works:	$ 550,000.00

Executive Summary

The proposed development is for alterations and additions to a dwelling house and a secondary dwelling. The proposed development is referred to the Development Determination Panel as the proposal involves a departure of 15.8% from the 8.5m height of buildings control, being up to 9.85m above ground level.

The height of buildings non-compliance is for a localised section of the roof form at the north-eastern corner of the building. The non-compliance is partially due to the topography of the site, with the portion of the non-compliant building sitting over a 44% slope. The proposal does not technically meet the requirements of Clause 4.3(2D) PLEP 2014 which allows a building height up to 10m where the entire

building footprint is in excess of 30% gradient. For the proposed development, only portions of the building footprint are in excess of 30% and notably, the area of non-compliance over a 44% slope. Therefore, although the variation clause does not technically apply, the non-compliance is supportable on merit given the topography of the land.

The application was notified for a period of 14 Days and one (1) submission was received raising concern regarding a potential view impact and impact the secondary dwelling may have on their property. The submission was on behalf of the property at 40 Weeroona Avenue. The owners of 40 Weeroona Avenue are currently employed by Northern Beaches Council. However, both owners are not employed as staff who have any function in assessing or determining development applications. Therefore, the Development Determination Panel are able to make a determination on the development application.

The proposal has a non-compliance with the building envelope, side setback and rear setback, both considered supportable on merit due to the circumstances of the site and are discussed in detailed later in this assessment report.

Overall, the proposed development is reasonable response to the site and is recommended for approval to the DDP, subject to the conditions outlined in this report.

PROPOSED DEVELOPMENT IN DETAIL

The proposed development is for alterations and additions to a dwelling house and the construction of a secondary dwelling. Specifically, the proposed development consists of:

Lower Ground Floor
- Demolition of internal walls
- Relocation of windows and doors
- Replacement of a door with window
- Addition of two bedrooms, bathroom, rumpus and storage

Ground Floor
- Demolition of internal features and addition of master bedroom, ensuit, laundry, study, dining, kitchen, living room and storage

Upper Floor (New Level)
- New driveway and carport
- New bedroom, bathroom and walk in robe
- New office room
- New sunroom
- New Deck

Secondary Dwelling
- One bedroom secondary dwelling

ASSESSMENT INTRODUCTION

The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act 1979 and the associated Regulations. In this regard:

- An assessment report and recommendation has been prepared (the subject of this report) taking into account all relevant provisions of the Environmental Planning and Assessment Act 1979, and the associated regulations;

- A site inspection was conducted and consideration has been given to the impacts of the development upon the subject site and adjoining, surrounding and nearby properties;
- Notification to adjoining and surrounding properties, advertisement (where required) and referral to relevant internal and external bodies in accordance with the Act, Regulations and relevant Development Control Plan;
- A review and consideration of all submissions made by the public and community interest groups in relation to the application;
- A review and consideration of all documentation provided with the application (up to the time of determination);
- A review and consideration of all referral comments provided by the relevant Council Officers, State Government Authorities/Agencies and Federal Government Authorities/Agencies on the proposal.

SUMMARY OF ASSESSMENT ISSUES

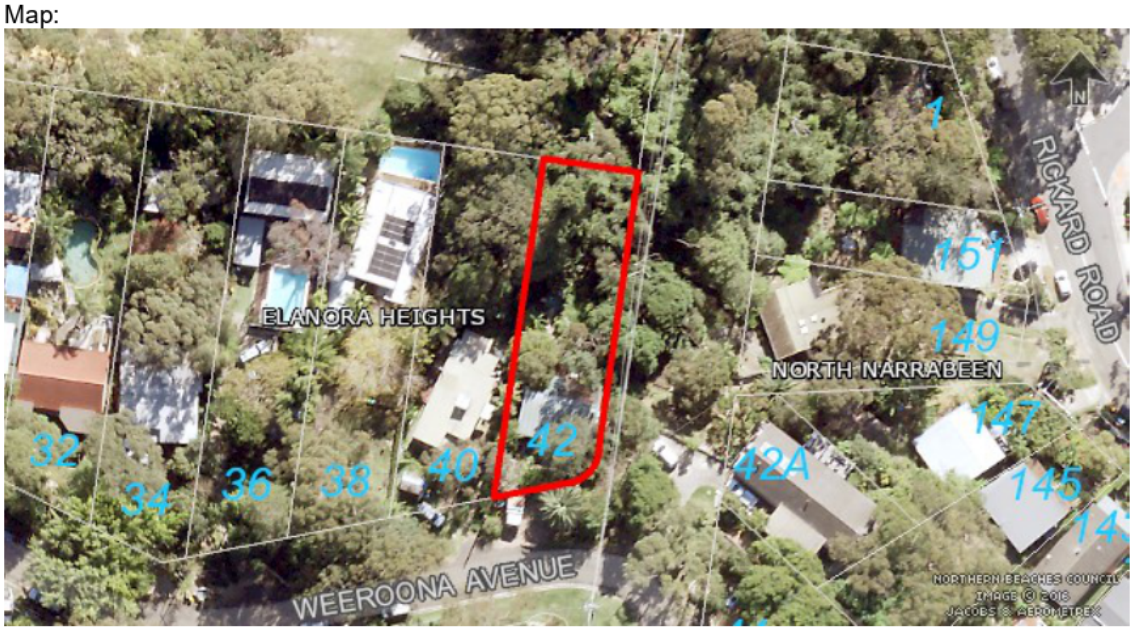
Pittwater Local Environmental Plan 2014 - 4.6 Exceptions to development standards
Pittwater 21 Development Control Plan - C1.3 View Sharing
Pittwater 21 Development Control Plan - D5.5 Front building line (Excluding Elanora Heights Village Centre)
Pittwater 21 Development Control Plan - D5.6 Side and rear building line (Excluding Elanora Heights Village Centre)
Pittwater 21 Development Control Plan - D5.7 Building envelope (Excluding Elanora Heights Village Centre)

SITE DESCRIPTION

Property Description:	Lot 21 DP 13152 , 42 Weeroona Avenue ELANORA HEIGHTS NSW 2101
Detailed Site Description:	The subject site consists of one (1) allotment located on the northern side of Weeroona Avenue. The site is irregular in shape with a frontage of 16m along Weeroona Avenue and a depth of 52m. The site has a surveyed area of 758.8m². The site is located within the E4 Environmental Living zone and accommodates a two storey dwelling house. The site has a moderate slope across the site, with a steep slop directly beneath the building footprint which in parts in excess of 30%. The frontage of the site has a deep road reserve which is paved and used as informal car parking at present. There are a variety of low and medium trees in the front setback area. The rear of the site has a drainage channel/watercourse running through it with vegetation planting throughout. There is an unformed road running along the eastern site boundary which contains a pedestrian pathway and stairs. Adjoining the rear (northern) boundary is a school. **Detailed Description of Adjoining/Surrounding**

	Development Adjoining and surrounding development is characterised by detached residential dwellings and a school. Immediately to west is a single storey residential dwelling. There is not immediately adjoining residential dwelling to the east and this boundary adjoins an unformed road. To the north adjoining the site is a school. Across the road to the south are one and two storey dwellings.

Map:



SITE HISTORY

The land has been used for residential purposes for an extended period of time. A search of Council's records has revealed the following relevant history:

- N0413/08 for demolition of the existing dwelling and construction of a new dwelling and swimming pool approved by Council on 18/12/2008. This development was never started and has since lapsed.

Application History

Following a preliminary assessment by Council issues and aspects of the proposal were identified and the applicant asked to address the following issues:

- Non-compliance with secondary dwelling 5.5m height limit
- Lack of articulation for the eastern elevation and increased setback required for new upper level.
- Privacy treatment required for western side of new upper floor deck

The applicant provided amended plans in response addressing each of the issues including changing the design of the secondary dwelling to reduce the height and change the distribution of floor space, increase the upper floor eastern setback and provide privacy screen for the western elevation of the

upper floor deck. A height pole was erected for Council to undertake a view loss inspection.

The amended plans were provided to the one (1) objecting neighbour for comment and consideration. Following amended plans and erection of the height pole, Council staff attended the neighbouring site to undertaken the view assessment.

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 (EPAA)

The relevant matters for consideration under the Environmental Planning and Assessment Act, 1979, are:

Section 4.15 Matters for Consideration'	**Comments**
Section 4.15 (1) (a)(i) – Provisions of any environmental planning instrument	See discussion on "Environmental Planning Instruments" in this report.
Section 4.15 (1) (a)(ii) – Provisions of any draft environmental planning instrument	Draft State Environmental Planning Policy (Remediation of Land) seeks to replace the existing SEPP No. 55 (Remediation of Land). Public consultation on the draft policy was completed on 13 April 2018. The subject site has been used for residential purposes for an extended period of time. The proposed development retains the residential use of the site, and is not considered a contamination risk.
Section 4.15 (1) (a)(iii) – Provisions of any development control plan	Pittwater 21 Development Control Plan applies to this proposal.
Section 4.15 (1) (a)(iiia) – Provisions of any planning agreement	None applicable.
Section 4.15 (1) (a)(iv) – Provisions of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation 2000)	Division 8A of the EP&A Regulation 2000 requires the consent authority to consider "Prescribed conditions" of development consent. These matters have been addressed via a condition of consent. Clause 50(1A) of the EP&A Regulation 2000 requires the submission of a design verification certificate from the building designer at lodgement of the development application. This clause is not relevant to this application. Clauses 54 and 109 of the EP&A Regulation 2000 allow Council to request additional information. Additional information was requested in relation to amended plans to increase setback of upper floor and reduction in height for secondary dwelling. Clause 92 of the EP&A Regulation 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter has been addressed via a condition of consent. Clauses 93 and/or 94 of the EP&A Regulation 2000 requires the consent authority to consider the upgrading of a building (including fire safety upgrade of development). This clause is not relevant to this application.

Section 4.15 Matters for Consideration'	Comments
	Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider insurance requirements under the Home Building Act 1989. This matter has been addressed via a condition of consent. Clause 98 of the EP&A Regulation 2000 requires the consent authority to consider the provisions of the Building Code of Australia (BCA). This matter has been addressed via a condition of consent. Clause 143A of the EP&A Regulation 2000 requires the submission of a design verification certificate from the building designer prior to the issue of a Construction Certificate. This clause is not relevant to this application.
Section 4.15 (1) (b) – the likely impacts of the development, including environmental impacts on the natural and built environment and social and economic impacts in the locality	(i) **Environmental Impact** The environmental impacts of the proposed development on the natural and built environment are addressed under the Pittwater 21 Development Control Plan section in this report. (ii) **Social Impact** The proposed development will not have a detrimental social impact in the locality considering the character of the proposal. (iii) **Economic Impact** The proposed development will not have a detrimental economic impact on the locality considering the nature of the existing and proposed land use.
Section 4.15 (1) (c) – the suitability of the site for the development	The site is considered un/suitable for the proposed development.
Section 4.15 (1) (d) – any submissions made in accordance with the EPA Act or EPA Regs	See discussion on “Notification & Submissions Received” in this report.
Section 4.15 (1) (e) – the public interest	No matters have arisen in this assessment that would justify the refusal of the application in the public interest.

EXISTING USE RIGHTS

Existing Use Rights are not applicable to this application.

BUSHFIRE PRONE LAND

The site is not classified as bush fire prone land.

NOTIFICATION & SUBMISSIONS RECEIVED

The subject development application has been publicly exhibited from 05/04/2021 to 19/04/2021 in accordance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000 and the Community Participation Plan.

As a result of the public exhibition process council is in receipt of 1 submission/s from:

Name:	Address:
Mr Christopher David Netting	40 Weeroona Avenue ELANORA HEIGHTS NSW 2101

The following issues were raised in the submissions and each have been addressed below:

- View impact from the proposal.
- Concern regarding the impact and location of the secondary dwelling.

The matters raised within the submissions are addressed as follows:

- *View impact from the proposal.*
  Comment:
  A detailed assessment of the view impact and view sharing principles are undertaken later in this assessment report and it is found to provide a reasonable view sharing outcome.

- *Concern regarding the impact and location of the secondary dwelling.*
  Comment:
  Council has undertaken an assessment of the location and impact of the secondary dwelling. The secondary dwelling was amended to comply with the maximum height of 5.5m. The secondary dwelling is 55sqm and compliant with the maximum size of a secondary dwelling (60sqm maximum). A condition of consent is recommended that the deck off the secondary dwelling provide a compliant 2.5m setback to the eastern boundary which results in fully compliant side setbacks. The floor level and roof form level is stepped with the topography of the site. In this regard, the bulk and scale of the building is acceptable given compliance with the key planning controls which guide bulk and scale. The non-compliance with the rear setback is discussed in detail later in the report and it is considered that the secondary dwelling has lesser impact on the adjoining residential properties by pushing the building closer to the rear boundary, with the school directly adjoining the rear boundary.

  The secondary dwelling does not result in any unreasonable view impacts, overshadowing or privacy impacts. One small bathroom window faces the western boundary and no windows are on the southern elevation looking back up the site.

REFERRALS

Internal Referral Body	Comments
Landscape Officer	The development application is for alterations and additions including a secondary dwelling. Council's Landscape Referral is assessed against the Pittwater Local Environment Plan clause E4 zone Environmental Living, and the following Pittwater 21 DCP Controls: B4.22 Preservation of Trees and Bushland Vegetation C1.1 Landscaping

Internal Referral Body	Comments
	C1.11 Secondary Dwellings D4 Church Point and Bayview Locality The site is located in the E4 Environmental Living zone, requiring development to achieve a scale integrated with the landform and landscape, and to minimise impact on the natural environment, including the retention of natural landscape features and existing trees. The existing site contains a mix of existing trees and vegetation including native trees. Existing exempt species are proposed to be removed to accommodate the secondary dwelling, Replacement native tree planting is required within the site to satisfy the landscape objectives of the E4 zone. Existing trees within the road reserve shall be protected. A Arboricultural Impact Assessment is provided with the application, and conditions of consent shall be imposed to ensure that existing trees and vegetation not impacted by development are protected. No Landscape Plan is provided and conditions of consent shall be imposed to ensure the landscape objectives of the E4 zone are satisfied. Landscape Referral raise no objections, subject to conditions of consent.
NECC (Bushland and Biodiversity)	Council's Natural Environment Unit - Biodiversity referral team have reviewed the application for consistency against the relevant environmental legislation and controls, including: **Biodiversity Conservation Act 2016 (BC Act)** **Pittwater Local Environmental Plan (PLEP)** • 7.6 Biodiversity Protection **Pittwater Development Control Plan (PDCP)** • B4.4 Flora and Fauna Habitat Enhancement Category 2 and Wildlife Corridor The application seeks to remove two native trees, including a *Eucalyptus spp.* and *Syzygium smithii* (Complete Arborcare 2021). Replanting requirements have been addressed in the Landscape Referral. The provision of these replacement plantings ensures consistency with B4.4 of the Pittwater DCP. Subject to conditions the Bushland and Biodiversity referral team find the application to be consistent against relevant environmental controls.
NECC (Development Engineering)	No objections to approval subject to conditions as recommended.

Internal Referral Body	Comments
NECC (Stormwater and Floodplain Engineering – Flood risk)	The proposed DA generally complies with the flood controls in the LEP and DCP. The proposed development involves alterations and additions to an existing dwelling and the construction of a secondary dwelling. The floor level of the secondary dwelling is 46.2m AHD. Access to the proposed dwelling is via a timber bridge over a watercourse. The proposed development is not impacted by the 1% AEP and PMF event however may be subject to overland flows. Please refer to development engineers assessment.
NECC (Water Management)	The design of the stormwater outlets must comply with the condition to ensure stability of the ground is maintained and scour and erosion does not occur. Sediment filter pits are required prior to outlets to ensure removal of coarse sediment and organic matter prior to discharge of stormwater.

External Referral Body	Comments
Ausgrid: (SEPP Infra.)	The proposal was referred to Ausgrid who provided a response stating that the proposal is acceptable subject to compliance with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice. These recommendations will be included as a condition of consent.
Aboriginal Heritage Office	Councils aboriginal heritage officer has reviewed the proposal and has raised not concerns with regards to aboriginal heritage.

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)*

All, Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the merit assessment of this application.

In this regard, whilst all provisions of each Environmental Planning Instruments (SEPPs, REPs and LEPs), Development Controls Plans and Council Policies have been considered in the assessment, many provisions contained within the document are not relevant or are enacting, definitions and operational provisions which the proposal is considered to be acceptable against.

As such, an assessment is provided against the controls relevant to the merit consideration of the application hereunder.

State Environmental Planning Policies (SEPPs) and State Regional Environmental Plans (SREPs)

SEPP 55 - Remediation of Land

Clause 7 (1) (a) of SEPP 55 requires the Consent Authority to consider whether land is contaminated. Council records indicate that the subject site has been used for residential purposes for a significant period of time with no prior land uses. In this regard it is considered that the site poses no risk of contamination and therefore, no further consideration is required under Clause 7 (1) (b) and (c) of

SEPP 55 and the land is considered to be suitable for the residential land use.

SEPP (Building Sustainability Index: BASIX) 2004

A BASIX certificate has been submitted with the application (see Certificate No. 1164034S and A401677 dated 13 January 2021).

The BASIX Certificate indicates that the development will achieve the following:

Commitment	Required Target	Proposed
Water	40	40
Thermal Comfort	Pass	Pass
Energy	50	52

A condition has been included in the recommendation of this report requiring compliance with the commitments indicated in the BASIX Certificate.

SEPP (Infrastructure) 2007

Ausgrid

Clause 45 of the SEPP requires the Consent Authority to consider any development application (or an application for modification of consent) for any development carried out:

- within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists).
- immediately adjacent to an electricity substation.
- within 5.0m of an overhead power line.
- includes installation of a swimming pool any part of which is: within 30m of a structure supporting an overhead electricity transmission line and/or within 5.0m of an overhead electricity power line.

Comment:

The proposal was referred to Ausgrid. No objections were raised subject to their usual terms of approval.

SEPP (Coastal Management) 2018

The site is subject to SEPP Coastal Management (2018). Accordingly, an assessment under the SEPP has been carried out as follows:

10 Development on certain land within coastal wetlands and littoral rainforests area

(1) The following may be carried out on land identified as "coastal wetlands" or "littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map only with development consent:

(a) the clearing of native vegetation within the meaning of Part 5A of the Local Land

Services Act 2013,

(b) the harm of marine vegetation within the meaning of Division 4 of Part 7 of the Fisheries Management Act 1994,

(c) the carrying out of any of the following:
(i) earthworks (including the depositing of material on land),
(ii) constructing a levee,
(iii) draining the land,
(iv) environmental protection works,

(d) any other development.

Comment:
Not on land on littoral rainforest or coastal wetlands.

11 Development on land in proximity to coastal wetlands or littoral rainforest

(1) Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on:

(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or

(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

Comment:
Not on land in proximity to coastal wetlands or littoral rainforest.

12 Development on land within the coastal vulnerability area

Development consent must not be granted to development on land that is within the area identified as "coastal vulnerability area" on the Coastal Vulnerability Area Map unless the consent authority is satisfied that:

(a) if the proposed development comprises the erection of a building or works—the building or works are engineered to withstand current and projected coastal hazards for the design life of the building or works, and

(b) the proposed development:

(i) is not likely to alter coastal processes to the detriment of the natural environment or other land, and

(ii) is not likely to reduce the public amenity, access to and use of any beach, foreshore, rock platform or headland adjacent to the proposed development, and

(iii) incorporates appropriate measures to manage risk to life and public safety from coastal hazards, and

(c) measures are in place to ensure that there are

appropriate responses to, and management of, anticipated coastal processes and current and future coastal hazards.

Comment:
Not within coastal vulnerability area.

13 Development on land within the coastal environment area

(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:

- *(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,*
- *(b) coastal environmental values and natural coastal processes,*
- *(c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,*
- *(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,*
- *(e) 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,*
- *(f) Aboriginal cultural heritage, practices and places,*
- *(g) the use of the surf zone.*

Comment:
The development is considered with regards to the matters listed (a)-(g) and is not considered to have an adverse impact to these matters. Council's coastal team have reviewed the development and are satisfied this clause has been addressed.

(2) *Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*

- *(a)* the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or
- *(b)* if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
- *(c)* if that impact cannot be minimised—the development will be managed to mitigate that

impact.

Comment:
The development has been designed to avoid impact.

14 Development on land within the coastal use area

(1)

(a) has considered whether the proposed development is likely to cause an adverse impact on the following:
(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,
(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
(iv) Aboriginal cultural heritage, practices and places,
(v) cultural and built environment heritage, and

(b) is satisfied that:
(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or
(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

Comment:
The land is not within the coastal use area.

As such, it is considered that the application complies with the requirements of the State Environmental Planning Policy (Coastal Management) 2018.

15 Development in coastal zone generally—development not to increase risk of coastal hazards

Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land.

Comment:
The development does not increase risk to Coastal Hazards.

