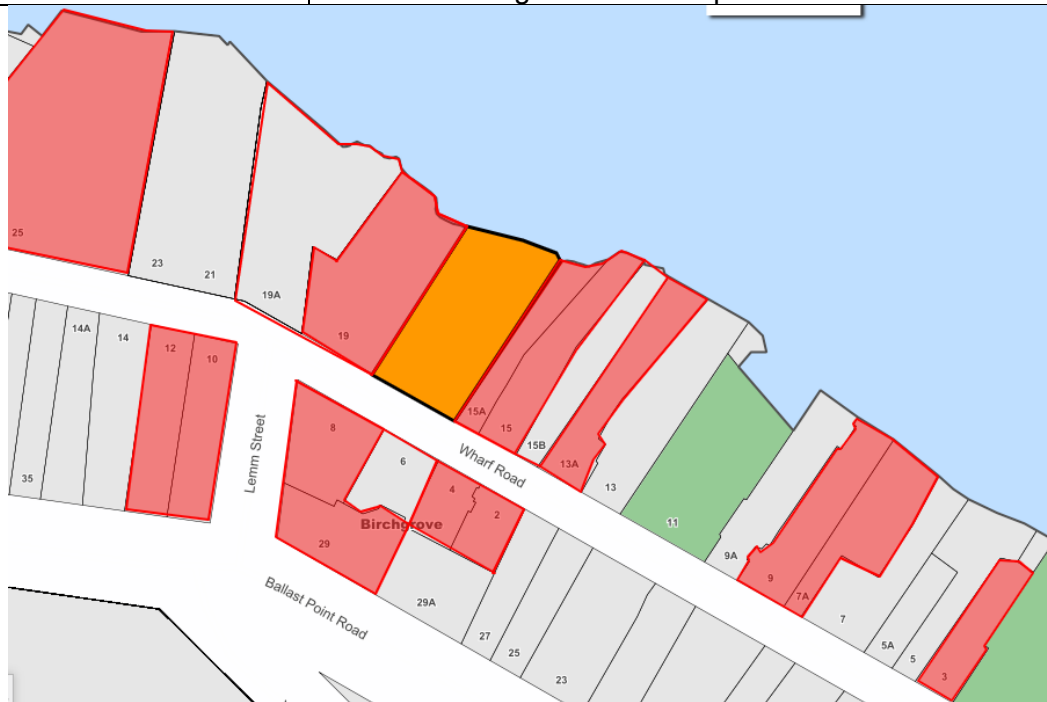






INNER WEST

DEVELOPMENT ASSESSMENT REPORT

Application No.	MOD/2021/0451
Address	17 Wharf Road BIRCHGROVE NSW 2041
Proposal	Modify approval for demolition of existing dwelling house, subdivision into two lots, construction of a new dwelling house and pool on each new lot, with remediation of both lots. Modifications include additional excavation, new dormer windows and additional floor area
Date of Lodgement	25 October 2021
Applicant	ESNH Design Pty Ltd
Owner	Mr Egidio J Gobbo Mrs Jillian T Gobbo
Number of Submissions	15
Value of works	\$1,914,000.00
Reason for determination at Planning Panel	Clause 4.6 variation exceeds 10% Number of submissions
Main Issues	Visual & Acoustic Privacy Streetscape
Recommendation	Approval with conditions
Attachment A	Recommended modified conditions of consent
Attachment B	Plans of proposed modified development
Attachment C	Statement of Heritage Significance
Attachment D	Structural and geotechnical report



LOCALITY MAP

Subject Site		Objectors		↑ N
Notified Area		Supporters		

1. Executive Summary

This report is an assessment of the application submitted to Council for modification of Determination No 2020/0461 dated 8 June 2021 granted by the Inner West Local Planning Panel for demolition of an existing single dwelling house, subdivision of the land into two lots and construction of a new dwelling house and pool on each new lot, with remediation of both lots. The modification involves changes to the approved form of the dwellings including additional floor area.

The application was notified to surrounding properties and 15 submissions were received in response to the notification.

The main issues that have arisen from the application include:

- Privacy impacts from the proposed enlargement of the rear decks to each dwelling.
- Heritage and privacy impacts from the proposed change of balustrades from vertical metal/timber to glazed balustrades.
- Increased gross floor area.
- Proposed new attic level dormer windows and additional bedrooms and bathrooms.
- Proposed retention of bathrooms at upper ground level facing the street.

Some of the proposed modifications are acceptable given minimal environmental impact. However, certain proposed modifications are considered unacceptable due to adverse amenity impacts to neighbouring properties. The application is recommended for approval subject to conditions.