Pittwater Local Environmental Plan 2014

Is the development permissible?	Yes
After consideration of the merits of the proposal, is the development consistent with:	
aims of the LEP?	Yes
zone objectives of the LEP?	Yes

Principal Development Standards

Standard	Requirement	Proposed	% Variation	Complies
Height of Buildings:	8.5m - Principle Dwelling	9.85m	15.8%	No
	5.5m - Secondary Dwelling	5.5m	N/A	Yes

Compliance Assessment

Clause	Compliance with Requirements
1.9A Suspension of covenants, agreements and instruments	Yes
2.7 Demolition requires development consent	Yes
4.3 Height of buildings	No
4.6 Exceptions to development standards	Yes
5.4 Controls relating to miscellaneous permissible uses	Yes
7.1 Acid sulfate soils	Yes
7.2 Earthworks	Yes
7.3 Flood planning	Yes
7.6 Biodiversity protection	Yes
7.7 Geotechnical hazards	Yes
7.10 Essential services	Yes

Detailed Assessment

4.6 Exceptions to development standards

Description of non-compliance:

Development standard:	Height of buildings
Requirement:	8.5m
Proposed:	9.85m
Percentage variation to requirement:	15.8%

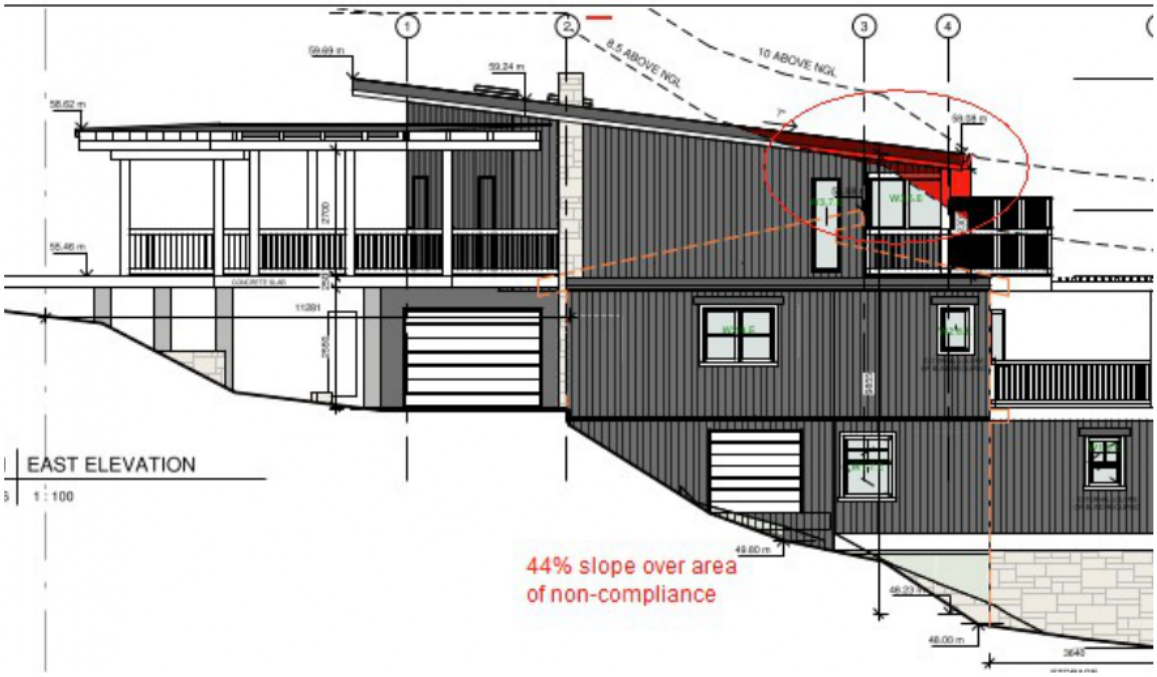


Figure 1 - Area of non-compliance at the north-eastern corner.

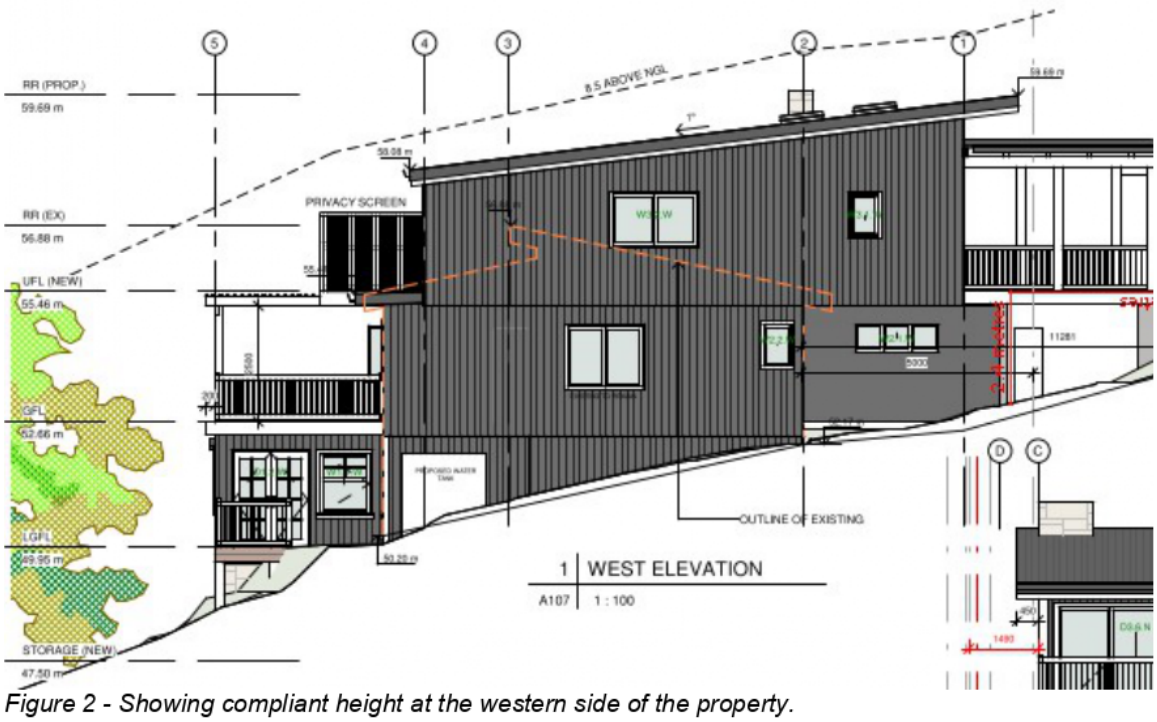


Figure 2 - Showing compliant height at the western side of the property.

The proposal is non-compliant with the 8.5m at the north-eastern corner of the building, as shown in Figure 1. The building is compliant at the western half of the building, as shown in Figure 2. The non-compliance is therefore a small, localised section of the building and roof form which is as a result of the site topography and fall of the land in this particular location.

The Pittwater LEP contains a variation clause under Clause 4.3(2D) which allows a minor encroachment of the building up to 10m, where the building footprint is situated on a slope that is in excess of 16.7 degrees (that is, 30%). This development does not qualify for the variation under Clause 4.3(D), as only parts of the building footprint are over 30% and not the whole of the building footprint, noting the first half of the building footprint is not 30%. Therefore, the proposal is considered against the 8.5m control and under Clause 4.6 accordingly.

Assessment of request to vary a development standard:

The following assessment of the variation to Clause 4.3 - Height of Buildings development standard, has taken into consideration the recent judgement contained within *Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Baron Corporation Pty Limited v Council of the City of Sydney [2019] NSWLEC 61,* and *RebelMH Neutral Bay Pty Limited v North Sydney Council [2019] NSWCA 130*.

Clause 4.6 Exceptions to development standards:

(1) The objectives of this clause are as follows:
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

Comment:

Clause 4.3 - Height of Buildings development standard is not expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:
(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

(4) Development consent must not be granted for development that contravenes a development standard unless:
(a) the consent authority is satisfied that:
(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and
(b) the concurrence of the Secretary has been obtained.

Clause 4.6 (4)(a)(i) (Justification) assessment:

Clause 4.6 (4)(a)(i) requires the consent authority to be satisfied that the applicant's written request, seeking to justify the contravention of the development standard, has adequately addressed the matters required to be demonstrated by cl 4.6(3). There are two separate matters for consideration contained within cl 4.6(3) and these are addressed as follows:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

Comment:

The Applicant's written request (attached to this report as an Appendix) has demonstrated that the objectives of the development standard are achieved, notwithstanding the non-compliance with the development standard.

In doing so, the Applicant's written request has adequately demonstrated that compliance with the development standard is unreasonable or unnecessary in the circumstances of this case as required by cl 4.6(3)(a).

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

Comment:

In the matter of Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118, Preston CJ provides the following guidance (para 23) to inform the consent authority's finding that the applicant's written request has adequately demonstrated that that there are sufficient environmental planning grounds to justify contravening the development standard:

'As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.'

s 1.3 of the EPA Act reads as follows:

1.3 Objects of Act(cf previous s 5)
The objects of this Act are as follows:
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,
(c) to promote the orderly and economic use and development of land,
(d) to promote the delivery and maintenance of affordable housing,
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),
(g) to promote good design and amenity of the built environment,
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

The applicants written request argues, in part:

Full compliance with the maximum height of building requirements at 8.5 metres and 5.5 metres is considered unreasonable or unnecessary in the circumstances of the case for the following reasons:

The minor breach to the building height requirements by 1.35m (15.88%) from principal and secondary dwellings, respectively, is largely a result of the sloping nature of the site. The noncompliance is strictly limited to rear of the roofs. The degree of noncompliance is acceptable given the development has been sensitively and skilfully designed to address the topography of the site. The building mass has been modelled and stepped in response to the land gradient.

The exceedance to the building height will not give rise to any adverse visual bulk and scale impacts from the neighbouring premises. The side elevations incorporate several design measures to articulate the massing of the building which includes break up roof massing into different roof elements that correspond to horizontal and vertical modulations in the facade, and denote key architectural elements, such as entries and balconies. The articulated and modulated elements will alleviate the visual massing of the built form when viewed from the neighbouring properties and will not detract from the local street context.

The additional building height will not compromise the appearance of the dwellings within the local streetscape setting. The principal dwelling will appear hardly two storeys in scale when viewed from Weeroona Avenue. In addition to this, the dwelling houses will comfortably fit below the maximum height limit for the most part and will be consistent with the existing building height plane of the streetscape.

The development will not give rise to any adverse amenity impacts to the adjoining dwellings. The Western neighbour at no.40 Weeroona Avenue and Eastern neighbour at no. 42A Weeroona Avenue will retain the required three hours of direct solar access between 9 am and 3 pm on June 21; the window openings will not directly overlook into the habitable room windows of the neighbouring dwellings; the development will not impact existing views looking at the rear from the window openings or balconies of the neighbouring properties and the perceivable visual bulk and scale will be compatible with the siting of the neighbouring dwellings.

The Five Part Test (Wehbe vs. Pittwater Council (2007) NSWLEC 827

In addressing the requirements of Clause 4.6 (3) (a), the accepted five possible approaches for determining whether compliance is unnecessary or unreasonable were established by the NSW Land and Environment Court in Wehbe vs Pittwater Council. Although the Wehbe case was determined in respect to State Environmental Planning Policy No. I - Development Standards ("SEPP I "), it is still applicable in identifying ways in which an applicant may demonstrate that compliance with a development standard is unreasonable or unnecessary in the circumstances of the case.

In the Wehbe case Justice Preston said the most commonly invoked way to establish that compliance with a development standard is unreasonable or unnecessary is to demonstrate that the objectives of the development standard are achieved notwithstanding non-compliance with the stand ard . The five-part test outlined in Wehbe v Pittwater Council [2007] NSWLEC 827 is as fo llo ws:

1. The objectives of the standard are achieved notwithstanding non-compliance with the standard;

Comments:

Refer to Section 7.1 and sub-sections for full assessment relating to compliance with the development standard.

2. The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary;

Comments:

Refer to Section 7.3 and sub-sections for full assessment relating to compliance with the development standard.

3. The underlying object or purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable;

Comments:

The underlying objective of the development standard is to ensure any new development is contextually compatible with the height and character of the immediate locality and ensuring the development does not compromise the environmental amenity of the neighbouring dwellings.

The breach to the maximum building height requirements will not be visible from the existing streetscape setting. The dwelling will appear two storeys in scale when viewed from Weeroona Avenue and the front (Southern) building alignment will be well within the maximum 8.5m building height development standard. The area of non-compliance to the building height of principal and secondary dwelling is negligible and occurs only at rear. The exceedance to the maximum building height will not contribute to a detracting roof element.

Above all, the discernible breach to the building height does not compromise the amenity of the adjoining neighbours. The immediate Eastern and Western neighbour's Northerly (rear) views of the site is retained; adequate levels of visual privacy is provided. The bulk and scale of the development will be compatible to the form of the neighbouring buildings and the extent of the additional overshadowing is acceptable in complying with the PDCP solar access requirements.
4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable;

Comments:

The neighbouring dwelling located on the same avenue, 135 Woorarra Avenue Elanora Heights, has been approved by the Northern Beaches Council.

5. The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard would be unreasonable or unnecessary . That Is, the parcel of land should not have been included in the particular zone.

Comments:

Not applicable. The site is zoned as E4 Environmental Living and is suitable for low-density forms of residential accommodation.

Given the above reasoning and explanations, it is our opinion that the proposal satisfies the five tests established in Wehbe and for that reason; the development standard is unreasonable and unnecessary in this instance.

7.1 Are there sufficient environmental planning grounds to justify contravening the development standard

The proposal has been carefully designed to achieve the planning objectives for the locality and to fit in with the scale and character of the surrounding development, whilst minimising potential adverse impacts on surrounding properties. The written request successfully demonstrates that there are sufficient environmental planning grounds to justify the contravention to the development standard

7 Conclusion

In conclusion, the proposed height results in an optimum outcome for the site and is considered to have negligible impacts above those caused by a compliant height and exhibits design excellence. The proposal is consistent with the objectives of the E4: Environmental Living Zone in that the development appropriately considers the local contextual nature of the neighbouring buildings and the objectives for Height of Buildings in accordance with Clause 4.3 of the Pittwater Local Environmental Plan 2014.

The proposal meets the intent of Council's Height of Building control and in accordance with Clause 4.6, demonstrates that strict compliance with the Clause 4.3 of PLEP (8.5 metre building height for principal dwelling and 5.5m building height for secondary dwelling) is unreasonable and unnecessary in the circumstances of the case and that there are sufficient environmental planning grounds to justify the non-compliance . As such, the proposed variation should be supported as part of the assessment of this development application.

Council Comment

The assertions made by the applicant in the written request are generally agreed with, and a full copy of the written request forms an attachment to this report. The height non-compliance is for a localised section at the north-eastern corner of the site, does not result in any direct amenity impact from neighbours and is largely as a result if the topography of the site.

In this regard, the applicant's written request has demonstrated that the proposed development is an orderly and economic use and development of the land, and that the structure is of a good design that will reasonably protect and improve the amenity of the surrounding built environment, therefore satisfying cls 1.3 (c) and (g) of the EPA Act.

Therefore, the applicant's written request has adequately demonstrated that there are sufficient environmental planning grounds to justify contravening the development standard as required by cl 4.6 (3)(b).

Therefore, Council is satisfied that the applicant's written request has adequately addressed the matters required to be demonstrated by cl 4.6(3).

Clause 4.6 (4)(a)(ii) (Public Interest) assessment:

cl 4.6 (4)(a)(ii) requires the consent authority to be satisfied that:

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out

Comment:

In considering whether or not the proposed development will be in the public interest, consideration must be given to the underlying objectives of the Height of Buildings development standard and the objectives of the R2 Low Density Residential zone. An assessment against these objectives is provided below.

Objectives of development standard

The underlying objectives of the standard, pursuant to Clause 4.3 – 'Height of buildings' of the PLEP 2014 are:

(1) The objectives of this clause are as follows:

a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,

Comment:

The area is characterised by two storey dwellings on a sloping site given the topography of the land. The building will present as two stories when viewed from the street and in the streetscape, with the portion of building which is up to 3 stories and non-compliant not visually discernible from the unformed road due to the established vegetation along the eastern edge of the building. Overall, the building is consistent with the desired character despite the localised height non-compliance. The planning controls also recognise that on steep sites in Pittwater, a variation up to 10m can be considered. Although the variation under Clause 4.3(2D) does not technically apply, the same merits are applied to this particular case when considering the context of a steep site in the Pittwater area.

b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,

Comment:

The western side of the building is fully compliant in height where directly adjoining another residential property. The non-compliant area is not directly adjacent to another building and the next site to the east is separated by an unformed road. Therefore, the non-compliant area is not dominant in the street context and the building presents as a visually compatible form in the streetscape.

c) to minimise any overshadowing of neighbouring properties,

Comment:

The shadow diagrams provided with the application demonstrate solar access is retained to the

adjoining properties in accordance with the controls.

d) to allow for the reasonable sharing of views,

Comment:

View sharing is achieved and is addressed in detail later in this report. The non-compliant form does not have any direct impact upon views.

e) to encourage buildings that are designed to respond sensitively to the natural topography,

Comment:

The roof has been sloped to follow the site topography, whilst still allowing a degree of roof overhang to achieve sun shading for the north facing upper floor. The proposed first floor addition uses the existing dwelling footprint to minimise further disturbance to the site topography. The Pittwater Controls recognise that on a steeply sloping site, there may be some exceedence of the 8.5m height limit. Although not technically applying due to the varying gradients across the building footprint, the same merit can be applied to this case.

f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items,

Comment:

The area of non-compliance is softened by existing established landscape planting and has been setback 1m from the ground floor to provide additional articulation to the facade. The proposal retains significant canopy trees to assist in minimising visual impacts upon the natural environment. The proposal is not adjacent to a heritage item or within a heritage conservation area.

Zone objectives

The underlying objectives of the E4 Environmental Living zone are:

• *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values*

Comment: The proposal is considered to be low impact as it retains existing significant canopy trees on the site and generally uses the existing building footprint to provide improvements to the existing building, whilst not having any unreasonable amenity impacts for the adjoining properties.
Significant areas of deep soil landscape area retained to enable new plantings to be established which is also required as conditions of consent.

• *To ensure that residential development does not have an adverse effect on those values*

Comment: The proposed development is not in a location that would detract from prominent views from public places (i.e headlans, foreshore area). The western elevation as viewed from the nearest residential property is compliant with the 8.5m height limit. The area of non-compliance is not considered to detract from the aesthetic value of the area due to be screened by existing landscape planting and only comprising of a small portion of the building. This portion of the building adjoins an unformed road and will not be highly visible from the street level.

• *To provide for residential development of a low density and scale integrated with the landform and landscape*

Comment: The proposed development uses the existing building footprint to minimise the impact upon the landform and landscape. The proposal is 'low density' in nature as it comprises of a dwelling and secondary dwelling, both uses permitted in the E4 Zone. The roof form follows the gradient of the land being sympathetic to the slope of the site, whilst still providing reasonable amenity for the development.

• *To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.*

Comment: The proposed development does not remove any significant canopy trees and new landscape planting is proposed and required as conditions of consent.

Conclusion:

For the reasons detailed above, the proposal is considered to be consistent with the objectives of the E4 Environmental Living zone.

Clause 4.6 (4)(b) (Concurrence of the Secretary) assessment:

cl. 4.6(4)(b) requires the concurrence of the Secretary to be obtained in order for development consent to be granted.

Planning Circular PS 18-003 dated 21 February 2018, as issued by the NSW Department of Planning, advises that the concurrence of the Secretary may be assumed for exceptions to development standards under environmental planning instruments that adopt Clause 4.6 of the Standard Instrument. In this regard, given the consistency of the variation to the objectives of the zone, and in accordance with correspondence from the Deputy Secretary on 24 May 2019, Council staff under the delegation of the Development Determination Panel, may assume the concurrence of the Secretary for variations to the Height of building Development Standard associated with a single dwelling house (Class 1 building).

Pittwater 21 Development Control Plan

Built Form Controls

Built Form Control	Requirement	Proposed	% Variation*	Complies
Front building line	6.5m	6.5m dwelling facade 0m Carport	N/A 100%	Yes No
Rear building line	6.5m	3.3m (Secondary dwelling)	50%	No
Side building line	2.5m - West	1.56m (Carport) 2.2m (Dwelling) 1.14m (Secondary Dwelling)	12% - 60%	No
	1m - East	1.025m (New upper floor) 1.135m (Secondary dwelling)* **To be increased to 2.5m via condition*	N/A	Yes
Building envelope	3.5m - West	Outside Envelope	N/A	No
	3.5m - East	Outside Envelope	N/A	No
Landscaped area	60%	62% (472.8sqm)	N/A	Yes

		*Including ground level deck/pathway as permitted under variation clause		

Compliance Assessment

Clause	Compliance with Requirements	Consistency Aims/Objectives
A1.7 Considerations before consent is granted	Yes	Yes
A4.5 Elanora Heights Locality	Yes	Yes
B1.4 Aboriginal Heritage Significance	Yes	Yes
B3.1 Landslip Hazard	Yes	Yes
B3.6 Contaminated Land and Potentially Contaminated Land	Yes	Yes
B4.4 Flora and Fauna Habitat Enhancement Category 2 and Wildlife Corridor	Yes	Yes
B4.22 Preservation of Trees and Bushland Vegetation	Yes	Yes
B5.13 Development on Waterfront Land	Yes	Yes
B5.15 Stormwater	Yes	Yes
B6.1 Access driveways and Works on the Public Road Reserve	Yes	Yes
B6.2 Internal Driveways	Yes	Yes
B6.3 Off-Street Vehicle Parking Requirements	Yes	Yes
B6.7 Transport and Traffic Management	Yes	Yes
B8.1 Construction and Demolition - Excavation and Landfill	Yes	Yes
B8.3 Construction and Demolition - Waste Minimisation	Yes	Yes
B8.4 Construction and Demolition - Site Fencing and Security	Yes	Yes
B8.5 Construction and Demolition - Works in the Public Domain	Yes	Yes
C1.1 Landscaping	Yes	Yes
C1.2 Safety and Security	Yes	Yes
C1.3 View Sharing	Yes	Yes
C1.4 Solar Access	Yes	Yes
C1.5 Visual Privacy	Yes	Yes
C1.6 Acoustic Privacy	Yes	Yes
C1.7 Private Open Space	Yes	Yes
C1.9 Adaptable Housing and Accessibility	Yes	Yes
C1.11 Secondary Dwellings and Rural Worker's Dwellings	Yes	Yes
C1.12 Waste and Recycling Facilities	Yes	Yes
C1.13 Pollution Control	Yes	Yes
C1.19 Incline Passenger Lifts and Stairways	Yes	Yes
C1.23 Eaves	Yes	Yes
C1.24 Public Road Reserve - Landscaping and Infrastructure	Yes	Yes
C1.25 Plant, Equipment Boxes and Lift Over-Run	Yes	Yes
C5.1 Landscaping	Yes	Yes
C5.17 Pollution control	Yes	Yes

Clause	Compliance with Requirements	Consistency Aims/Objectives
D5.1 Character as viewed from a public place (Excluding Elanora Heights Village Centre)	Yes	Yes
D5.2 Scenic protection - General	Yes	Yes
D5.3 Building colours and materials (Excluding Elanora Heights Village Centre)	Yes	Yes
D5.5 Front building line (Excluding Elanora Heights Village Centre)	Yes	Yes
D5.6 Side and rear building line (Excluding Elanora Heights Village Centre)	No	Yes
D5.7 Building envelope (Excluding Elanora Heights Village Centre)	No	Yes
D5.9 Landscaped Area - Environmentally Sensitive Land	Yes	Yes
D5.12 Fences - Flora and Fauna Conservation Areas	Yes	Yes
D5.13 Construction, Retaining walls, terracing and undercroft areas (Excluding Elanora Heights Village Centre)	Yes	Yes

Detailed Assessment

C1.3 View Sharing

Merit consideration

The development is considered against the underlying Outcomes of the Control as follows:

- *A reasonable sharing of views amongst dwellings.*

  Comment:

  In determining the extent of potential view loss to adjoining and nearby properties, the four (4) planning principles outlined within the Land and Environment Court Case of Tenacity Consulting Pty Ltd Vs Warringah Council (2004) NSWLEC 140, are applied to the proposal.

  1. Nature of the views affected

  "*The first step is the assessment of the views to be affected. Water views are valued more highly than land views. Iconic views (e.g. of the Opera House, the Harbour Bridge or North Head) are valued more highly than views without icons. Whole views are valued more highly than partial views, e.g. a water view in which the interface between land and water is visible is more valuable than one in which it is obscured*".

  Comment to Principle 1:

  The view affected is a long distance view of the ocean and ocean horizon. The view is a partial view of the ocean that is obscured by vegetation planting, however a good section of the ocean horizon is available at present.

  2. What part of the affected property are the views obtained

  "*The second step is to consider from what part of the property the views are obtained. For*

example the protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries. In addition, whether the view is enjoyed from a standing or sitting position may also be relevant. Sitting views are more difficult to protect than standing views. The expectation to retain side views and sitting views is often unrealistic".

Comment to Principle 2:

The views are obtained from the living room, dining room and the kitchen area. The view is obtained over a side boundary from a sitting and standing position.



Figure 1 - View looking east from a standing position in living room.



Figure 2 - Seated at dining room table looking east.

3. Extent of impact

"*The third step is to assess the extent of the impact. This should be done for the whole of the property, not just for the view that is affected. The impact on views from living areas is more significant than from bedrooms or service areas (though views from kitchens are highly valued because people spend so much time in them). The impact may be assessed quantitatively, but in many cases this can be meaningless. For example, it is unhelpful to say that the view loss is 20% if it includes one of the sails of the Opera House. It is usually more useful to assess the view loss qualitatively as negligible, minor, moderate, severe or devastating*".

Comment to Principle 3:

The proposed development has been designed to retain a view corridor through the proposed pergola which is situated over the deck off the ground floor level. The erected height pole represents the most western extent of the roof form over the deck, with the supporting post to the northern extent not obscuring any further views due to the existing vegetation. As seen in Figure 1 and Figure 2, the height pole shows a view corridor retained through the pergola over the deck. Given that the view is obtained over a side boundary, and is compliant with the rear setback control, the retention of the view corridor through the pergola structure is a reasonable view sharing outcome.

The height pole is erected on the underside of the eave line. This would represent the worst case scenario, as the pergola projects at the same level of the existing eave line and the structure of the roof is now lower than the underside of the eave. Therefore, when taking into account the thickness of the roof structure the view corridor is still retained.



Figure 3 - The pergola roof over the deck is outlined in Red on the above figure, as shown on the western elevation.

4. Reasonableness of the proposal that is causing the impact

"*The fourth step is to assess the reasonableness of the proposal that is causing the impact. A development that complies with all planning controls would be considered more reasonable than one that breaches them. Where an impact on views arises as a result of non-compliance with one or more planning controls, even a moderate impact may be considered unreasonable. With a complying proposal, the question should be asked whether a more skilful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours. If the answer to that question is no, then the view impact of a complying*

development would probably be considered acceptable and the view sharing reasonable."

Comment to Principle 4:

The view corridor is retained through the roof structure and this is considered to be a reasonable outcome given the view is obtained over a side boundary and this particular section of development is compliant is side setback, rear setback, building envelope and building height. The design is considered skillful in enabling the view corridor to be retained.

- *Views and vistas from roads and public places to water, headland, beach and/or bush views are to be protected, maintained and where possible, enhanced.*

  Comment:

  Views from public places are not impacted.

- *Canopy trees take priority over views.*

  Comment:

  No trees are removed to facilitate further views.

Having regard to the above assessment, it is concluded that the proposed development is consistent with the relevant objectives of P21DCP and the objectives specified in s1.3 of the Environmental Planning and Assessment Act, 1979. Accordingly, this assessment finds that the proposal is supported, in this particular circumstance.

D5.5 Front building line (Excluding Elanora Heights Village Centre)

The DCP control requires a 6.5m front setback or consisting with the prevailing building line. The proposed new works associated with the dwelling are setback a compliant 6.5m or in alignment with the existing dwelling for the eastern half of the building.

However, the carport has a nil setback from the front boundary. The DCP contains a variation clause which allows for a nil setback to parking structures upon steeply sloping sites. The subject site has a slope of in excess of 30% between the front boundary and the 6.5m dwelling facade setback. Therefore, the site is considered to qualify for a variation to the front setback control to allow a carport structure within the front setback to provide safe and practical parking for the site.

The site has a deep road reserve and vegetation around the south-eastern corner, which can be retained via the proposal. Given the variation clause allows a reduced setback carport due to the site topography, substantial vegetation is able to be retained and the site having a deep road reserve, the carport is not considered visually dominant upon the streetscape. The carport is an open structure with a flat roof, to provide suitable off-street undercover parking with the constraints of the site. The carport is therefore supported in the proposed configuration.

D5.6 Side and rear building line (Excluding Elanora Heights Village Centre)

DCP Control

The DCP requires a 1m setback and 2.5m setback to be maintained to the side boundaries. The DCP also includes a variation clause which allows a reduced setback to be considered for alterations and additions to an existing dwelling.

The proposed development provides varied setbacks throughout, with the first floor addition set over the existing ground level which has non-compliant setbacks at present. The proposed first floor is setback at 1.2m (east) and 2.2m (west), with the eastern side stepped in from the existing non-compliant setback to comply with the current controls.

The secondary dwelling has setbacks of 1.1m to the western side and 1.1m to the deck on the eastern side and 5m to the secondary dwelling facade.

The DCP requires a 6.5m rear setback. The proposed secondary dwelling provides a varied rear setback between 3.3m - 3.9m.

Merit Consideration

As described above, the proposed additions and secondary dwelling have varied setbacks and are compliant in some areas, whilst non-compliant in others. This is partially due to the use of the existing building footprint which is non-compliant with the current controls. Therefore, given the alterations and additions use the existing building setbacks this is acceptable on merit and permitted under the variation clause.

The location and setbacks of the secondary dwelling have been driven by the site topography and requirement for the secondary dwelling to be within the 5.5m height limit, which is not possible centrally located within the site due to a watercourse which results in a depression through the centre of the site. Therefore, the reduced rear setback is considered suitable for the secondary dwelling.

However, the secondary dwelling does not provide a compliant 2.5m setback to one side. As this is a new element for the site, there are insufficient planing grounds to depart from the 2.5m side setback. Therefore, a condition of development consent is recommended that the deck be setback a minimum of 2.5m from the eastern boundary to provide setbacks which are in accordance with the planning controls for the new secondary dwelling.

The proposal is considered against the outcomes of the control as follows:

To achieve the desired future character of the Locality. (S)

Comment: The proposed development will present as a two storey dwelling as viewed from the public domain, within landscape gardens to the front and rear of the dwelling which is characteristic of the locality. As viewed from the rear, the building will present as up to three stories, however the building form is stepped with the slope of the site and the three storey form is not uncommon for steeply sloping sites in the Pittwater Area. The secondary dwelling is within the 5.5m height limit which is set by the PLEP 2014 which guides character of secondary dwellings. The location of the secondary dwelling is suitable given the topography of the site and retains significant local canopy trees. A condition of consent is recommended that the deck of the secondary dwelling be setback 2.5m from the eastern boundary to comply with the current planning controls which guide the future desired character and spatial proportions of development in the area.

The bulk and scale of the built form is minimised. (En, S)

Comment: The first floor addition has been stepped in from the existing ground floor non-compliant eastern side setback, to minimise bulk and scale. The secondary dwelling has been set at the rear of the site away from adjoining residential buildings and is only adjacent to the school. The secondary dwelling adjoins the school with a backdrop of dense landscaping and provides a compliant height under the Pittwater LEP 2014.

Equitable preservation of views and vistas to and/or from public/private places. (S)

Comment: The non-compliances with the site setbacks do not impact upon views.

To encourage view sharing through complimentary siting of buildings, responsive design and well-positioned landscaping.

Comment: View sharing is achieved for the development.

To ensure a reasonable level of privacy, amenity and solar access is provided within the development site and maintained to residential properties. (En, S)

Comment: The non-compliant setbacks do not result in unreasonable privacy impacts. The first floor western facade includes a bedroom window only and privacy screening is provided to the first floor balcony which is in excess of the 2.5m requirement. The secondary dwelling does not directly look onto the principle private open space of the adjoining property. The reduced rear setback does not impact upon privacy as this adjoins a school and has dense landscape planting along the rear boundary.

Substantial landscaping, a mature tree canopy and an attractive streetscape. (En, S)

Comment: The proposal retains landscaping in the road reserve and within the front setback area where not affected by the proposed carport. Planting in the road reserve is maintained to allow the building to be softened as viewed from the street. Conditions of consent are required for additional planting within the site.

Flexibility in the siting of buildings and access. (En, S)

Comment: The siting of the building is required to be flexible when applied against the control in order to achieve a compliant height in accordance with the PLEP 2014 5.5m height control for secondary dwellings. Access is provided around the secondary dwelling for maintenance.

Vegetation is retained and enhanced to visually reduce the built form. (En)

Comment: The locally significant canopy trees are retained to minimise the visual impact of the built form. Landscaping in the road reserve is proposed to be retained and in the south-eastern corner to minimise visual impact as viewed from the street. Landscaping is retained to the south of the secondary dwelling within the site to soften and screen the building as viewed from the adjoining property to the west.

To preserve and enhance the rural and bushland character of the locality. (En, S)

Comment: The proposed development retains the significant native canopy trees on the site and the removal of the exempt species to accommodate the secondary dwelling will include replacement native tree planting. Substantial areas of deep soil landscaping are provided within the site to maintain bushland character.

To ensure a landscaped buffer between commercial and residential zones is established.

Comment: Not applicable to this development.

The proposed development is considered against the outcomes of the control and is consistent with the outcomes of the control as seen above. Therefore, a variation to the control is supported in this

particular circumstance.

D5.7 Building envelope (Excluding Elanora Heights Village Centre)

DCP Control

The proposed development has a non-compliance to the building envelope on the eastern and western elevations of the proposed first floor addition. The western elevation encroachment is considered minor, whilst the eastern elevation encroachment is more substantial. The non-compliance is shown in the below figures.



Figure 1 - Eastern elevation non-compliance

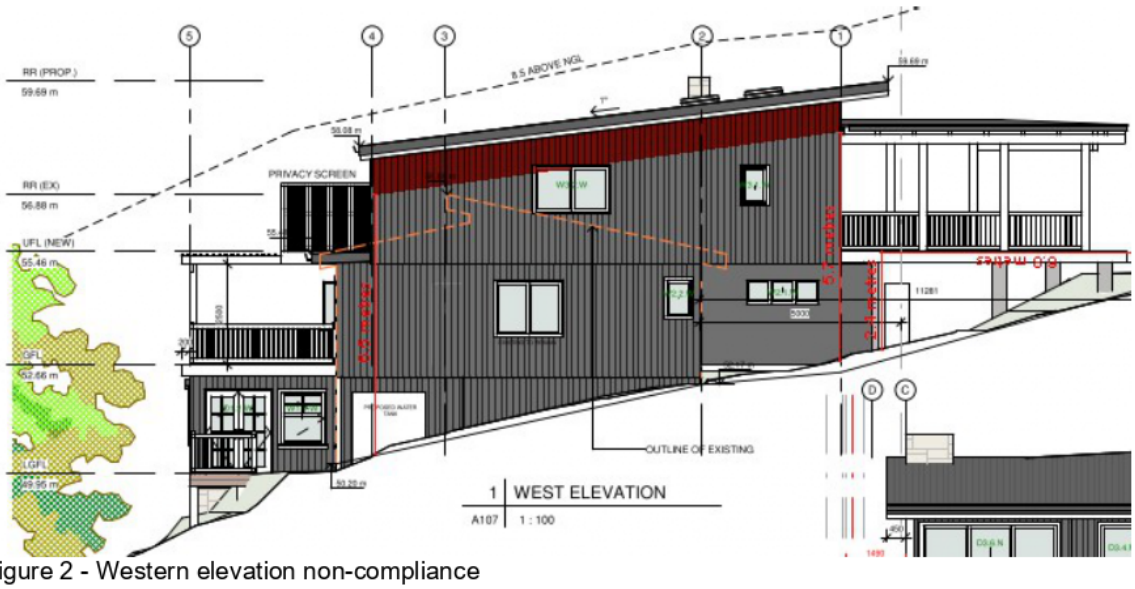


Figure 2 - Western elevation non-compliance

Merit Consideration

The DCP contains a variation clause which allows a variation to the building envelope to be considered on a merits basis when the proposed development is for a first floor addition to an existing dwelling, as well as another variation clause which allows a variation to be considered on a site which has a gradient in excess of 30%. The subject development meets both of these requirements, with the more major non-compliance on the eastern side as a result of the 43% slope over the section of building which is non-compliant.

Given the proposal meets both of the variation criteria, the proposal is considered on merit against the outcomes of the control as follows:

To achieve the desired future character of the Locality. (S)

Comment: The proposed development will present as a two storey dwelling as viewed from the public domain, within landscape gardens in the front and rear setback area. This is characteristic of the locality. As viewed from the rear, the building will present as up to three stories, however the building form is stepped with the slope of the site and the three storey form is not uncommon for steeply sloping sites in the Pittwater Area.

To enhance the existing streetscapes and promote a building scale and density that is below the height of the trees of the natural environment.

Comment: The building will still sit below the predominant canopy tree level and will be of a scale that is suitable as viewed from the street frontage. The western elevation as viewed from the adjoining property has a more minor non-compliance which is acceptable given the first floor addition and slope of the land. The eastern facade does not directly adjoin another private property and adjoins an unformed road reserve which contains landscaping along the western edge, along with landscaping within the subject site, which softens the development as viewed from this angle. As seen in the below photo, this portion of the building will not be highly prominent from the public domain or an adjoining property due to the established landscaping along this edge.



Figure 3 - View looking west at the existing dwelling from the unformed road.



Figure 4 - Standing on the stairs within the unformed road, looking along the eastern boundary of the site.

To ensure new development responds to, reinforces and sensitively relates to spatial characteristics of the existing natural environment.

Comment: The proposed development retains the general footprint of the existing dwelling house (apart from the new carport and secondary dwelling) which results in a development that maintains the existing spatial proportions of the site and enables retention of significant vegetation on the site.

The bulk and scale of the built form is minimised. (En, S)

Comment: The proposed upper level has stepped the wall in 1m from the lower floor to provide articulation and break up the building bulk. The area on non-compliance on the eastern side is only a relatively short section of building, the section of non-compliant facade being 6.5m long plus the open balustrade which does not add unreasonable building bulk. Vegetation and trees are maintained around the south-eastern corner of the site to obscure the building as viewed from the street and minimise the presence of the building on the street and adjoining unformed road.

Equitable preservation of views and vistas to and/or from public/private places. (S)

Comment: The non-compliance with the envelope control does not have a direct impact on views.

To ensure a reasonable level of privacy, amenity and solar access is provided within the development

site and maintained to residential properties. (En, S)

Comment: The western facade provides a small bedroom window only which does not generate unreasonable overlooking. Privacy screen is provided to the upper floor deck at the western facade. The eastern facade does not present any overlooking impacts as it overlooks an unformed road only with no direct adjoining neighbour.

Vegetation is retained and enhanced to visually reduce the built form. (En)

Comment: Vegetation is maintained around the south-eastern corner to soften and screen the development as viewed from the street. The non-compliance does not have a direct impact on vegetation and by providing a first floor addition over the existing building footprint allows for large areas of soft landscaping to be maintained throughout the site to reduce the presence of the building form.

The proposed development is considered to meet the outcomes of the control and Pittwater DCP and therefore the variation to the control is supported in this particular circumstance.

THREATENED SPECIES, POPULATIONS OR ECOLOGICAL COMMUNITIES

The proposal will not significantly affect threatened species, populations or ecological communities, or their habitats.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposal is consistent with the principles of Crime Prevention Through Environmental Design.

POLICY CONTROLS

Northern Beaches Section 7.12 Contributions Plan 2019

The proposal is subject to the application of Northern Beaches Section 7.12 Contributions Plan 2019.

A monetary contribution of $5,500 is required for the provision of new and augmented public infrastructure. The contribution is calculated as 1% of the total development cost of $550,000.

CONCLUSION

The site has been inspected and the application assessed having regard to all documentation submitted by the applicant and the provisions of:

- Environmental Planning and Assessment Act 1979;
- Environmental Planning and Assessment Regulation 2000;
- All relevant and draft Environmental Planning Instruments;
- Pittwater Local Environment Plan;
- Pittwater Development Control Plan; and
- Codes and Policies of Council.

This assessment has taken into consideration the submitted plans, Statement of Environmental Effects, all other documentation supporting the application and public submissions, and does not result in any unreasonable impacts on surrounding, adjoining, adjacent and nearby properties subject to the

conditions contained within the recommendation.

In consideration of the proposal and the merit consideration of the development, the proposal is considered to be:

- Consistent with the objectives of the DCP
- Consistent with the zone objectives of the LEP
- Consistent with the aims of the LEP
- Consistent with the objectives of the relevant EPIs
- Consistent with the objects of the Environmental Planning and Assessment Act 1979

Council is satisfied that:

1) The Applicant's written request under Clause 4.6 of the Pittwater Local Environmental Plan 2014 seeking to justify a contravention of Clause 4.3 Height of Buildings has adequately addressed and demonstrated that:

a) Compliance with the standard is unreasonable or unnecessary in the circumstances of the case; and
b) There are sufficient environmental planning grounds to justify the contravention.

2) The proposed development will be in the public interest because it is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

In summary, a detailed assessment has been undertaken with regard to the submission against the development application and consideration of the impact upon views, building height, setbacks and building envelope, with each issue assessed on merit within this assessment report.

The proposed development provides a reasonable outcome by using a substantial portion of the existing building footprint to provide an improved outcome for the site, whilst retaining significant canopy trees and not having unreasonable amenity impacts upon adjoining properties. The height non-compliance is as a result of the topography of the land, with the north-eastern corner of the site falling away creating the non-compliance.