2. Proposal

The proposal involves the following specific modifications to the approved development:

- Deletion of Condition 2(c) which reads:

c. That the glazing proposed for balustrades shall be replaced with vertical timber or metal balustrades.

It is proposed to alter the originally proposed glazing to balustrades with non-reflective glazing.

- Deletion of Condition 2(i) which reads:

i. That the use of the rooms at First Floor Level located immediately above the front entrance foyer of each dwelling shall be changed from bathroom to a use such as bedroom, study or similar.

It is proposed to retain the use of the rooms at the first floor level above the entry foyer of each dwelling as a bathroom.

- Deletion of Condition 2(j) which reads:

j. That the Upper Ground Level rear terraces to each dwelling shall be reduced in area so as to have a maximum depth of 1.5m measured from the face of the rear access doors to those terraces. The Lower Ground Level rear terraces may be provided with a flat/skillion roof form of minimal thickness.

It is proposed to increase the depth of the Upper Ground Level rear terraces to 3.5m and reduce the width by 0.7m for Lot 1 and by 0.9m for Lot 2.

- Deletion of Condition 2(k) which reads:

k. That the 'Attic' level roof terrace to dwelling No.17 (Lot 1) shall be reduced so as to have a maximum depth of 1.5m measured from the face of the rear access door to that terrace.

It is proposed to increase the depth of this roof terrace by 2.3m and reduce its width by 0.9m, resulting in a terrace with dimensions 2.3m x 3.0m.

- ❖ The following specific modifications are proposed to the dwelling on Lot 1 (No.17 Wharf Road) - Eastern dwelling):

Basement level:

- Reconfiguration of the internal layout to create a rumpus room and bathroom.
- Additional excavation toward Wharf Road frontage to allow for the relocation of the Wine Cellar Laundry.
- Additional excavation on the eastern side boundary to allow for the introduction of a new window (W18) to a bathroom and stairs in the side setback.
- Removal of the external bin storage area and drying court. Relocation of bin storage area to front street level side setback.
- Creation of two new windows, one on the north-western elevation (W17) and one on the south-eastern elevation (W18).
- New door to the drying court on the rear (north-eastern) elevation (D2).
- New external steps along the south-eastern elevation to relocated bin storage area.
- Removal of the external louvres on the north-western elevation.

Upper Ground level:

- Relocate the bin storage area to within the side setback to the eastern boundary.
- Reduce the width of the balcony by 0.7m increasing side boundary setbacks of 1.715m to the western boundary and a 3.175m to the eastern boundary.

Roof terrace:

- Conversion of roof space into a bedroom and bathroom.
- Increase the size of the approved 1.5m deep x 4.5m wide roof terrace to have dimensions 2.3m deep x 3.0m wide.
- Construction of 2 x dormer windows to the front elevation. One serving a bedroom and one serving a bathroom.

- ❖ The following modifications are proposed to the dwelling on Lot 2 (No.17A Wharf Road - Western dwelling):

Basement level:

- Reconfiguration of the internal layout to create a rumpus room and a bathroom.
- Additional excavation toward Wharf Road frontage to allow for the introduction of a Wine Cellar Laundry.
- Introduction of 2 x new windows; one on the north-western elevation (W2) and one on the south-eastern elevation (W25).
- Removal of the external bin storage area and drying court.
- Removal of the external louvres on the north-western elevation.

Upper Ground level:

- Increase the size of the approved 1.5m deep x 3.9m wide rear terraces to be 3.5m deep x 5.0m wide, whilst also retaining the originally proposed rear terrace roof area above the lower ground terrace.

Roof terrace:

- Conversion of roof space into a bedroom and bathroom.
- Construction of 2 x dormer windows to the front elevation. One serving a bedroom & one serving a bathroom.

The proposal involves additional excavation at basement level to accommodate the proposed wine cellar and laundry at this level to both dwellings.