The proposed development is recommended for approval to the DDP, subject to the conditions outlined within this assessment report.
It is considered that the proposed development satisfies the appropriate controls and that all processes and assessments have been satisfactorily addressed.

RECOMMENDATION

That Northern Beaches Council as the consent authority vary clause 4.3 Height of Building development standard pursuant to clause 4.6 of the PLEP 2014 as the applicant's written request has adequately addressed the merits required to be demonstrated by subclause (3) and the proposed development will be in the public interest and is consistent with the objectives of the standard and the objectives for development within the zone in which the development is proposed to be carried out.

Accordingly Council as the consent authority grant Development Consent to DA2021/0279 for Alterations and additions to a dwelling house including secondary dwelling on land at Lot 21 DP 13152, 42 Weeroona Avenue, ELANORA HEIGHTS, subject to the conditions printed below:

DEVELOPMENT CONSENT OPERATIONAL CONDITIONS

1. **Approved Plans and Supporting Documentation**
The development must be carried out in compliance (except as amended by any other condition of consent) with the following:

a) Approved Plans

Architectural Plans - Endorsed with Council's stamp		
Drawing No.	**Dated**	**Prepared By**
A100 - Issue 1	2/06/2021	Blue Sky Building Designs
A101 - Issue 1	2/06/2021	Blue Sky Building Designs
A102 - Issue 1	2/06/2021	Blue Sky Building Designs
A103 - Issue 1	2/06/2021	Blue Sky Building Designs
A104 - Issue 1	2/06/2021	Blue Sky Building Designs
A105 - Issue 1	2/06/2021	Blue Sky Building Designs
A106 - Issue 1	2/06/2021	Blue Sky Building Designs
A107 - Issue 1	2/06/2021	Blue Sky Building Designs
A108 - Issue 1	2/06/2021	Blue Sky Building Designs
A109 - Issue 1	2/06/2021	Blue Sky Building Designs
A110 - Issue 1	2/06/2021	Blue Sky Building Designs
A111 - Issue 1	2/06/2021	Blue Sky Building Designs

Engineering Plans		
Drawing No.	**Dated**	**Prepared By**
DA01 - DA04 - Issue A	9 February 2021	NB Consulting Engineers

Reports / Documentation – All recommendations and requirements contained within:		
Report No. / Page No. / Section No.	**Dated**	**Prepared By**
BASIX Certificate No. A401677_02	9 June 2021	Blue Sky Building Designs

BASIX Certificate No.1164034S_02	9 June 2021	Blue Sky Building Designs
Geotechnical Report No.J3100	17 December 2020	White Geotechnical Group
Arboricultural Impact Assessment	9/03/2021	Complete Arborcare

b) Any plans and / or documentation submitted to satisfy the Deferred Commencement Conditions of this consent as approved in writing by Council.

c) Any plans and / or documentation submitted to satisfy the Conditions of this consent.

d) The development is to be undertaken generally in accordance with the following:

Waste Management Plan		
Drawing No/Title.	**Dated**	**Prepared By**
A113 - Issue 1	2/06/2021	

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent will prevail.

Reason: To ensure the work is carried out in accordance with the determination of Council and approved plans.

2. **Prescribed Conditions**

(a) All building works must be carried out in accordance with the requirements of the Building Code of Australia (BCA).

(b) BASIX affected development must comply with the schedule of BASIX commitments specified within the submitted BASIX Certificate (demonstrated compliance upon plans/specifications is required prior to the issue of the Construction Certificate);

(c) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(i) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(ii) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(iii) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

(d) Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the following information:

(i) in the case of work for which a principal contractor is required to be appointed:

A. the name and licence number of the principal contractor, and

B. the name of the insurer by which the work is insured under Part 6 of that Act,

(ii) in the case of work to be done by an owner-builder:

A. the name of the owner-builder, and

B. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under becomes out of date, further work must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the updated information.

(e) Development that involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

(i) protect and support the adjoining premises from possible damage from the excavation, and

(ii) where necessary, underpin the adjoining premises to prevent any such damage.

(iii) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

(iv) the owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

In this clause, allotment of land includes a public road and any other public place.

Reason: Legislative requirement.

3. **General Requirements**

(a) Unless authorised by Council:
Building construction and delivery of material hours are restricted to:

- 7.00 am to 5.00 pm inclusive Monday to Friday,
- 8.00 am to 1.00 pm inclusive on Saturday,
- No work on Sundays and Public Holidays.

Demolition and excavation works are restricted to:

- 8.00 am to 5.00 pm Monday to Friday only.

(Excavation work includes the use of any excavation machinery and the use of jackhammers, rock breakers, excavators, loaders and the like, regardless of whether the activities disturb or alter the natural state of the existing ground stratum or are breaking up/removing materials from the site).

(b) Should any asbestos be uncovered on site, its demolition and removal must be carried out in accordance with WorkCover requirements and the relevant Australian Standards.

(c) At all times after the submission the Notice of Commencement to Council, a copy of the Development Consent and Construction Certificate is to remain onsite at all times until the issue of a final Occupation Certificate. The consent shall be available for perusal of

any Authorised Officer.

(d) Where demolition works have been completed and new construction works have not commenced within 4 weeks of the completion of the demolition works that area affected by the demolition works shall be fully stabilised and the site must be maintained in a safe and clean state until such time as new construction works commence.

(e) Onsite toilet facilities (being either connected to the sewer or an accredited sewer management facility) for workers are to be provided for construction sites at a rate of 1 per 20 persons.

(f) Prior to the release of the Construction Certificate, payment of the Long Service Levy is required. This payment can be made at Council or to the Long Services Payments Corporation. Payment is not required where the value of the works is less than $25,000. The Long Service Levy is calculated on 0.35% of the building and construction work. The levy rate and level in which it applies is subject to legislative change. The applicable fee at the time of payment of the Long Service Levy will apply.

(g) The applicant shall bear the cost of all works associated with the development that occurs on Council's property.

(h) No skip bins, building materials, demolition or excavation waste of any nature, and no hoist, plant or machinery (crane, concrete pump or lift) shall be placed on Council's footpaths, roadways, parks or grass verges without Council Approval.

(i) Demolition materials and builders' wastes are to be removed to approved waste/recycling centres.

(j) No trees or native shrubs or understorey vegetation on public property (footpaths, roads, reserves, etc.) or on the land to be developed shall be removed or damaged during construction unless specifically approved in this consent including for the erection of any fences, hoardings or other temporary works.

(k) Prior to the commencement of any development onsite for:

i) Building/s that are to be erected

ii) Building/s that are situated in the immediate vicinity of a public place and is dangerous to persons or property on or in the public place

iii) Building/s that are to be demolished

iv) For any work/s that is to be carried out

v) For any work/s that is to be demolished

The person responsible for the development site is to erect or install on or around the development area such temporary structures or appliances (wholly within the development site) as are necessary to protect persons or property and to prevent unauthorised access to the site in order for the land or premises to be maintained in a safe or healthy condition. Upon completion of the development, such temporary structures or appliances are to be removed within 7 days.

(l) A "Road Opening Permit" must be obtained from Council, and all appropriate charges paid, prior to commencement of any work on Council property. The owner/applicant shall be responsible for all public utilities and services in the area of the work, shall notify all relevant Authorities, and bear all costs associated with any repairs and/or adjustments as those Authorities may deem necessary.

(m) The works must comply with the relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice.

(n) Requirements for new swimming pools/spas or existing swimming pools/spas affected by building works.

(1) Child resistant fencing is to be provided to any swimming pool or lockable

cover to any spa containing water and is to be consistent with the following;

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 2018
(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.

(2) A 'KEEP WATCH' pool safety and aquatic based emergency sign, issued by Royal Life Saving is to be displayed in a prominent position within the pool/spa area.

(3) Filter backwash waters shall be conveyed to the Sydney Water sewerage system in sewered areas or managed on-site in unsewered areas in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system.

(4) Swimming pools and spas must be registered with the Division of Local Government.

Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community.

FEES / CHARGES / CONTRIBUTIONS

4. **Policy Controls**
Northern Beaches 7.12 Contributions Plan 2019

A monetary contribution of $5,500.00 is payable to Northern Beaches Council for the provision of local infrastructure and services pursuant to section 7.12 of the Environmental Planning & Assessment Act 1979 and the Northern Beaches Section 7.12 Contributions Plan 2019. The monetary contribution is based on a development cost of $550,000.00.

The monetary contribution is to be paid prior to the issue of the first Construction Certificate or Subdivision Certificate whichever occurs first, or prior to the issue of the Subdivision Certificate where no Construction Certificate is required. If the monetary contribution (total or in part) remains unpaid after the financial quarter that the development consent is issued, the amount unpaid (whether it be the full cash contribution or part thereof) will be adjusted on a quarterly basis in accordance with the applicable Consumer Price Index. If this situation applies, the cash contribution payable for this development will be the total unpaid monetary contribution as adjusted.

The proponent shall provide to the Certifying Authority written evidence (receipt/s) from Council that the total monetary contribution has been paid.

The Northern Beaches Section 7.12 Contributions Plan 2019 may be inspected at 725 Pittwater Rd, Dee Why and at Council's Customer Service Centres or alternatively, on Council's website

at www.northernbeaches.nsw.gov.au

This fee must be paid prior to the issue of the Construction Certificate. Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To provide for contributions in accordance with the Contribution Plan to fund the provision of new or augmented local infrastructure and services.

5. **Security Bond**

A bond (determined from cost of works) of $2,000 and an inspection fee in accordance with Council's Fees and Charges paid as security are required to ensure the rectification of any damage that may occur to the Council infrastructure contained within the road reserve adjoining the site as a result of construction or the transportation of materials and equipment to and from the development site.

An inspection fee in accordance with Council adopted fees and charges (at the time of payment) is payable for each kerb inspection as determined by Council (minimum (1) one inspection).

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, and details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

To process the inspection fee and bond payment a Bond Lodgement Form must be completed with the payments (a copy of the form is attached to this consent and alternatively a copy is located on Council's website at www.northernbeaches.nsw.gov.au).

Reason: To ensure adequate protection of Council's infrastructure.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

6. **Geotechnical Report Recommendations have been Incorporated into Designs and Structural Plans**
The recommendations of the risk assessment required to manage the hazards as identified in the Geotechnical Report prepared by White Geotechnical Group dated 17/12/2020 are to be incorporated into the construction plans. Prior to issue of the Construction Certificate, Form 2 of the Geotechnical Risk Management Policy for Pittwater (Appendix 5 of P21 DCP) is to be completed and submitted to the Accredited Certifier. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

7. **Traffic Management and Control**
The Applicant is to submit an application for Traffic Management Plan to Council for approval prior to issue of the Construction Certificate. The Traffic Management Plan shall be prepared to RMS standards by an appropriately certified person.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process.

8. **Certification and Design of Elevated Parking Facility Work**
The Applicant shall submit a Structural Engineers' design and certificate certifying that the elevated parking facility is designed in accordance within this development consent and the provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical controls.
Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.
Reason: Safety and Compliance with this consent.

9. **Stormwater Treatment Measures – Minor**
The applicant must install a filtration device (such as a sediment control pit or absorption trench) that captures organic matter and coarse sediments prior to discharge of stormwater from each stormwater outlet into the drainage area. All stormwater treatment measures must make provision for convenient and safe regular inspection, periodic cleaning, and maintenance.

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: Protection of the receiving environment.

10. **Amendments to the approved plans**
The following amendments are to be made to the approved plans:

- The deck and associated staircase adjoining the secondary dwelling is to have a minimum 2.5m setback to the eastern boundary.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the construction certificate.

Reason: To ensure development minimises unreasonable impacts upon surrounding land.

11. **Boundary Identification Survey**
A boundary identification survey, prepared by a Registered Surveyor, is to be prepared in respect of the subject site.

The plans submitted for the Construction Certificate are to accurately reflect the property boundaries as shown on the boundary identification survey, with setbacks between the property boundaries and the approved works consistent with those nominated on the Approved Plans of this consent.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of any Construction Certificate.

Reason: To ensure all approved works are constructed within the subject site and in a manner anticipated by the development consent.

12. **On-site Stormwater Detention Details**
The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development Policy, and generally in accordance with the concept drainage plans prepared by NB Consulting Engineers, job number 170804, drawing number D01 to D04 dated 9/2/2021. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has

membership to the Institution of Engineers Australia, National Professional Engineers Register (NPER) and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:
i. ODS to be provided in accordance with Clause 9.3.1 of Council's Water Management for Development Policy
Detailed drainage plans, including engineering certification, are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for the disposal of stormwater and stormwater management arising from the development.

13. **Submission Roads Act Application for Civil Works in the Public Road**
The Applicant is to submit an application for approval for infrastructure works on Council's roadway. Engineering plans for the new development works within the road reserve and this development consent are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993.

The application is to include four (4) copies of Civil Engineering plans for the design of elevated driveway and retaining walls which are to be generally in accordance with the Council's specification for engineering works - AUS-SPEC #1. The plan shall be prepared by a qualified civil engineer. The design must include the following information:

1. A vehicular crossing 3 metres wide at the kerb to 7 metres wide at the boundary in accordance with Council's standard drawing A4/3330/1N.
2. Structural details for the elevated sections of the driveway.
3. Structural details for any retaining walls supporting the driveway.
4. Safety barriers and sight distances are to be in accordance with AS/NZS 2890.1:2004.
5. A services plan indicating all services in the road reserve. Where any services are to be adjusted as a result of the works, approval from the relevant service authority is to be provided with the application.
6. Structural Engineer's certification of the design of all retaining walls, elevated driveway and safety barriers.

The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges.

An approval is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate

Reason: To ensure engineering works are constructed in accordance with relevant standards and Council's specification.

14. **Structural Adequacy and Excavation Work**
Excavation work is to ensure the stability of the soil material of adjoining properties, the protection of adjoining buildings, services, structures and / or public infrastructure from damage using underpinning, shoring, retaining walls and support where required. All retaining walls are to be structurally adequate for the intended purpose, designed and certified by a Structural Engineer, except where site conditions permit the following:

(a) maximum height of 900mm above or below ground level and at least 900mm from any

property boundary, and
(b) Comply with AS3700, AS3600 and AS1170 and timber walls with AS1720 and AS1170.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To provide public and private safety.

15. **Design of stormwater outlets**
No mortar is to be used on the stormwater outlets. Rocks must be placed using an interlocking system with varying rock sizes. Rock size should range from 80-300mm and be placed to 300mm deep (with a keystone downslope) according to the following specifications:

Dmin = 20mm
D10 = 80mm (i.e. only 10% smaller than 80mm)
D50 = 150mm
D90 = 300mm
The surface should be a textured finish to break up and dissipate sheet flows.

This design is to be submitted to the Certifying Authority prior to the release of the Construction Certificate.

Reason: To protect the surrounding creek bank from the effects of localised erosion.

16. **Compliance with Standards**
The development is required to be carried out in accordance with all relevant Australian Standards.

Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure the development is constructed in accordance with appropriate standards.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

17. **Project Arborist**
A Project Arborist with minimum AQF Level 5 in arboriculture shall be engaged to provide tree protection measures in accordance with Australian Standard 4970-2009 Protection of Trees on Development Sites. The Project Arborist is to specify and oversee all tree protection measures such as tree protection fencing, trunk and branch protection, and ground protection.

The Project Arborist is to supervise all demolition, excavation and construction works near all trees to be retained, including tree protection fencing, and construction methods near the existing trees to protect tree roots, trunks, branches and canopy. Where required, manual excavation is to occur ensuring no tree root at or >25mm (Ø) is damaged by works, unless approved by the Project Arborist.

Existing ground levels shall be maintained within the tree protection zone of trees to be retained, unless authorised by the Project Arborist.

The Project Arborist shall be in attendance and supervise all works as nominated in the Arboricultural Impact Assessment, including:
i) any excavation with existing tree numbered 1 - Eucalyptus saligna within the site,

ii) stem protection for existing trees numbered 1 - Eucalyptus saligna and 4 - Phoenix canariensis located within the road verge,
iii) tree protection fencing for existing trees numbered 5 - Brachychiton acerifolia within the site, and 6 - Callistemon salignus, 7 - Glochidion ferdinandi, and 8 - Ficus macrophylla within the adjoining road reserve,

All tree protection measures specified must:
a) be in place before work commences on the site, and
b) be maintained in good condition during the construction period, and
c) remain in place for the duration of the construction works.

The Project Arborist shall provide certification to the Certifying Authority that all recommendations listed for the protection of the existing tree(s) have been carried out satisfactorily to ensure no impact to the health of the tree(s). Photographic documentation of the condition of all trees to be retained shall be recorded, including at commencement, during the works and at completion.

Note:
i) A separate permit or development consent may be required if the branches or roots of a protected tree on the site or on an adjoining site are required to be pruned or removed.
ii) Any potential impact to trees as assessed by the Project Arborist will require redesign of any approved component to ensure existing trees upon the subject site and adjoining properties are preserved and shall be the subject of a modification application where applicable.

Reason: Tree protection.

18. **Tree Removal within the Property**
This consent approves the removal of the following tree(s) within the property (as recommended in the Arboricultural Impact Assessment):
i) tree number 2 - Eucalyptus sp. (Stringybark), subject to replacement within the site
ii) tree number 3 - Syzygium smithii (Lilly Pilly), subject to replacement within the site

Note: Exempt Species as listed in the Development Control Plan or the Arboricultural Impact Assessment do not require Council consent for removal, and in this instance three existing exempt species at the rear of the property are identified on the Survey Plan as Coral Tree, Silk Oak and Pittosporum.

Reason: to enable authorised building works.

19. **Dead or Injured Wildlife**
If construction activity associated with this development results in injury or death of a native mammal, bird, reptile or amphibian, a registered wildlife rescue and rehabilitation organisation must be contacted for advice.

Reason: To protect native wildlife.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

20. **Protection of existing Street Trees with Road Reserve**
All existing street trees in the vicinity of the works shall be retained during all construction stages and the street trees fronting the development site shall be protected by tree protection fencing in accordance with Section 4 of Australian Standard 4970-2009 Protection of Trees on

Development Sites.

Should any problems arise with regard to the existing or proposed trees on public land during construction, Council's Tree Services section is to be contacted immediately to resolve the matter to Council's satisfaction and at the cost of the applicant.

Reason: Tree protection.

21. **Tree and Vegetation Protection**
a) Existing trees and vegetation shall be retained and protected, including:
i) all trees and vegetation within the site not approved for removal, excluding exempt trees and vegetation under the relevant planning instruments of legislation,
ii) all trees and vegetation located on adjoining properties,
iii) all road reserve trees and vegetation.

b) Tree protection shall be undertaken as follows:
i) tree protection shall be in accordance with Australian Standard 4970-2009 Protection of Trees on Development Sites, including the provision of temporary fencing to protect existing trees within 5 metres of development,
ii) existing ground levels shall be maintained within the tree protection zone of trees to be retained, unless authorised by an Arborist with minimum AQF Level 5 in arboriculture,
iii) removal of existing tree roots at or >25mm (Ø) diameter is not permitted without consultation with an Arborist with minimum AQF Level 5 in arboriculture,
iv) no excavated material, building material storage, site facilities, nor landscape materials are to be placed within the canopy dripline of trees and other vegetation required to be retained,
v) structures are to bridge tree roots at or >25mm (Ø) diameter unless directed by an Arborist with minimum AQF Level 5 in arboriculture on site,
vi) excavation for stormwater lines and all other utility services is not permitted within the tree protection zone, without consultation with an Arborist with minimum AQF Level 5 in arboriculture including advice on root protection measures,
vii) should either or all of v), vi) and vii) occur during site establishment and construction works, an Arborist with minimum AQF Level 5 in arboriculture shall provide recommendations for tree protection measures. Details including photographic evidence of works undertaken shall be submitted by the Arborist to the Certifying Authority,
viii) any temporary access to, or location of scaffolding within the tree protection zone of a protected tree or any other tree to be retained during the construction works is to be undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of Australian Standard 4970-2009 Protection of Trees on Development Sites,
ix) the activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites shall not occur within the tree protection zone of any tree on the lot or any tree on an adjoining site,
x) tree pruning from within the site to enable approved works shall not exceed 10% of any tree canopy, and shall be in accordance with Australian Standard 4373-2007 Pruning of Amenity Trees,
xi) the tree protection measures specified in this clause must: i) be in place before work commences on the site, and ii) be maintained in good condition during the construction period, and iii) remain in place for the duration of the construction works.

c) Tree protection shall specifically be undertaken in accordance with the recommendations in the Arboricultural Impact Assessment.

The Certifying Authority must ensure that:
d) The arboricultural works listed in c) are undertaken and certified by an Arborist as complaint

to the recommendations of the Arboricultural Impact Assessment.
e) The activities listed in section 4.2 of Australian Standard 4970-2009 Protection of Trees on Development Sites, do not occur within the tree protection zone of any tree, and any temporary access to, or location of scaffolding within the tree protection zone of a protected tree, or any other tree to be retained on the site during the construction, is undertaken using the protection measures specified in sections 4.5.3 and 4.5.6 of that standard.

Note: All street trees within the road verge and trees within private property are protected under Northern Beaches Council development control plans, except where Council's written consent for removal has been obtained. The felling, lopping, topping, ringbarking, or removal of any tree (s) is prohibited.

Reason: Tree and vegetation protection.

22. **Road Reserve**
The applicant shall ensure the public footways and roadways adjacent to the site are maintained in a safe condition at all times during the course of the work.

Reason: Public safety.

23. **Installation and Maintenance of Sediment and Erosion Controls**
Council proactively regulates construction sites for sediment management.

Sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) and the Erosion and Sediment Control Plan prior to commencement of any other works on site.

Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and vegetation cover has been re-established across 70 percent of the site, and the remaining areas have been stabilised with ongoing measures such as jute mesh or matting.

Reason: Protection of the receiving environment.

24. **Survey Certificate**
A survey certificate prepared by a Registered Surveyor at the following stages of construction:

(a) Commencement of perimeter walls columns and or other structural elements to ensure the wall or structure, to boundary setbacks are in accordance with the approved details.

(b) At ground level to ensure the finished floor levels are in accordance with the approved levels, prior to concrete slab being poured/flooring being laid.

(c) At completion of the roof frame confirming the finished roof/ridge height is in accordance with levels indicated on the approved plans.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To determine the height of buildings under construction comply with levels shown on approved plans.

25. **Civil Works Supervision**
The Applicant shall ensure all civil works approved in the Section 138 approval are supervised by an appropriately qualified and practising Civil Engineer.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority and/or Roads Authority.

Reason: To ensure compliance of civil works with Council's specification for engineering works.

26. **Notification of Inspections (infrastructure works to be handed over to Council)**
Council's Development Engineer is to be given 48 hours notice when the works reach the following stages:
(a) Prior to pouring of footings for retaining walls
(b) Prior to pouring driveway slab

(c) Prior to pouring of stormwater gully pits
(d) Prior to pouring of kerb and gutter
(e) Subgrade level / basecourse level / subbase
(f) Sealing road pavement

NOTE: Any inspections carried out by Council do not imply Council approval or acceptance of the work, and do not relieve the developer/applicant from the requirement to provide an engineer's certification.

Reason: To ensure new Council infrastructure is constructed in accordance with Auspec 1 Council's design and specification standards.

27. **Traffic Control During Road Works**
Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf) and to the satisfaction of the Roads Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

28. **Required Tree Planting**
Three (3) native trees capable of attaining 9metres in height at maturity shall be planted within the rear setback to soften the built form and provide tree replacement for existing trees removed, and shall satisfy the following:
i) tree planting shall be at a minimum 75 litre container size, selected from Council's Native Plant Species Guide - Pittwater Ward, with the following suggestions: Rough-barked Angophora - Angophora floribunda, Scribbly Gum - Eucalyptus haemastoma, Common Lilly Pilly - Syzygium smithii, or as otherwise selected.
ii) tree planting shall be located within a 9m2 deep soil area wholly within the site and be located a minimum of 4 metres from existing and proposed buildings, and other trees,
iii) tree planting shall be located to minimise significant impacts on neighbours in terms of blocking winter sunlight, or where the proposed tree location may impact upon significant views.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the Occupation Certificate.

Reason: To maintain environmental amenity.

29. **Condition of Retained Vegetation - Project Arborist**
Prior to the issue of an Occupation Certificate, a report prepared by the project arborist shall be submitted to the Certifying Authority, assessing the health and impact on all existing trees required to be retained, including the following information:
a) compliance to any Arborist recommendations for tree protection generally and during excavation works,
b) extent of damage sustained by vegetation as a result of the construction works,
c) any subsequent remedial works required to ensure the long term retention of the vegetation.

Reason: Tree protection.

30. **No Weeds Imported On To The Site**
No Priority or environmental weeds are to be imported on to the site prior to or during construction works.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To reduce the risk of site works contributing to spread of Priority and environmental weeds.

31. **Works as Executed Drawings - Stormwater Treatment Measures**
Works as Executed Drawings for the stormwater treatment measures must be prepared in accordance with Council's Guideline for Preparing Works as Executed Data for Council Stormwater Assets.

The drawings shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: Protection of the receiving environment.

32. **Positive Covenant and Restriction as to User for On-site Stormwater Disposal Structures**

The Applicant shall lodge a Legal Documents Authorisation Application with Council. The application is to include the original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) and a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan by a Registered Surveyor) and Hydraulic Engineers' certification for the completed on-site stormwater detention system works. A guide to the process can be found on Council's website using the following link.

https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/guide-submitting-ldaa-nov19.pdf

The form for the application can be found on Council's website using the following link.

https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/4023-legal-documents-authorisation-oct19.pdf

The Applicant shall create on the Title a positive covenant in respect to the ongoing maintenance and restriction as to user over the on-site stormwater detention system within this development consent. The terms of the positive covenant and restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with the NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant. A copy of the certificate of title demonstrating the creation of the positive covenant and restriction as to user for the on-site stormwater detention system is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of final Occupation Certificate.

Reason: To ensure the on-site stormwater detention system is maintained to an appropriate operational standard and not altered.

33. **Certification Elevated Parking Facility Work**
The Applicant shall submit a Structural Engineers' certificate certifiying that the elevated parking facility was constructed in accordance within this development consent and the provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical controls. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the final Occupation.

Reason: Compliance with this consent.

34. **Retaining wall in the Road Reserve**
The retaining wall works and suspended driveway slab in the road reserve shall be certified as compliant with all relevant Australian Standards and Codes by a Structural Engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any final Occupation Certificate.

Reason: Public and Private Safety

35. **Geotechnical Certification Prior to Occupation Certificate**
The Applicant is to submit the completed Form 3 of the Geotechnical Risk Management Policy (Appendix 5 of P21 DCP) to the Principal Certifying Authority prior to issue of the Occupation Certificate.

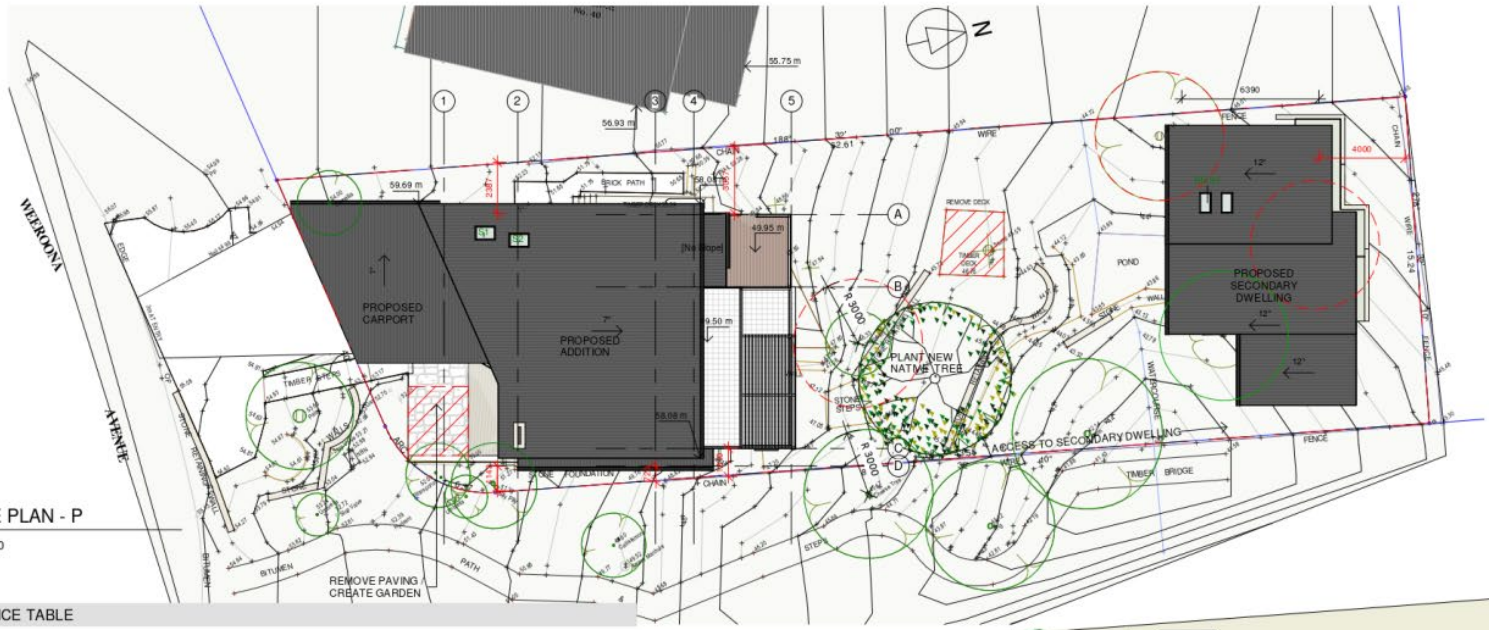
Reason: To ensure geotechnical risk is mitigated appropriately.

ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES

36. **Maintenance of Stormwater Treatment Measures - Minor**
Stormwater treatment measures must be maintained at all times in accordance with manufacturer's specifications and as necessary to achieve the required stormwater quality targets for the development.

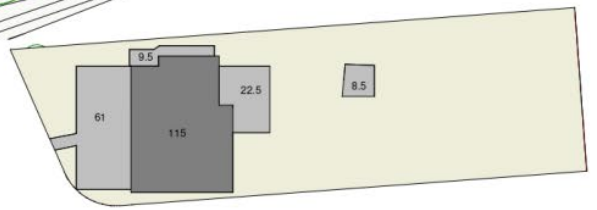
Northern Beaches Council reserves the right to enter the property and carry out appropriate maintenance of the device at the cost of the property owner.

Reason: Protection of the receiving environment.

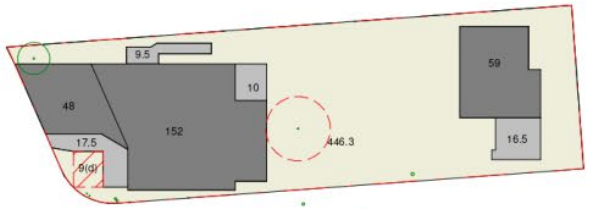


1 | SITE PLAN - P
A100 | 1 : 200

COMPLIANCE TABLE			
ZONE	E4 - ENVIRONMENTAL LIVING		
HAZARDS	GEOTECH		
SITE AREA	758.8m² (30p)		
LOT / DP	LOT 21 / DP13152		
	EXISTING	REQUIRED	PROPOSED
SITE COVERAGE	115m² / 15%	-	259m² / 34%
HARD SURFACE	101.5m² / 13.5%	-	53.5m² / 7%
LANDSCAPED AREA TOTAL	542.3m² / 71.5%	min 60%	446.3m² /59%
MAX. HEIGHT (HOUSE)	approx. 7.08m	Hmax = 8.5m	Hmax = 9.85m
MAX. HEIGHT (SEC. DWELL.)		Hmax = 5.5m	<5.5m
SETBACKS - FRONT - REAR - SIDE	>16m min1.0m	min 6.5m min 6.5m 0.43m (deck) / 0.865m (wall)	0.825m (carport) / 7.1m (house) min. 3.35m (sec. dwelling) from 0.49m (house) / min 1.1 (sec. dwell.)
PRIMARY DWELLING GFA	128m²	-	245m²
SECONDARY DWELLING GFA	-	max. 60m²	55m²



4 | SITE CALCS - EXISTING
A100 | 1 : 400



2 | SITE CALCS - PROPOSED
A100 | 1 : 400

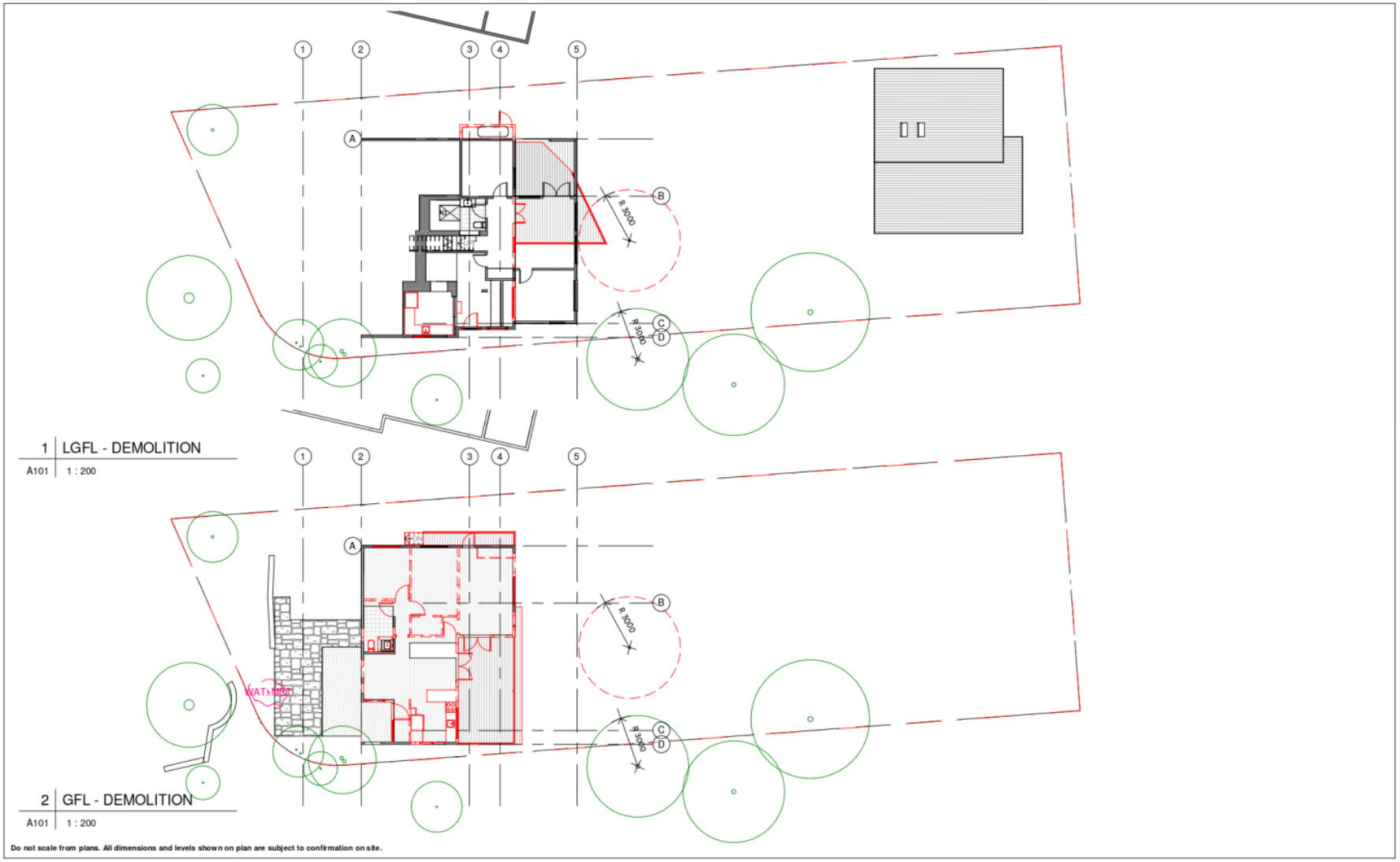
Do not scale from plans. All dimensions and levels shown on plan are subject to confirmation on site.

ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
1	2.06.2021	DA ISSUE - REV	KM	

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BLUE SKY BUILDING DESIGNS
PO BOX 167 Newport 2106
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www.blueskybuildingdesigns.com.au

PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	SITE PLAN
SHEET NO:	A100
SCALE A3:	As indicated



1 | LGFL - DEMOLITION
A101 | 1 : 200

2 | GFL - DEMOLITION
A101 | 1 : 200

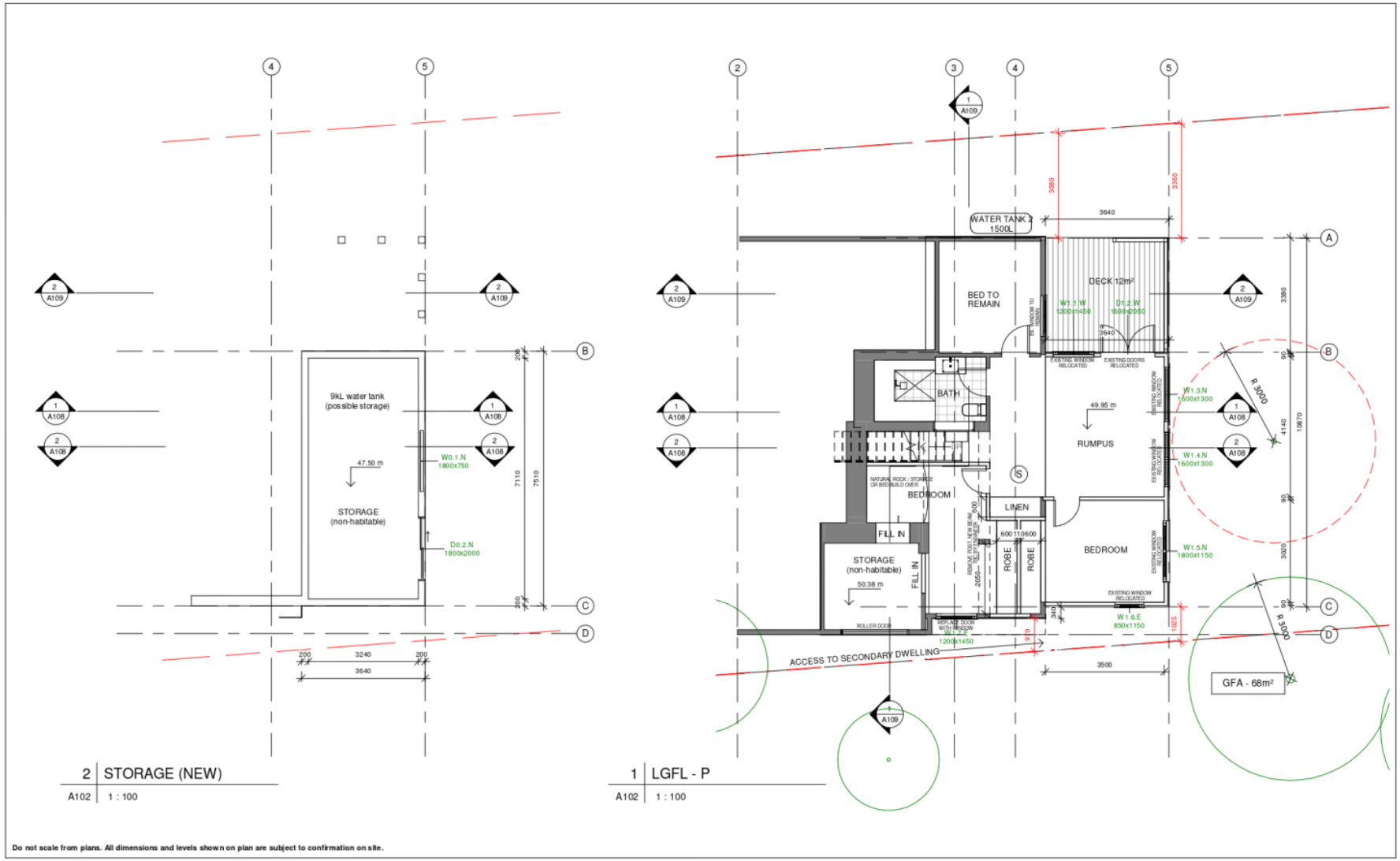
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	DEMOLITION PLAN
SHEET NO:	A101
SCALE A3:	1 : 200