3. Site Description

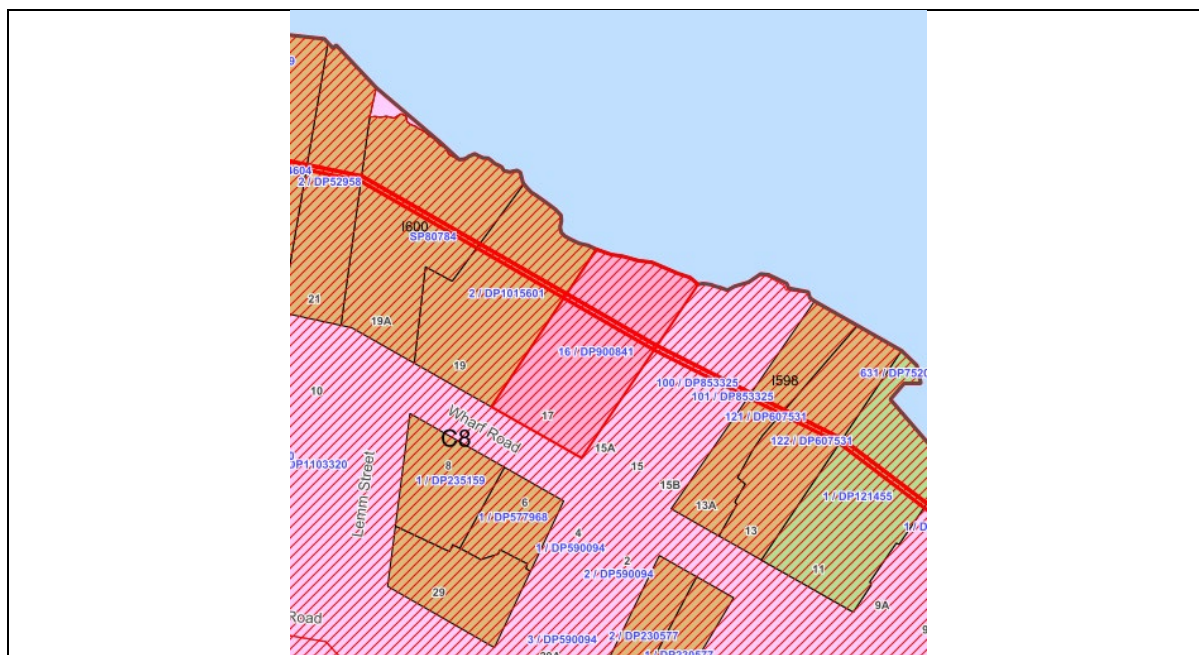
The subject site is located on the northern side of Wharf Road, between Lemm Street and Ronald Street. The site consists of one allotment and is generally rectangular with a total area of 767.6m² and is legally described as Lot 16 in DP900841.

The site has a frontage to Wharf Road of 20.115 metres and a frontage to the waterway of Snails Bay of approximately 21.2 metres. The site is affected by an easement for support to the side wall of 15A Wharf Road.

The site supports a three level detached dwelling with garage. The rear yard comprises two terraced levels down to the waterway. Stairs and a jetty extend from the rear of the site into Snails Bay.

The adjoining properties support dwellings. No.15A Wharf Road comprises an attached dwelling of four-storeys including attic, to the east of the site. No.19 Wharf Road comprises a part two/ part three-storey detached dwelling house to the west of the site which is a Heritage Item.

No.6 Wharf Road is a single storey dwelling, also a Heritage Item. No.8 Wharf Road contains a single storey dwelling with attic and is also a Heritage Item. The subject site is located within a Conservation Area. The property is identified as a foreshore inundation lot.



4. Background

4(a) Site history

The following application outlines the relevant development history of the subject site and any relevant applications on surrounding properties.

Subject Site

Application	Proposal	Decision & Date
DA/176/1994	New 3 storey dwelling	Approved on appeal 30/9/1994
D/1998/258	Erection of Carport	Refused 9/02/1999
T/2000/277	Removal of 1 x large Gum and 1 x Jacaranda at rear of property.	Approved 25/09/2000
BC/2008/146	Unauthorised works consisting of construction of masonry brick piers and new timber deck fronting Parramatta River.	Approved 1/04/2009
PREDA/2019/42	Demolish existing dwelling and subdivision	Issued 11/04/2019
DA/2020/0461	Demolition of an existing single dwelling house, subdivision of the land into two lots and construction of a new dwelling house and pool on each new lot, with remediation of both lots.	Approved 8/6/2021
MOD/2021/0269	Modify consent for demolition, subdivision and two dwellings as follows: delete condition 2(d) which was imposed in error.	Approved 20/7/2021

Surrounding properties

Application	Proposal	Decision & Date
15 Wharf Road		
DA/427/1994	Demolition of dwelling / erection of 3 storey dwelling	Approved 30/06/1995
15A Wharf Road		
D/2018/609	Alterations and additions to an existing residential dwelling including new pool with associated landscape works.	Approved 12/04/2019
15B Wharf Road		
DA/2020/0933	New in-ground swimming pool and associated works, including new waterfront access stairs	Approved 15/1/2021
MOD/2021/0305	Section 4.55(1A) Modification of Development Consent DA/2021/0933 which approved new in-ground swimming pool and spa and associated works at rear of site, seeking to amend design change condition requiring spa and paved surrounds to be lowered; and delete design change condition requiring retention of the existing waterfront access steps	Approved 10/9/2021
19 Wharf Road		
D/2007/132	Alterations and additions to dwelling house and waterfront sheds, new swimming pool, retaining walls, terraces, landscaping and removal of 1 tree. Please note: Amended plans have been submitted.	Approved 8/04/2008
D/2007/276	Remediation of contaminated land in rear garden and removal of tree.	Approved 27/12/2007
M/2008/288	Modification to D/2007/132 including the following: addition of opening to ensuite bathroom to lower ground floor, reduction in extent of balustrade to north balcony and changes to the north-east and west elevations.	Approved 6/03/2009
2 Wharf Road		
DA/2020/0895	Alterations to existing residence to provide new privacy screen to first floor side facing kitchen window	Approved 18/12/2020
4 Wharf Road		
D/2008/278	Alterations and additions to existing dwelling	Approved 29/7/2008
6 Wharf Road		
D/2008/278	Alterations and additions to existing dwelling	Approved 29/07/2008
8 Wharf Road		
D/2013/583	Alterations and additions to existing heritage listed dwelling and associated studio, and associated works including deck and ramp and removal of tree	Approved 25/07/2014

4(b) Application history

The following table outlines the relevant history of the subject application.

Date	Discussion / Letter / Additional Information
1/2/2022	Request for information
21/2/2022	Additional information received

5. Assessment

The following is a summary of the assessment of the application in accordance with Section 4.15 of the *Environmental Planning and Assessment Act 1979*.

5(a)(i) Section 4.55 Modification Provisions

Section 4.55(2)

Section 4.55(2) of the EPA Act 1979 allows a consent authority to modify a development consent granted by it, if:

- “(a) 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*
- (b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and*
- (c) it has notified the application in accordance with—*
- (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 that requires the notification or advertising of applications for modification of a development consent, and*
- (d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.”*

In considering the above:

- The essence of the development as modified is substantially the same as the original consent.
- Does not require concurrence from an approval body.
- The submissions have been considered. Refer to section (g) of this report.

5(a)(ii) *Environmental Planning Instruments*

The application has been assessed against the relevant Environmental Planning Instruments listed below:

- *State Environmental Planning Policy (Resilience and Hazards) 2021*
- *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*
- *Leichhardt Local Environment Plan 2013 (LLEP 2013)*

The following provides further discussion of the relevant issues:

5(a)(iii) *State Environmental Planning Policy (Resilience and Hazards) 2021*

Chapter 2 Coastal management

The SEPP aims to ensure that future coastal development is appropriate and sensitive to its coastal location and category. The proposed modification will not adversely affect any coastal processes or values.

Chapter 4 Remediation of land

The proposed modification does not alter the requirements under the existing consent regarding site remediation.

5(a)(iv) *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*

BASIX Certificates were submitted with the application and will be referenced in any consent granted.

5(a)(v) *State Environmental Planning Policy (Biodiversity and Conservation) 2021*

Chapter 10 Sydney Harbour Catchment

An assessment has been made of the matters set out in Division 2 Matters for Consideration of the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*. It is considered that the proposed modified development is generally consistent with the relevant matters for consideration of the Plan and would not have an adverse effect on environmental heritage, the visual environment, the natural environment or any open space and recreation facilities.

In summary, it is considered that the subject proposal satisfies the objectives of the SREP, whereby, subject to conditions, the modified development will not detract from the scenic quality of the foreshore and will not have a negative impact on the future character of the locality as visible from the water.

5(a)(vi) *Leichhardt Local Environment Plan 2013 (LLEP 2013)*

The application was assessed against the following relevant clauses of *the Leichhardt Local Environmental Plan 2013*:

- Clause 1.2 - Aims of the Plan
- Clause 2.3 - Zone objectives and Land Use Table
- Clause 2.5 - Additional permitted uses for land
- Clause 2.6 - Subdivision
- Clause 2.7 - Demolition
- Clause 4.1 - Minimum subdivision lot size
- Clause 4.3 - Height of buildings
- Clause 4.3A - Landscaped areas for residential accommodation in Zone R1
- Clause 4.4 – Floor Space Ratio
- Clause 4.4A - Exception to maximum floor space ratio for active street frontages
- Clause 4.5 - Calculation of floor space ratio and site area
- Clause 4.6 - Exceptions to development standards
- Clause 5.3 – Development near zone boundaries
- Clause 5.4 - Controls relating to miscellaneous permissible uses
- Clause 5.7 - Development below mean high water mark
- Clause 5.10 - Heritage Conservation
- Clause 5.21 - Flood Planning
- Clause 6.1 - Acid Sulfate Soils
- Clause 6.2 - Earthworks
- Clause 6.4 - Stormwater management
- Clause 6.5 - Limited development on foreshore area
- Clause 6.6 - Development on foreshore must ensure access
- Clause 6.8 - Development in areas subject to aircraft noise
- Clause 6.9 - Business and officer premises in Zone IN2
- Clause 6.10 - Use of existing buildings in Zone R1
- Clause 6.11 - Adaptive reuse of existing buildings in Zone R1
- Clause 6.12 - Residential accommodation in Zone B7
- Clause 6.13 - Diverse housing

(i) Clause 2.3 - Land Use Table and Zone Objectives

The site is zoned R1 under the *LLEP 2011*. The *LLEP 2013* defines the development as:

Dwelling House, means a building containing only one dwelling.

The development is permitted with consent within the land use table. The development is consistent with the objectives of the R1 zone.

The following table provides an assessment of the application against the development standards:

Standard	Proposal	non compliance	Complies
Minimum subdivision lot size Minimum permissible: 200 m ²	Lot 1 - 414.96m ² Lot 2 - 352.64m ²	-	Yes Yes
Floor Space Ratio Maximum permissible: 0.8:1 or Lot 1 - 331.97m ² Lot 2 - 282.11m ²	Lot 1 – 1.051:1 or 436.3m ² Lot 2 – 1.048:1 or 369.6m ²	104.3m ² or 31.4% 87.5m ² or 31.0%	No No
Landscape Area Minimum permissible: 20% or Lot 1 - 82.99m ² Lot 2 - 70.52m ²	Lot 1 – 23.3% or 96.6m ² Lot 2 – 22.9% or 80.7m ²	-	Yes Yes
Site Coverage Maximum permissible: 60% or Lot 1 - 248.97m ² Lot 2 - 211.58m ²	Lot 1 – 39.6% or 164.1m ² Lot 2 – 44.5% or 156.8m ²	-	Yes Yes

Clause 4.4 – Floor Space Ratio

As outlined in table above, the proposed modifications result in an increase in gross floor area resulting in a further breach of the Floor Space Ratio development standard. The maximum permissible FSR for the site is 0.8:1. In this regard, the original development approval involved a breach of the standard as follows:

- Lot 1 - 0.96:1 (20.28%)
- Lot 2 - 0.95:1 (18.36%)

The modification would result in an increase to the breach of the standard as follows:

- Lot 1 - 1.051:1 (31.4%)
- Lot 2 - 1.048:1 (31.0%)

With the exception of the proposed attic level dormer windows, the increase in gross floor area arising from the proposed modifications is generally contained within the approved building envelope of the dwellings.

In this regard, the increased gross floor area at the basement level, including additional excavation, is contained below street level and not visible from any public space. The proposed increase in gross floor area within the Attic (roof terrace) level is contained within the approved roof bulk. The only portion of the additional gross floor area which is apparent on this level arises from the proposed dormer windows, which combined, comprise approximately 2m² of new bulk to Lot 1 (No.17) and 1.7m² to Lot 2 (No.17A).

The assessment of the proposed modifications contained in this report demonstrates that despite the additional breaches of the standard, the additional apparent building bulk that arises in the form of the dormers, would not result in any significant adverse environmental impacts.

A breach arising from a s4.55 modification does not require a Clause 4.6 exception case. Despite this, consideration of the proposed breach has included the case made by the applicant and the objectives and provisions of Clause 4.6 of the LEP.

The applicant’s case in support of the proposed breach is summarised as follows:

- *The modified development remains compatible with the desired future character of Wharf Road and does not contribute to any additional bulk and scale impacts as the increase in GFA will generally not be visible from the public domain or neighbouring properties.*
- *The modified development remains compliant with the landscaped area controls for the site and continues to promote a balance between the built form and the landscaped area.*
- *The increase in GFA of the modified development does not contribute to an increase in the bulk and scale of the building. The use of non-reflective glazed balustrades for the rear terraces further reduces the bulk and scale of the building when viewed from neighbouring properties.*
- *The modified development does not result in any increase in building height nor does it alter the primary roof form of the approved development.*

Subject to the conditions contained in this report, the applicant's written rationale adequately demonstrates that compliance with the development standard is unnecessary in the circumstances of the case, and that there are sufficient environmental planning grounds to justify contravening the development standard.