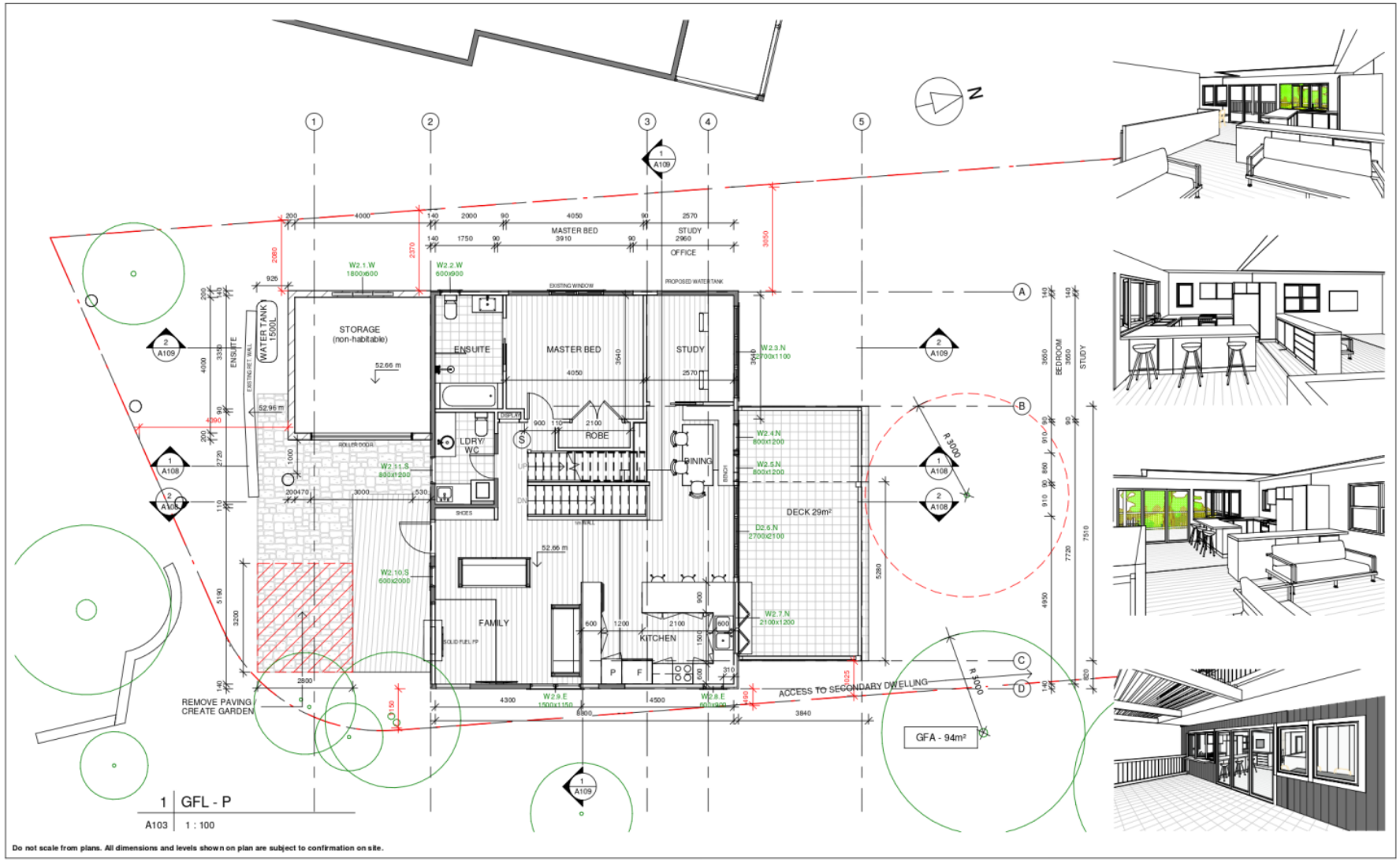
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ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
1	2.06.2021	DA ISSUE - REV	KM	

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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	STORAGE & LOWER FLOOR LEVEL
SHEET NO:	A102
SCALE A3:	1 : 100

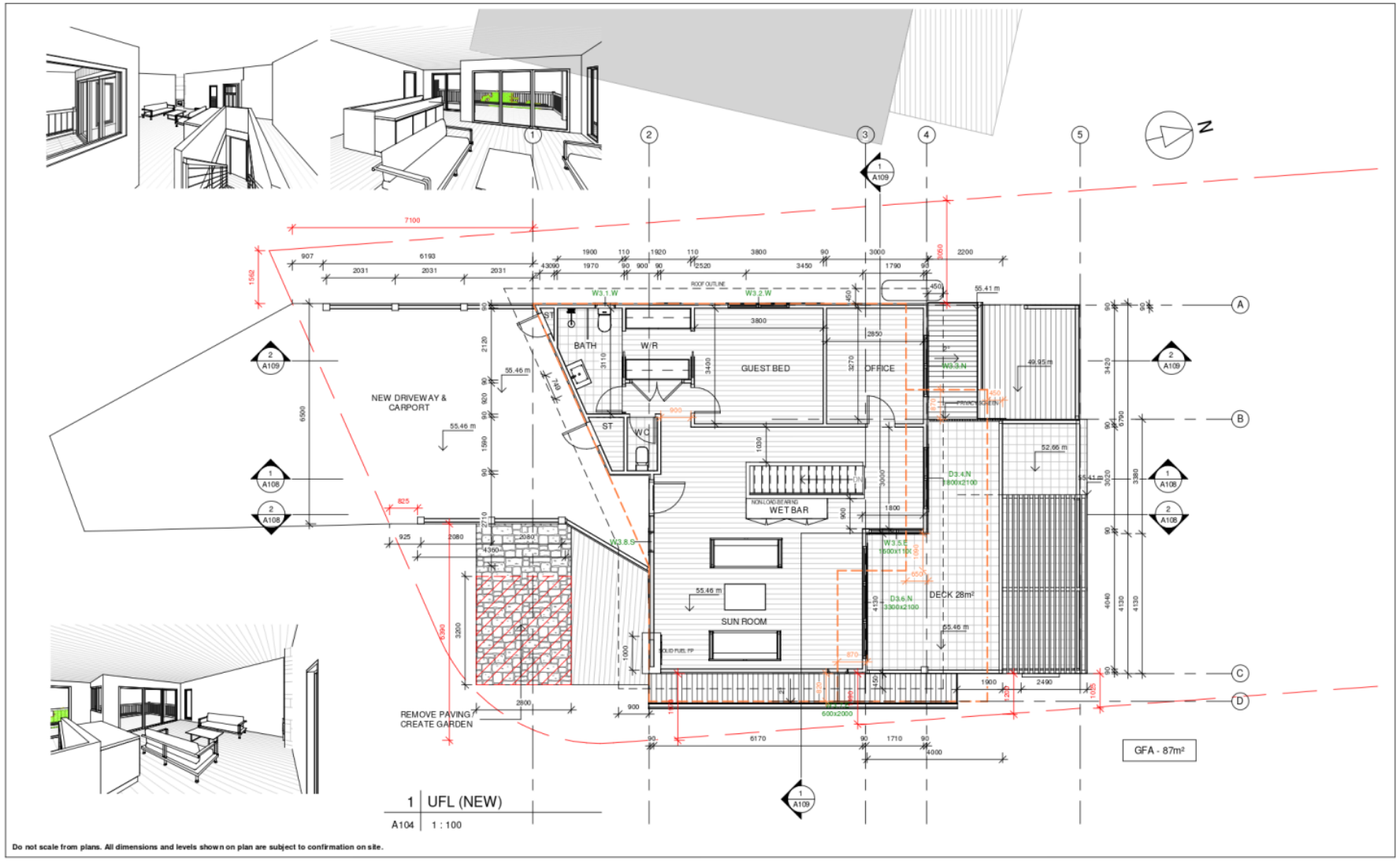


ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
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PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	GROUND FLOOR LEVEL
SHEET NO:	A103
SCALE A3:	1 : 100



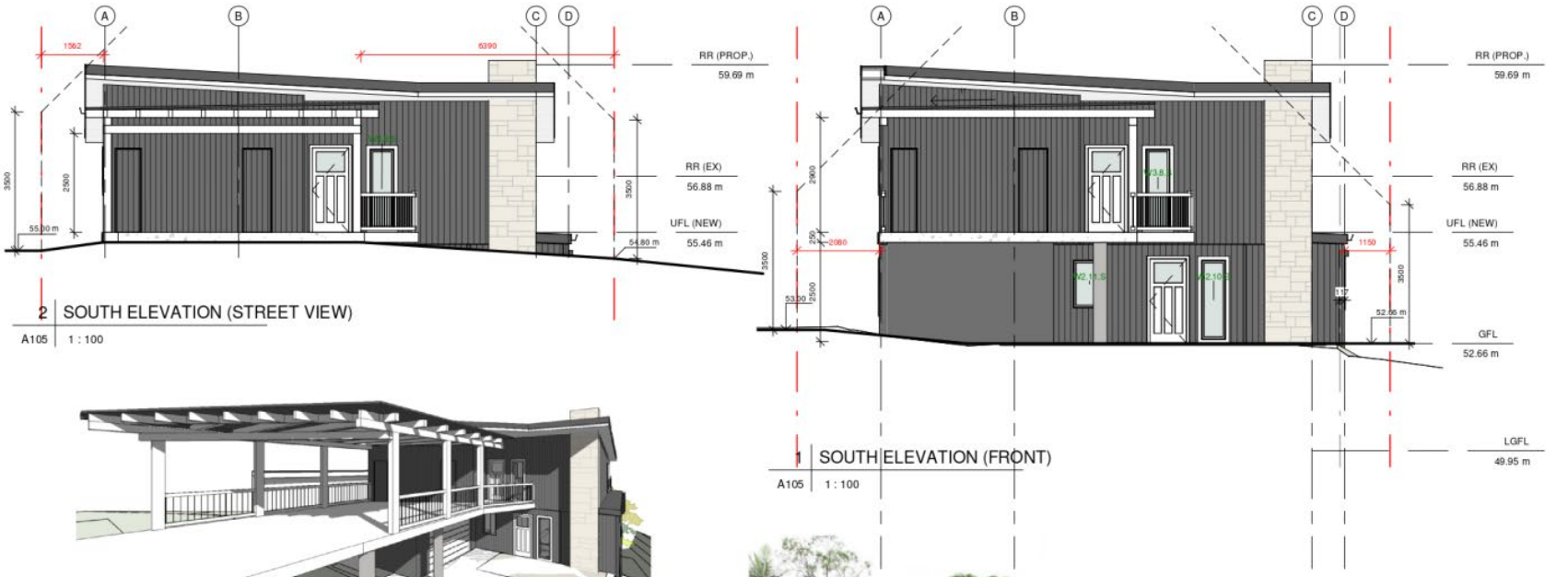
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	UPPER FLOOR LEVEL
SHEET NO:	A104
SCALE A3:	1 : 100



2 | SOUTH ELEVATION (STREET VIEW)
A105 | 1 : 100

1 | SOUTH ELEVATION (FRONT)
A105 | 1 : 100







INSPIRATION: EXTERNAL COLOURS & FINISHES



INSPIRATION: BALUSTRADE

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A deep charcoal grey is another 'on trend' colour. The new Matt finish offers a unique façade treatment that enables a building to stand alone. Matt Monument® exudes power and strength for any residential or commercial building where walls and roofing are integral features of the overall design.

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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.	SHEET TITLE:	ELEVATIONS
PROJECT NO.:	2020032		
AT:	42 Weeroona Ave, Elanora Heights	SHEET NO:	A105
FOR:	Tom & Ben Knox	SCALE A3:	1 : 100



ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	ELEVATIONS
SHEET NO:	A106
SCALE A3:	1 : 100

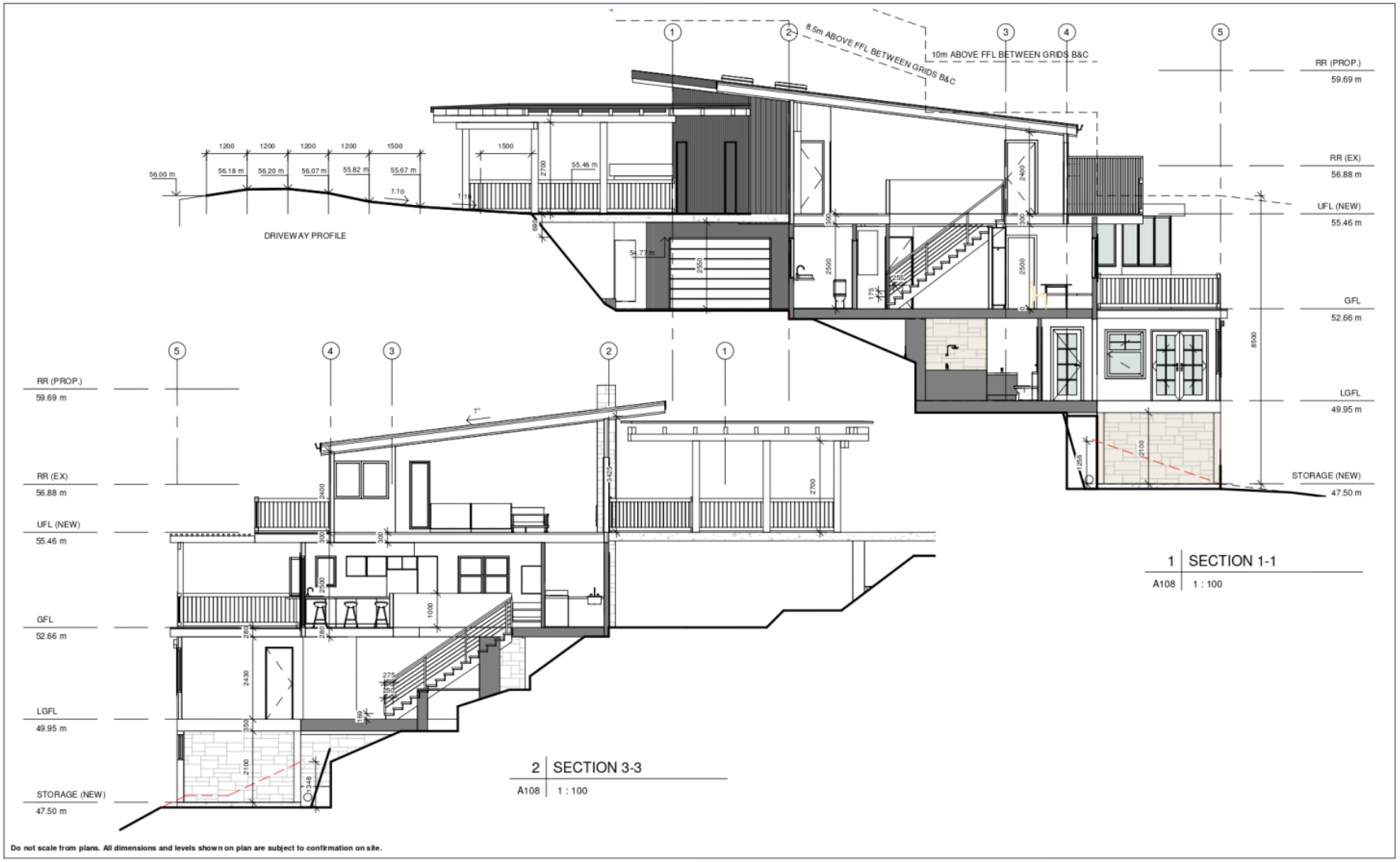


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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	ELEVATIONS
SHEET NO:	A107
SCALE A3:	1 : 100

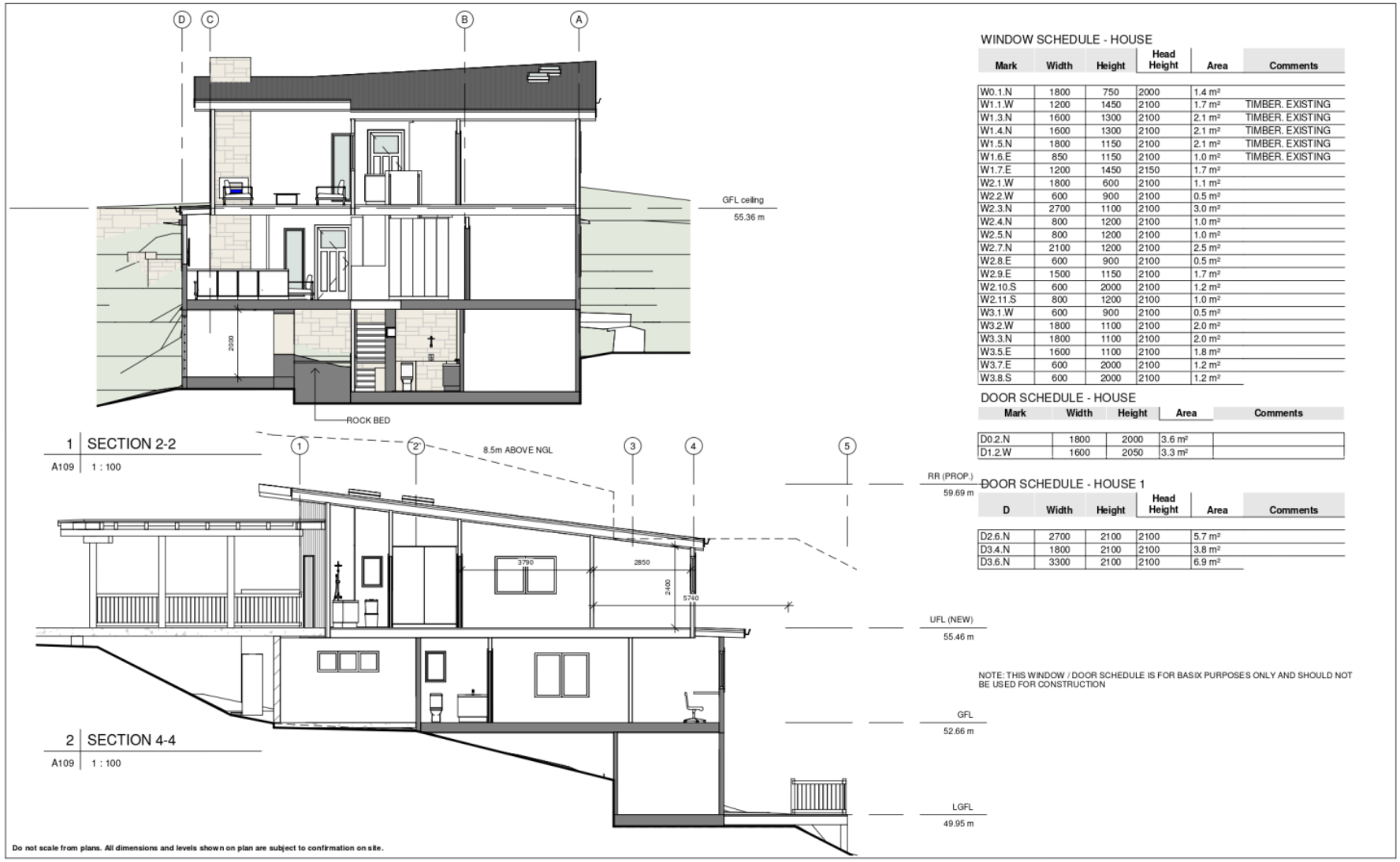


ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.	SHEET TITLE:	SECTIONS
PROJECT NO.:	2020032		
AT:	42 Weeroona Ave, Elanora Heights	SHEET NO:	A108
FOR:	Tom & Ben Knox	SCALE A3:	1 : 100



WINDOW SCHEDULE - HOUSE

Mark	Width	Height	Head Height	Area	Comments
W0.1.N	1800	750	2000	1.4 m²	
W1.1.W	1200	1450	2100	1.7 m²	TIMBER, EXISTING
W1.3.N	1600	1300	2100	2.1 m²	TIMBER, EXISTING
W1.4.N	1600	1300	2100	2.1 m²	TIMBER, EXISTING
W1.5.N	1800	1150	2100	2.1 m²	TIMBER, EXISTING
W1.6.E	850	1150	2100	1.0 m²	TIMBER, EXISTING
W1.7.E	1200	1450	2150	1.7 m²	
W2.1.W	1800	600	2100	1.1 m²	
W2.2.W	600	900	2100	0.5 m²	
W2.3.N	2700	1100	2100	3.0 m²	
W2.4.N	800	1200	2100	1.0 m²	
W2.5.N	800	1200	2100	1.0 m²	
W2.7.N	2100	1200	2100	2.5 m²	
W2.8.E	600	900	2100	0.5 m²	
W2.9.E	1500	1150	2100	1.7 m²	
W2.10.S	600	2000	2100	1.2 m²	
W2.11.S	800	1200	2100	1.0 m²	
W3.1.W	600	900	2100	0.5 m²	
W3.2.W	1800	1100	2100	2.0 m²	
W3.3.N	1800	1100	2100	2.0 m²	
W3.5.E	1600	1100	2100	1.8 m²	
W3.7.E	600	2000	2100	1.2 m²	
W3.8.S	600	2000	2100	1.2 m²	

DOOR SCHEDULE - HOUSE

Mark	Width	Height	Area	Comments
D0.2.N	1800	2000	3.6 m²	
D1.2.W	1600	2050	3.3 m²	

DOOR SCHEDULE - HOUSE 1

D	Width	Height	Head Height	Area	Comments
D2.6.N	2700	2100	2100	5.7 m²	
D3.4.N	1800	2100	2100	3.8 m²	
D3.6.N	3300	2100	2100	6.9 m²	