Subject to the conditions contained in this report, it is considered that the modified development is in the public interest because it is consistent with the objectives of the LR1, in accordance with Clause 4.6(4)(a)(ii) of the Leichhardt LEP as set out below:

The relevant objectives of the R1 zone are:

- To provide for the housing needs of the community.
- To provide for a variety of housing types and densities.
- To improve opportunities to work from home.
- To provide housing that is compatible with the character, style, orientation and pattern of surrounding buildings, streetscapes, works and landscaped areas.
- To provide landscaped areas for the use and enjoyment of existing and future residents.
- To protect and enhance the amenity of existing and future residents and the neighbourhood.

The modified proposal is considered to be consistent with the zone objectives as it:

- Provides a density of residential development which is commensurate with the character of the area.
- Is compatible with the character and style of surrounding buildings and the mixed architectural styles and varied built form of dwellings in the streetscape and area.
- The proposal will achieve consistency with the above objectives by providing residential development of an appropriate bulk and scale, compatible with the existing and desired future character of the area in relation to building bulk, form and scale.
- Minimises amenity impacts to adjoining properties.

It is considered the development is in the public interest because it is consistent with the objectives of the Floor Space Ratio development standard, in accordance with Clause 4.6(4)(a)(ii) of the Leichhardt LEP as set out below:

The relevant objectives of the development standard are:

- to ensure that residential accommodation -
 - (i) is compatible with the desired future character of the area in relation to building bulk, form and scale, and
 - (ii) provides a suitable balance between landscaped areas and the built form, and
 - (iii) minimises the impact of the bulk and scale of buildings,

The proposal is consistent with the development standard objectives as it:

- Presents as 2 x two-storey detached dwelling houses from the Wharf Road frontage.
- Provides for a form of development which is compatible in relation to scale, form, materials and siting with existing development in the area.
- Complies with the Landscaped Area and Site Coverage development standards.
- Retains similar site levels to that existing at the rear of the site and maintains the openness of the rear landscaped area of the site as viewed from the waterway.
- A significant portion of the additional assessed gross floor area is located either below street level within the excavated 'basement' level or within the approved roof form thereby not significantly contributing to the apparent bulk of the building.
- Will not adversely impact the heritage qualities of the Birchgrove and Ballast Point Heritage Conservation Area or nearby Heritage Items.

Subject to the conditions contained in this report, the proposal would accord with the objective in Clause 4.6(1)(b) and requirements of Clause 4.6(3)(b) of the local environmental plan. For the reasons outlined above, there are sufficient planning grounds to justify the departure from Floor Space Ratio development standard.

Clause 5.10 - Heritage Conservation

The proposal is generally acceptable from a heritage perspective as it will not detract from the significance of the Birchgrove and Ballast Point Road Heritage Conservation Area or result in impacts on neighbouring Heritage Items, subject to conditions to ensure the development is in accordance with this clause and the objectives and controls of Leichhardt DCP2013. Specific comments in this regard are contained elsewhere in this report.

Clause 6.2 – Earthworks

The location of the proposed development, for the modified proposal, is such that the proposed dwellings are in a similar position/ depth to that of the existing dwelling on the site such that the extent of excavation to accommodate the new dwellings is limited. However, the modification provides for a minor increase in site excavation as noted elsewhere in this report. The applicant has submitted an additional geotechnical report which adequately addresses the additional excavation. Condition 2(m) of the consent which reads as follows limits the extent of excavation and is to be retained.

m. That only excavation required for placement of the dwelling within the site shall be undertaken. Excavation beyond the immediate location of approved footings and walls shall not be undertaken and the extent of excavation shall be specified on drawings prior to issue of any construction certificate.

5(b) Draft Environmental Planning Instruments

The application has been assessed against the relevant Draft Environmental Planning Instruments listed below:

Draft Environmental Planning Instruments	Compliance
Draft State Environmental Planning Policy (Environment) 2018	Yes
Draft State Environmental Planning Policy (Remediation of Land) 2018	Yes
Draft State Environmental Planning Policy (Environment) 2017	Yes

5(c) Draft Inner West Local Environmental Plan 2020 (Draft IWLEP 2020)

The Draft IWLEP 2020 was placed on public exhibition commencing on 16 March 2020 and accordingly is a matter for consideration in the assessment of the application under *Section 4.15(1)(a)(ii) of the Environmental Planning and Assessment Act 1979*.

The amended provisions contained in the Draft IWLEP 2020 are not relevant to the assessment of the application. Accordingly, the development is considered acceptable having regard to the provisions of the Draft IWLEP 2020.

5(d) Development Control Plans

5(d)(i) Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005

Sydney Harbour Foreshores & Waterways Area DCP applies to the Foreshores and Waterways Area as identified in the Sydney Harbour Foreshores & Waterways Area REP. The DCP includes design guidelines for development, particularly visual impact assessments and criteria for natural resource protection. The subject site is designated within a *Landscape Type 7* area and this part of Snails Bay has been identified as comprising '*urban development with scattered trees*.' These areas are identified in the DCP as: '*having a high level of development with a mixture of waterside industrial, residential and maritime uses. Development is suitable provided the character of the area is retained and the performance criteria are met.*'

This plan is intended to reinforce existing controls with the specific purpose of ensuring that development is sympathetic to the natural and cultural qualities of the area covered by SREP (Sydney Harbour Catchment) 2005. The proposed development is classified as *land-based development*.

Considered under the DCP with particular reference to Parts 3 and 5 of the DCP, the modified proposal satisfies the aims and performance criteria for this landscape and development type including the following considerations:

- The residential land use of the site is maintained along this section of Snails Bay

- The proposal may result in vistas to the water from the public domain in Wharf Road being gained through proposed side setbacks
- With the exception of permissible ancillary structures such as the swimming pools and landscaping structures, no works are proposed within the foreshore building line which would otherwise be prohibited
- The proposed pools adopt a similar level to the current rear yard level
- The existing site does not provide public foreshore access and the proposal does not alter this situation
- The development proposal involves erection of two new dwellings being of a style, form and spacing compatible with existing residential development along this part of Snails Bay
- Appropriate and compatible landscaping is proposed to enhance both the natural and built environment of the site
- The proposal involves erection of dwelling houses and therefore associated noise and amenity impacts will be commensurate to surrounding residential development.

5(d)(ii) Leichhardt Development Control Plan 2013

The application has been assessed and the following provides a summary of the relevant provisions of Leichhardt Development Control Plan 2013.

LDCP2013	Compliance
Part B: Connections	
B1.1 Connections – Objectives	Yes
B2.1 Planning for Active Living	Not Applicable
B3.1 Social Impact Assessment	Not Applicable
B3.2 Events and Activities in the Public Domain (Special Events)	Not Applicable
Part C	
C1.0 General Provisions	Yes
C1.1 Site and Context Analysis	Yes
C1.2 Demolition	Yes
C1.3 Alterations and additions	Not Applicable
C1.4 Heritage Conservation Areas and Heritage Items	No – see discussion
C1.5 Corner Sites	Not Applicable
C1.6 Subdivision	Not Applicable to s.4.55
C1.7 Site Facilities	Yes
C1.8 Contamination	Not Applicable to s.4.55
C1.9 Safety by Design	Yes
C1.10 Equity of Access and Mobility	Yes
C1.11 Parking	No increased impact from s.4.55 modification works
C1.12 Landscaping	Yes – see discussion
C1.13 Open Space Design Within the Public Domain	Not Applicable
C1.14 Tree Management	Not Applicable to s.4.55
C1.15 Signs and Outdoor Advertising	Not Applicable
C1.16 Structures in or over the Public Domain: Balconies, Verandahs and Awnings	Not Applicable
C1.17 Minor Architectural Details	Not Applicable
C1.18 Laneways	Not Applicable