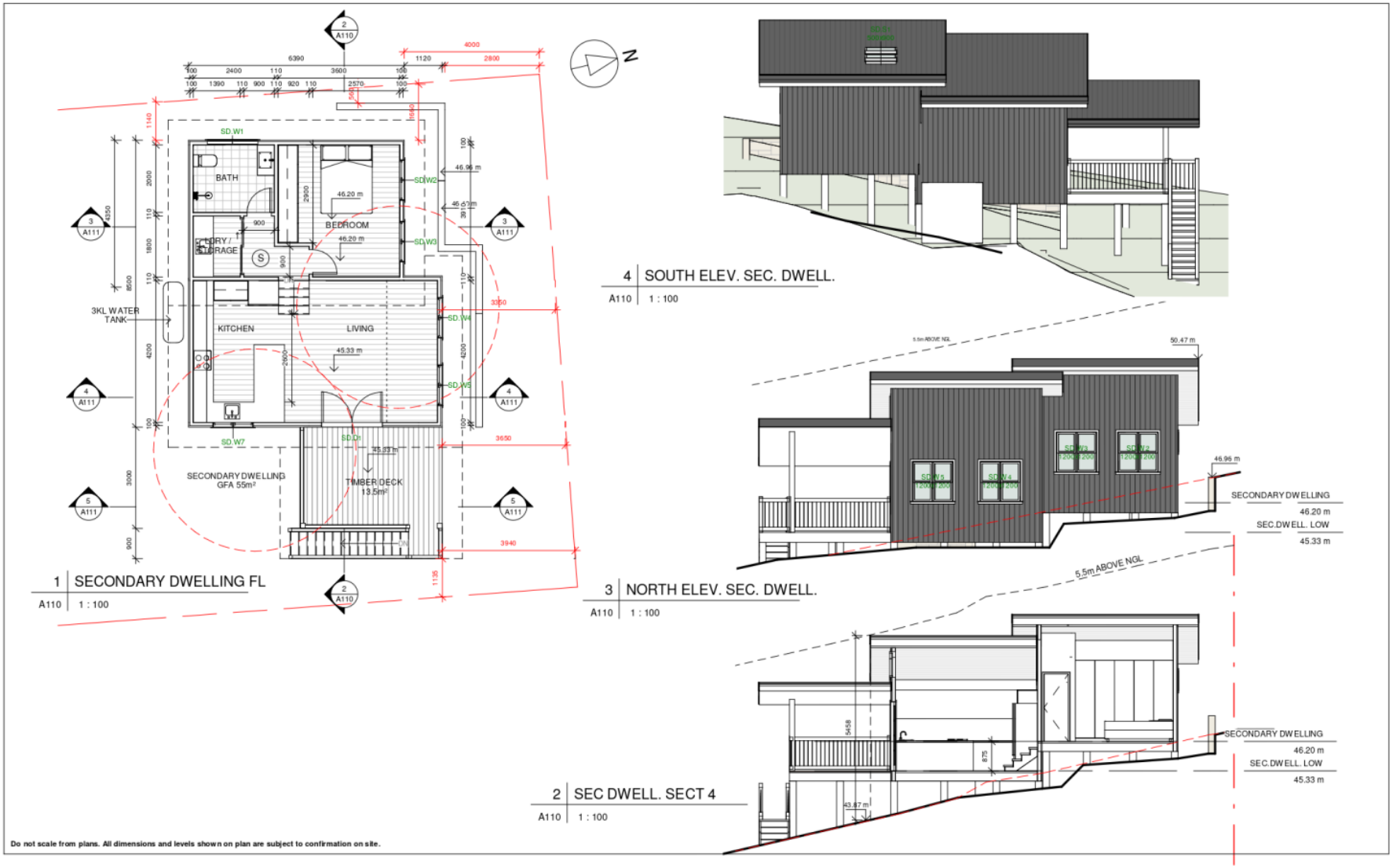
NOTE: THIS WINDOW / DOOR SCHEDULE IS FOR BASIX PURPOSES ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION

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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.	SHEET TITLE:	SECTION, NOTES
PROJECT NO.:	2020032		
AT:	42 Weeroona Ave, Elanora Heights	SHEET NO:	A109
FOR:	Tom & Ben Knox	SCALE A3:	1 : 100



1 | SECONDARY DWELLING FL
A110 | 1 : 100

4 | SOUTH ELEV. SEC. DWELL.
A110 | 1 : 100

3 | NORTH ELEV. SEC. DWELL.
A110 | 1 : 100

2 | SEC DWELL. SECT 4
A110 | 1 : 100

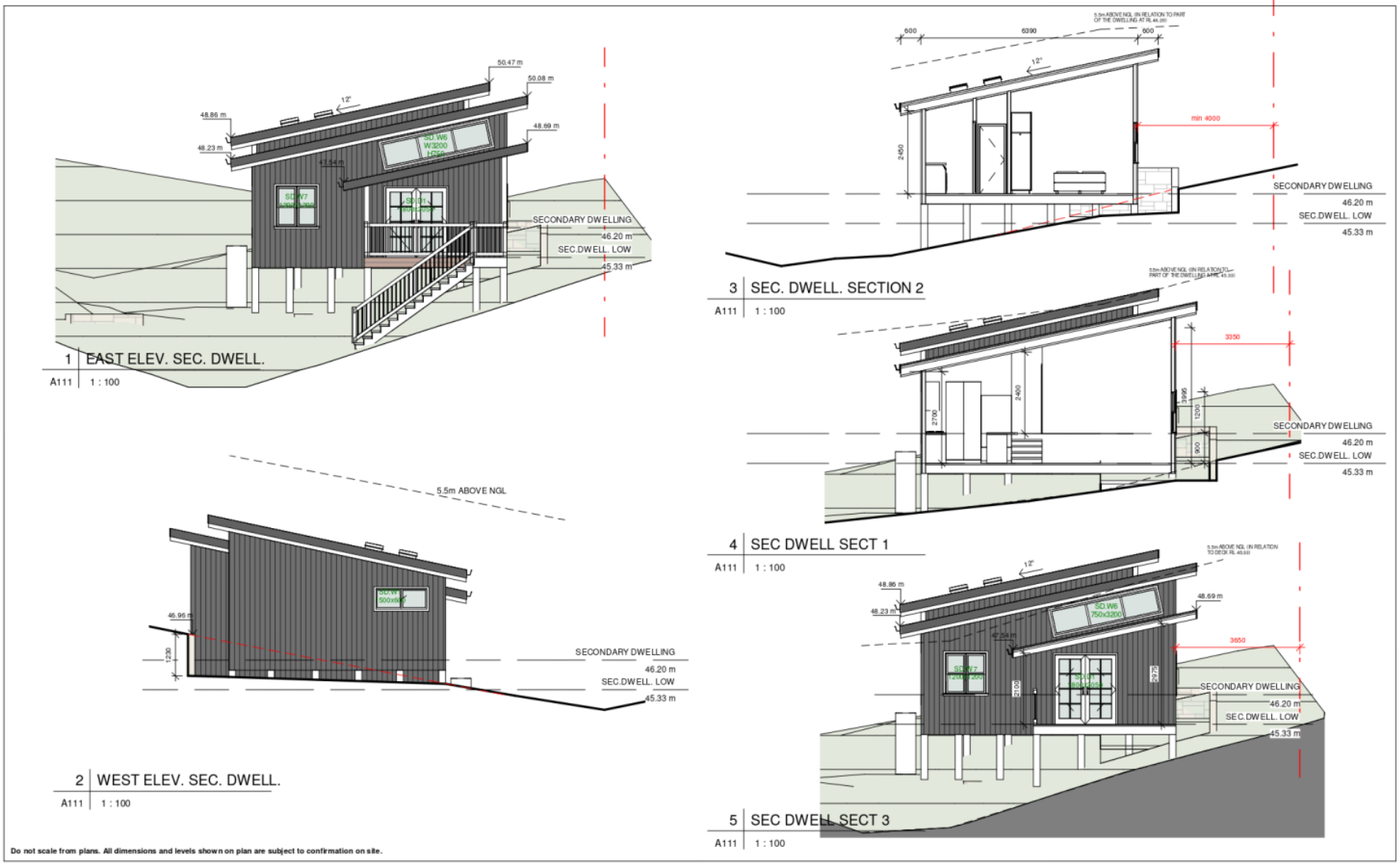
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	SECONDARY DWELLING
SHEET NO:	A110
SCALE A3:	1 : 100



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-	9.09.2020	EXISTING	MN	-
3	8.12.2020	CONCEPT 3	KM	
3	8.02.2021	DA ISSUE	KM	
1	2.06.2021	DA ISSUE - REV	KM	

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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	SECONDARY DWELLING
SHEET NO:	A111
SCALE A3:	1 : 100



1 | SHADOW DIA - 21ST JUNE AT 9AM
A112 | 1 : 400

2 | SHADOW DIA - 21ST JUNE AT 12PM
A112 | 1 : 400

3 | SHADOW DIA - 21ST JUNE AT 3PM
A112 | 1 : 400

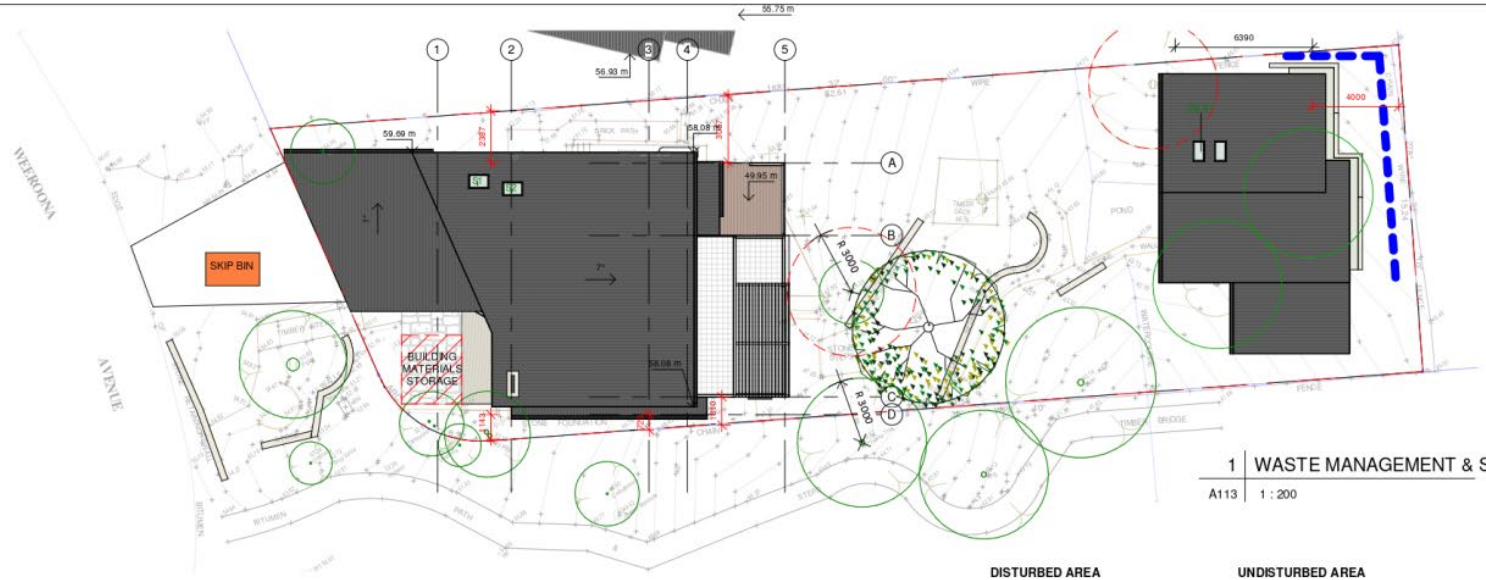
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.	SHEET TITLE:	SHADOW DIAGRAM
PROJECT NO.:	2020032		
AT:	42 Weeroona Ave, Elanora Heights	SHEET NO:	A112
FOR:	Tom & Ben Knox	SCALE A3:	1 : 400



1 | WASTE MANAGEMENT & SEDIMENT PLAN
A113 | 1 : 200

WASTE MANAGEMENT PLAN

CONTRACTORS WILL BE RESPONSIBLE FOR ENSURING:

1. Dedicated safe pedestrian access is, at all times, to be provided in front of the site.
2. Demolition and construction will be minimised and separation, reuse and recycling of materials will be maximised.
3. Demolition will be managed to ensure air and water borne pollutants such as, dust, odour, liquids and the like are minimised.
4. Demolition will be managed to minimise site disturbance to the surrounding area.

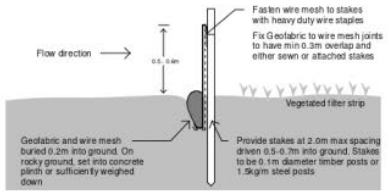
KEY ACTIONS :

1. Install Sediment Barrier on downslope side of property
2. Stock pile demolition materials on level sections at rear and front of existing dwelling .Separate waste, from reuse and recycle materials.
3. Clean and Clear footpath and roadway as required
4. Limit Disturbance when clearing
5. Wash Equipment in Designated area
6. Store all hard waste & litter in a designed area
7. Restrict vehicle movements and use the driveway only when possible.
8. Preserve as much grassed area as possible.

WASTE MANAGEMENT PLAN

MATERIAL ON SITE			DESTINATION		
TYPE OF MATERIAL	ESTIMATED VOLUME		REUSE OR RECYCLING		DISPOSAL
	DEMOLITION	CONSTRUCTION	ON-SITE	OFF-SITE	
EXCAVATION MATERIAL	10m³		DISPOSED ON SITE	SOIL & CRASHED ROCK TO KIMBRIKS	
GREEN WASTE	3m³		DISPOSED ON SITE		
BRICKS					
CONCRETE		TRUCK DELIVERY - NO WASTE			
TIMBER	20m³	2m³		KIMBRIKI RECYCLE	
PLASTER BOARDS	10m³	0.2m³			KIMBRIKI BY BUILDER
ASBESTOS	TBC PRIOR DEMO.				ASBESTOS REMOVALIST
ROOF TILES					
METALS	10m³	0.1m³		KIMBRIKI RECYCLE	
GLASS	5m³			KIMBRIKI RECYCLE	
PLASTIC					
OTHER	RE-USE MOST OF THE TIMBER WINDOWS AS APPLICABLE. EXCAVATED SANDSTONE TO BE USED FOR CONSTRUCTION (E.G. FIRE PLACE)				

DISTURBED AREA **UNDISTURBED AREA**



SILT FENCE DETAIL & NOTES:

1. Silt fences should be installed on a site as early as possible, ideally before excavation or other soil disturbance begins
2. Install a silt fence down-slope from the construction area, always along the contour (curve) of the slope you are protecting – don't install in straight lines
3. Significant downward slopes should use the curved installation method
4. Stockpiles of soil and building materials must be contained by a silt fence
5. Leave the silt fence in place until vegetation is established, or sediment is stabilised
6. Silt fencing requires frequent inspections, particularly after each runoff event (storm, rainfall etc.), to check for damage or clogging of the fence by silt and debris
7. Silt fences are best used for sites where the soil disturbance area is up to 0.5 of a hectare

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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.	**SHEET TITLE:**	WASTE MANAGEMENT PLAN
PROJECT NO.:	2020032		
AT:	42 Weeroona Ave, Elanora Heights	**SHEET NO:**	A113
FOR:	Tom & Ben Knox	**SCALE A3:**	As indicated



ISSUE	DATE	DESCRIPTION	DRWN	CHKD
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PROJECT TITLE:	ALTERATION & ADDITION + SEC. DWELL.
PROJECT NO.:	2020032
AT:	42 Weeroona Ave, Elanora Heights
FOR:	Tom & Ben Knox
SHEET TITLE:	NOTIFICATION PLAN
SHEET NO:	NP
SCALE A3:	1 : 200

CLAUSE 4.6: EXCEPTIONS TO DEVELOPMENT STANDARDS

Maximum Height of Buildings (Clause 4.3)

Submission to Northern Beaches Council

ALTERATIONS AND ADDITIONS TO EXISTING DWELLING HOUSE

At

42 Weeroona Avenue Elenora Heights



March 2021

Blue Sky Building Designs

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42 Weeroona Avenue Elenora Heights

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6 Clause 4.6 Exceptions to development standards 6

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1 Summary

Land to be developed (Address):	Lot 21 DP13152 42 Weeroona Avenue Elanora Heights NSW 2101
Proposed Development:	Alterations and Additions to an existing dwelling house, and Construction of a Secondary Dwelling
Zoning:	E4 - Environmental Living
Development Permissible:	Yes
Existing Use Rights:	Not applicable to this development
Consent Authority:	Northern Beaches Council
Owner:	Thomas Knox & Benjamin Knox

2 Introduction

The Clause 4.6: application has been prepared in support of a development application for the alteration and addition to existing dwelling house and construction of a secondary dwelling at 42 Weeroona Avenue Elanora Heights. The request seeks to vary the maximum height of buildings standard prescribed within Clause 4.3 of the Pittwater Local Environmental Plan 2014 (PLEP). The variation to the development standard has been prepared pursuant of Clause 4.6 of the Pittwater Local Environmental Plan 2014 (PLEP).



Arial Photograph (from SIX Maps)

3 Site details

The site is located at 42 Weeroona Avenue Elanora Heights which has an area of 758.8 sqm and is rectangular shaped lot with arced frontage.

A Weatherboard house with a dilapidated timber deck to the north and an under croft/ basement level clad in sandstone with a corrugated steel skillion roof, currently occupies the site.

The site is on the low side of the Weeroona Avenue.

Surrounding developments consist of similar detached one to two storey dwelling houses, of varying ages.

4 Development standard to be varied

Clause 4.3 of PLEP controls the height of buildings. Clause 4.3(2) specifies that the height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map. Buildings Map prescribes that the site is within Area I in PLEP Height of Buildings Map – Sheet HOB_013. The subject site has a maximum height of 8.5 metres.

Further, Clause 4.3 (2FA) specifies e maximum height for a secondary dwelling in Zone E4 Environmental Living is 5.5 metres if the secondary dwelling is separate from the principal dwelling.

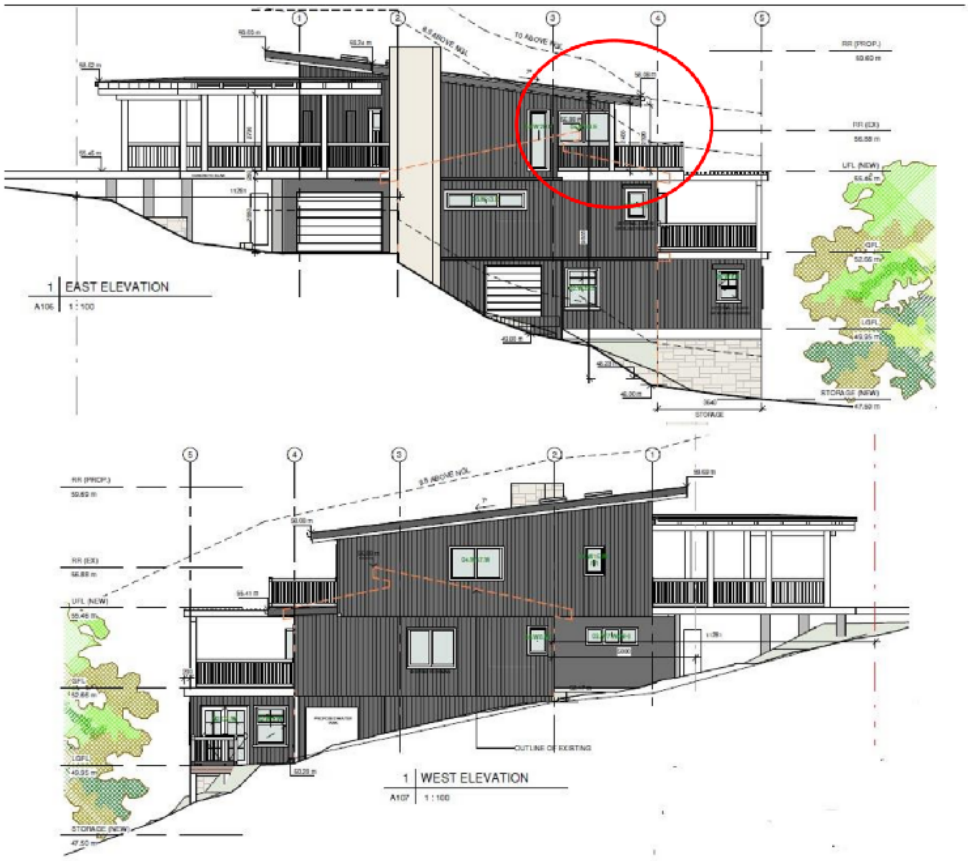


Extract from Height of Buildings Map (ePlanning Spatial Viewer)

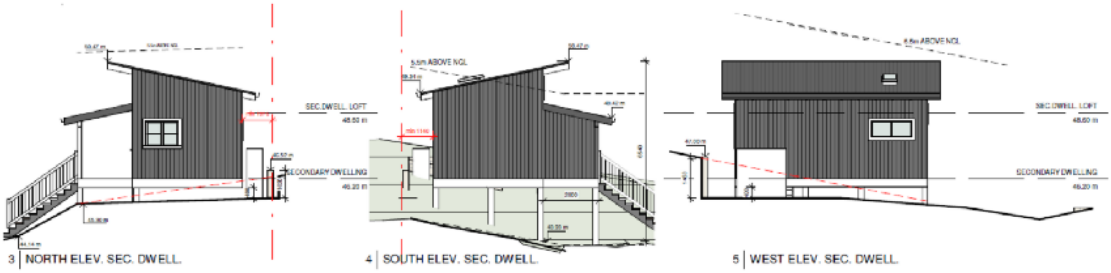
5 Extent of variation sought to development standards

The proposal contravenes the maximum height of buildings development standard contained in Clause 4.3(2) of the PLEP. The variation has been summarized in the table below:

Principal Dwelling	
Maximum height of proposed building	9.85 metres
Maximum Permissible height of building	8.5 metres
Exceedance of the LEP development standard	**1.35m (15.88%)**
Secondary Dwelling	
Maximum height of proposed building	6.54 metres
Maximum Permissible height of building	5.5 metres
Exceedance of the LEP development standard	**1.04m (18.9%)**



Elevation Plan Showing the Extent and Location of The Building Height Departure of Principal Dwelling (departure limited to East elevation)



Elevation Plan Showing the Extent and Location of The Building Height Departure of Secondary Dwelling (departure limited to West elevation)

The degree of non-compliance is considered negligible and is limited to small portion of the dwellings.

The Clause 4.6: Exceptions to Development Standards contends that strict compliance with the development standard imposed by PLEP:

- maximum building height of 8.5 metres as prescribed within Clause 4.3(2) and;
- maximum building height of 5.5m for a secondary dwelling in a E4 zone as prescribed within Clause 4.3 (2FA).

The maximum height of buildings at 8.5 metres and 5.5m for secondary dwelling is unreasonable and/or unnecessary in the circumstances of the case and that the exceedance by 1.35m and 1.04m can be supported by Council in considering the merits of the proposal.

6 Clause 4.6 Exceptions to development standards

This variation request under Clause 4.6 of PLEP. The objectives of Clause 4.6 of PLEP are as follows:

a) *to provide an appropriate degree of flexibility in applying certain development standards to particular development,*
b) *to achieve better outcomes for and from development by allowing flexibility in particular circumstances.*

Clause 4.6 allows Council to grant development consent to a development, even if it breaches the relevant development standards. However, the Council as the consent authority must be satisfied that:

I. *the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3),*

> *Subclause 3: Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:*
>
> a) *that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
> b) *that there are sufficient environmental planning grounds to justify contravening the development standard.*

II. *the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out*

The requirement for consideration and justification of a Clause 4.6 variation necessitates an assessment of a number of criteria. It is recognised that it is not merely sufficient to demonstrate a minimisation of environmental harm to justify a Clause 4.6 variation, although in the circumstance of this case, the absence of any environmental impact is of considerable merit.

Accordingly, justification is set out in following assessment for the departure from the maximum building height control applicable under the PLEP. The purpose of the information provided is to demonstrate that strict compliance with the maximum building height under the PLEP is unreasonable or unnecessary in the circumstances of this particular case. It also demonstrates that there are sufficient environmental planning grounds for the departure from the maximum height controls specified in the SEPP.

7 Assessment

Even though the development departs from maximum height limitation, it still compliance with Clause 4.6(4)(a)(ii) Exceptions to Development Standards.

The proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out.

7.1 The objectives of Clause 4.3: Height of Building

The objectives of the Clause 4.3 as follows:

a) *to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,*
b) *to ensure that buildings are compatible with the height and scale of surrounding and nearby development,*
c) *to minimise any overshadowing of neighbouring properties,*
d) *to allow for the reasonable sharing of views,*
e) *to encourage buildings that are designed to respond sensitively to the natural topography,*
f) *to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items.*

7.1.1 (a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality

The proposed principal and secondary dwellings remain compatible with the surrounding developments being contemporary residential dwelling houses designed to match the existing street scape and the area. The departure from height is minor and limited mainly to the roof of the

principal and secondary dwelling. Along the same avenue, 135 Woorarra Avenue Elanora Heights, the Council has approved developments with height departures from the permissible height.

7.1.2 (b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development

The proposed principal and secondary dwelling houses will continue to provide a suitable height and scale to the existing streetscape and will mostly remain within the building height plane of the neighbouring dwellings.

The configuration and siting of the building envelope will ensure the development will maintain the front building alignments from the dwellings within the street and is appropriately stepped in response to the property frontage along Weeroona Avenue. It is also important to note that, both dwellings mainly sit below the building height limit and only a part of the roof at the rear of the main dwelling and a smaller part of the roof of the secondary dwelling is not complying with 8.5m and 5.5 m height limitations, respectively. The breach to the building height is acceptable in that the development will remain compatible with the height and scale of the neighbouring dwellings within the streetscape setting.

7.1.3 (c) to minimise any overshadowing of neighbouring properties

The area of non-compliance and the breach to the maximum building heights will not contribute to any adverse impacts with respect to solar access. The provided shadow diagrams confirm that the main private open space, windows to the principal living area of the proposed development and the main private open space and windows to the principal living area of any adjoining dwellings will receive a minimum of 3 hours of sunlight between 9am and 3pm on June 21st.

7.1.4 (d) to allow for the reasonable sharing of views

The upper floor level sits below the maximum height limit for the most part. Proposed secondary dwelling is located downhill side of the site at the rear. When viewed from the adjoining neighbours and street front the additional building height has been sited and designed to be unnoticeable.

The development will not result in any adverse view loss impacts. The legal principle governing rights to views can be identified as far back as 1937 with the case of Victoria Park Racing & Recreation Grounds Co Ltd v Taylor [1937] HCA 45 (Taylor), where Justice Dixon of the High Court held 'I find difficulty in attaching any precise meaning to the phrase "property in a spectacle". A 'spectacle' cannot be 'owned' in any ordinary sense of that word.' In Tenacity Consulting v Warringah Council (2004) NSWLEC 140 (Tenacity), the Land and Environment Court established a set of planning principles on view sharing and what councils should take into account in assessing view loss impacts. Assessment of the view sharing is a four-step assessment:

1. *Assessment of views to be affected*

Water views are valued more highly than land views. Iconic views (eg of the Opera House, the Harbour Bridge or North Head) are valued more highly than views without icons. Whole views are valued more highly than partial views, eg a water view in which the interface between land and water is visible is more valuable than one in which it is obscured.

2. *What part of the property the views are obtained*

   Protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries. Sitting views are more difficult to protect than standing views. The expectation to retain side views and sitting views is often unrealistic.

3. *The extent of the impact*

   This should be done for the whole of the property, not just for the view that is affected. The impact on views from living areas is more significant than from bedrooms or service areas (though views from kitchens are highly valued because people spend so much time in them). The impact may be assessed quantitatively, but in many cases, this can be meaningless; therefore. Impact should be assessed qualitatively.

4. *The reasonableness of the proposal that is causing the impact*

   The question should be asked whether a more skilful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours. If the answer to that question is no, then the view impact of a complying development would probably be considered acceptable and the view sharing reasonable.

Comments:

The departure from the height limitation of the proposed dwellings do not affect the views of the neighbours adjoins the side boundaries. The views of the dwellings on the Southern side of the Weeroona avenue will not be impacted as these dwellings are located on upwards sloping lots on the high side of the road. The view of all dwellings on the low side of the Weeroona avenue is from the rear of the dwellings from North. Therefore, departure from the height limit does not affect views enjoyed by the neighbours in terms of the value.



Existing Neighbouring Dwellings on Southern Side (High Side) of Weeroona Avenue

The second step of the principles for view sharing prescribes that 'views across side boundaries is more difficult than the protection of views from front and rear boundaries.' The proposed development will not impact the Northern (rear) view corridors from any floor levels of the neighbouring dwellings and will preserve the existing quality of views.

There are no developments on adjoining properties adjacent to the proposed secondary dwelling. The dwellings enjoy increased setbacks due to existing undeveloped road handle which adjoins the Eastern side boundary. There are no immediate neighbours at Eastern side boundary. The immediate neighbouring dwelling at the Western side boundary will retain a high level of visual privacy from the proposed principal dwelling house due to existing vegetation along the Western boundary. The Western façade includes additional windows at the upper floor level. The adjoining dwelling house to the West is a double story dwelling with lower ground floor level. Therefore, windows on the proposed first floor do not create direct or close views into the windows of the adjoining dwelling house. The building design includes appropriate measurements to assure the visual privacy of the occupants and the neighbours. The existing vegetation around the property creates a natural privacy screen and provides sufficient privacy to the occupants and the neighbours.

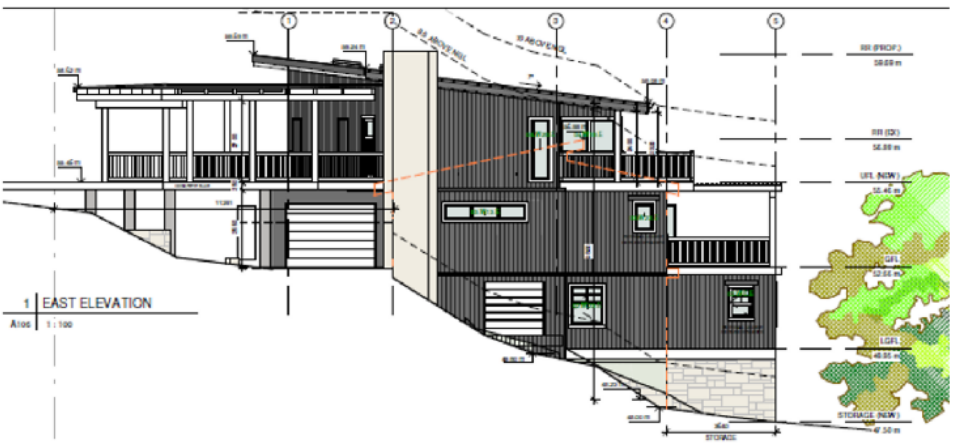
The additional shadows from the proposed dwellings will not make any changes to existing solar access levels enjoyed by the immediate neighbours. The extent of the overshadowing impacts is acceptable given the rear private open space and the private living areas of the dwelling house will retain minimum of 3 hours of direct solar access between 9 am and 3 pm on June 21 and comply with the solar access requirements of the Pittwater 21 Development Control Plan.



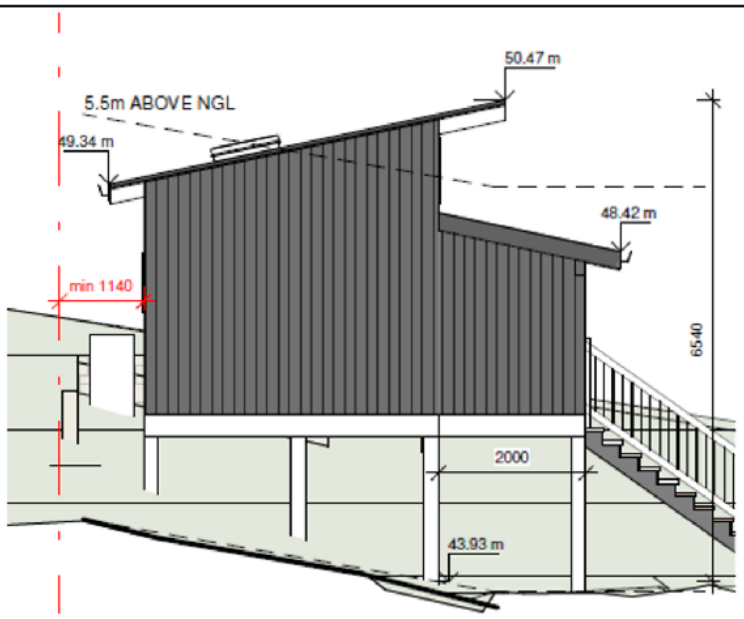
Shadow Diagram of the Proposed Development

7.1.5 (e) to encourage buildings that are designed to respond sensitively to the natural topography

The minor breach to the building height requirements is largely a result of the sloping nature of the site. The noncompliance is strictly limited mainly to the roof of the principal and secondary dwelling. The degree of noncompliance is acceptable given the development has been sensitively and skilfully designed to address the topography of the site. The building mass has been modelled and stepped in response to the land gradient.



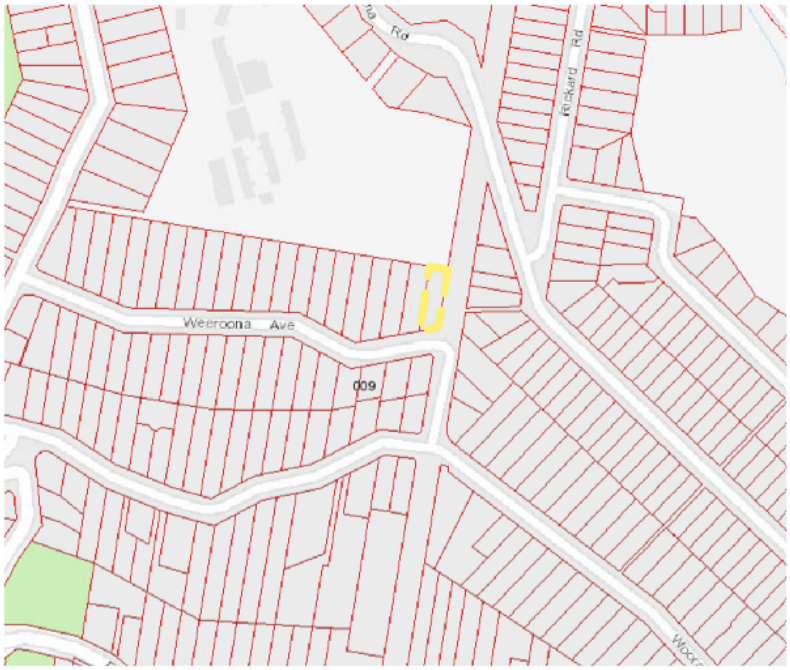
Propose Principal Dwelling's Building Design That Responds to The Slopping Nature of The Site



Propose Secondary Dwelling's Building Design That Responds to The Slopping Nature of The Site

7.1.6 (f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items

The height departure does not cause no impact to the natural environment. The site is not in the vicinity of any heritage items.



Extract from Heritage Map (ePlanning Spatial Viewer)

7.2 The objectives of the Zone E4 Environmental Living within the PLEP

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*
- *To provide for residential development of a low density and scale integrated with the landform and landscape.*
- *To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.*

7.2.1 To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.

A 'dwelling house' is a permissible form of development within an E4 Environment Living Zone. The proposed development is a low-impact residential development in keeping with the surrounding developments.

7.2.2 To ensure that residential development does not have an adverse effect on those values

The proposed dwelling will maintain the existing vegetation for the most part and also the amenities enjoyed by the neighbours. Therefore, the development will not have an adverse impact on above mentioned values. Development will always maintain guidelines to protect ecological, scientific & aesthetic values.

7.2.3 To provide for residential development of a low density and scale integrated with the landform and landscape.

The surrounding land use is residential. Proposed secondary dwelling will positively contribute to the affordable rental housing in the area. The development has been sensitively and skilfully designed to address the topography of the site. The building mass has been modelled and stepped in response to the land gradient. The proposal will maintain the visual continuity and pattern of the buildings and landscape elements within the streetscape. The development is compatible with the above objective and will be compatible with surround landscape and landform.

7.2.4 To encourage development that retains and enhances riparian and foreshore vegetation and wildlife corridors.

Proposal will retail most of the existing vegetation. The property is not identified on a wildlife corridor, riparian nor foreshore map. If there are any wildlife corridors, the development will have minimal to no impact.

7.3 Is compliance with the Development Standard unreasonable or unnecessary in the circumstances of the case?

Full compliance with the maximum height of building requirements at 8.5 metres and 5.5 metres is considered unreasonable or unnecessary in the circumstances of the case for the following reasons:

The minor breach to the building height requirements by 1.35m (15.88%) and 1.04m (18.9%) from principal and secondary dwellings, respectively, is largely a result of the sloping nature of the site. The noncompliance is strictly limited to rear of the roofs. The degree of noncompliance is acceptable given the development has been sensitively and skilfully designed to address the topography of the site. The building mass has been modelled and stepped in response to the land gradient.

The exceedance to the building height will not give rise to any adverse visual bulk and scale impacts from the neighbouring premises. The side elevations incorporate several design measures to articulate the massing of the building which includes break up roof massing into different roof elements that correspond to horizontal and vertical modulations in the façade, and denote key architectural elements, such as entries and balconies. The articulated and modulated elements will alleviate the visual massing of the built form when viewed from the neighbouring properties and will not detract from the local street context.

The additional building height will not compromise the appearance of the dwellings within the local streetscape setting. The principal dwelling will appear hardly two storeys in scale when viewed from Weeroona Avenue. In addition to this, the dwelling houses will comfortably fit below the maximum height limit for the most part and will be consistent with the existing building height plane of the streetscape.



Proposed Principal Dwelling When Viewed from Weeroona Avenue

The development will not give rise to any adverse amenity impacts to the adjoining dwellings. The Western neighbour at no.40 Weeroona Avenue and Eastern neighbour at no. 42A Weeroona Avenue will retain the required three hours of direct solar access between 9 am and 3 pm on June 21; the window openings will not directly overlook into the habitable room windows of the neighbouring dwellings; the development will not impact existing views looking at the rear from the window openings or balconies of the neighbouring properties and the perceivable visual bulk and scale will be compatible with the siting of the neighbouring dwellings.

7.3.1 The Five Part Test (Wehbe vs. Pittwater Council (2007) NSWLEC 827

In addressing the requirements of Clause 4.6 (3) (a), the accepted five possible approaches for determining whether compliance is unnecessary or unreasonable were established by the NSW Land and Environment Court in Wehbe vs Pittwater Council. Although the Wehbe case was determined in respect to State Environmental Planning Policy No. 1 – Development Standards ("SEPP 1"), it is still applicable in identifying ways in which an applicant may demonstrate that compliance with a development standard is unreasonable or unnecessary in the circumstances of the case.

In the Wehbe case Justice Preston said the most commonly invoked way to establish that compliance with a development standard is unreasonable or unnecessary is to demonstrate that the objectives of the development standard are achieved notwithstanding non-compliance with the standard. The five-part test outlined in Wehbe v Pittwater Council [2007] NSWLEC 827 is as follows:

1. The objectives of the standard are achieved notwithstanding non-compliance with the standard;

   Comments:

Refer to Section 7.1 and sub-sections for full assessment relating to compliance with the development standard.

2. The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary;

   Comments:

Refer to Section 7.3 and sub-sections for full assessment relating to compliance with the development standard.

3. The underlying object or purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable;

   Comments:

The underlying objective of the development standard is to ensure any new development is contextually compatible with the height and character of the immediate locality and ensuring the development does not compromise the environmental amenity of the neighbouring dwellings.

The breach to the maximum building height requirements will not be visible from the existing streetscape setting. The dwelling will appear two storeys in scale when viewed from Weeroona Avenue and the front (Southern) building alignment will be well within the maximum 8.5m building height development standard. The area of non-compliance to the building height of principal and secondary dwelling is negligible and occurs only at rear. The exceedance to the maximum building height will not contribute to a detracting roof element.

Above all, the discernible breach to the building height does not compromise the amenity of the adjoining neighbours. The immediate Eastern and Western neighbour's Northerly (rear) views of the site is retained; adequate levels of visual privacy is provided. The bulk and scale of the development will be compatible to the form of the neighbouring buildings and the extent of the additional overshadowing is acceptable in complying with the PDCP solar access requirements.

4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable;

Comments:

The neighbouring dwelling located on the same avenue, 135 Woorarra Avenue Elanora Heights, has been approved by the Northern Beaches Council.

5. The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard would be unreasonable or unnecessary. That Is, the parcel of land should not have been included in the particular zone.

Comments:

Not applicable. The site is zoned as E4 Environmental Living and is suitable for low-density forms of residential accommodation.

Given the above reasoning and explanations, it is our opinion that the proposal satisfies the five tests established in Wehbe and for that reason; the development standard is unreasonable and unnecessary in this instance.

7.4 Are there sufficient environmental planning grounds to justify contravening the development standard?

The proposal has been carefully designed to achieve the planning objectives for the locality and to fit in with the scale and character of the surrounding development, whilst minimising potential adverse impacts on surrounding properties. The written request successfully demonstrates that there are sufficient environmental planning grounds to justify the contravention to the development standard.

8 Conclusion

In conclusion, the proposed height results in an optimum outcome for the site and is considered to have negligible impacts above those caused by a compliant height and exhibits design excellence. The proposal is consistent with the objectives of the E4: Environmental Living Zone in that the development appropriately considers the local contextual nature of the neighbouring buildings and the objectives for Height of Buildings in accordance with Clause 4.3 of the Pittwater Local Environmental Plan 2014.

The proposal meets the intent of Council's Height of Building control and in accordance with Clause 4.6, demonstrates that strict compliance with the Clause 4.3 of PLEP (8.5 metre building height for principal dwelling and 5.5m building height for secondary dwelling) is unreasonable and unnecessary in the circumstances of the case and that there are sufficient environmental planning grounds to justify the non-compliance. As such, the proposed variation should be supported as part of the assessment of this development application.

We have attempted the provided information in this SEE to be as accurate as possible, relying on the information provided to us to date. However, we make no claims, guarantees or promises about the accuracy, currency, or completeness of the information provided and are not responsible for any errors or omissions, or for results obtained from the use of the information. Every possible effort is made to keep the content of this document accurate and current, but that may not always be the case.