C1.19 Rock Faces, Rocky Outcrops, Cliff Faces, Steep Slopes and Rock Walls	Yes – see discussion
C1.20 Foreshore Land	Yes – see discussion
C1.21 Green Roofs and Green Living Walls	Not Applicable
Part C: Place – Section 2 Urban Character	
C2.2.2.6 - Birchgrove Distinctive Neighbourhood	Yes – see discussion
Part C: Place – Section 3 – Residential Provisions	
C3.1 Residential General Provisions	Yes
C3.2 Site Layout and Building Design	Yes – see discussion
C3.3 Elevation and Materials	Yes – see discussion
C3.4 Dormer Windows	Yes – see discussion
C3.5 Front Gardens and Dwelling Entries	Yes
C3.6 Fences	Not Applicable to s.4.55
C3.7 Environmental Performance	Yes
C3.8 Private Open Space	Not Applicable to s.4.55
C3.9 Solar Access	Yes – see discussion
C3.10 Views	Yes – see discussion
C3.11 Visual Privacy	No – see discussion
C3.12 Acoustic Privacy	No – see discussion
C3.13 Conversion of Existing Non-Residential Buildings	Not Applicable
C3.14 Adaptable Housing	Not Applicable
Part D: Energy	
Section 1 – Energy Management	Yes
Section 2 – Resource Recovery and Waste Management	
D2.1 General Requirements	Yes
D2.2 Demolition and Construction of All Development	Yes
D2.3 Residential Development	Yes
D2.4 Non-Residential Development	Not Applicable
D2.5 Mixed Use Development	Not Applicable
Part E: Water	
Section 1 – Sustainable Water and Risk Management	
E1.1 Approvals Process and Reports Required With Development Applications	Yes
E1.1.1 Water Management Statement	Yes
E1.1.2 Integrated Water Cycle Plan	Not Applicable
E1.1.3 Stormwater Drainage Concept Plan	Not Applicable to s.4.55
E1.1.4 Flood Risk Management Report	Not Applicable
E1.1.5 Foreshore Risk Management Report	Not Applicable to s.4.55
E1.2 Water Management	Yes
E1.2.1 Water Conservation	Yes
E1.2.2 Managing Stormwater within the Site	Not Applicable to s.4.55
E1.2.3 On-Site Detention of Stormwater	Not Applicable
E1.2.4 Stormwater Treatment	Not Applicable
E1.2.5 Water Disposal	Not Applicable to s.4.55
E1.2.6 Building in the vicinity of a Public Drainage System	Not Applicable
E1.2.7 Wastewater Management	Not Applicable
E1.3 Hazard Management	Not Applicable
E1.3.1 Flood Risk Management	Not Applicable
E1.3.2 Foreshore Risk Management	Not Applicable to s.4.55

Part G: Site Specific Controls	
G5.11 Wharf Road Birchgrove	Yes

The following provides discussion of the relevant issues:

C1.4 Heritage Conservation Areas and Heritage Items

Consideration of the heritage design of the modified plans, the subject of this report, has been undertaken, including with respect to cl.5.10 of the LLEP 2013 and is as follows:

The subject property at 17 Wharf Road, Birchgrove, is a neutral building located within the Birchgrove and Ballast Point Road Heritage Conservation Area.

It is within the vicinity of numerous heritage items, the closest which are listed below:

- Timber house, including interiors at 6 Wharf Road, Birchgrove (I592);
- House, including interiors at 8 Wharf Road, Birchgrove (I595);
- House, including interiors at 13 Wharf Road, Birchgrove (I597);
- House, including interiors at 13A Wharf Road, Birchgrove (I598);
- House and remnants of former Stannard's Marina, including interiors at 19 Wharf Road, Birchgrove (I599);
- Remnants of former Stannard's Marina, including interiors at 19A Wharf Road, Birchgrove (I600);
- Semi-detached houses, including interiors at 25 and 27 Ballast Point Road, Birchgrove (I502 and I503); and
- House, including interiors at 29 Ballast Point Road, Birchgrove (I504).

The Statement of Significance for the Birchgrove and Ballast Point Road Heritage Conservation Area is in the Leichhardt DCP 2013, which is available via the link below:

<https://www.innerwest.nsw.gov.au/develop/planning-controls/heritage-and-conservation/heritage-conservation-areas>

The Statements of Significance for the heritage items in the vicinity are available from the Office of Environment & Heritage, heritage database website at:

https://www.hms.heritage.nsw.gov.au/App/Item/SearchHeritageItems?_ga=2.194634413.1287674448.1622413288-185055993.1593564306

The proposed modification seeks, in part, to amend condition 1 and the deletion of Conditions 2(c), 2(i), 2(j) and 2(k), so as to alter the approved built form of the two approved dwellings. Note: Conditions 2(j) and 2(k) were not imposed for heritage design reasons.

Condition 2(c):

The original design submitted with the DA included glazed balustrading. The heritage referral for the DA stated "*Glazed balustrades to the rear elevation are not supported for balconies and must be replaced with timber balustrades* and that a condition be included in the consent

that balustrades are to be vertical timber balustrades, or alternatively, vertical metal balustrades.

The Statement in support of the Modification application states:

“...The use of vertical timber or metal balustrades is considered unnecessary and unreasonable for this development. A number of the adjoining properties surrounding the site utilise glazed balustrades at the rear of the properties. The existing dwelling house and rear terraced landscaped area utilises glazed balustrades. The inclusion of non-reflective glazed balustrades will mitigate bulk and scale impacts to the rear, ensure minimal visual impact of view lines from adjoining properties and is consistent with the materiality of rear balustrades of development in the immediate area.”

The site is located in the Birchgrove and Ballast Point Road HCA and the Birchgrove Distinctive Neighbourhood. Glazed balustrading is not part of the desired future character of the area. The continued use of glazed balustrading will erode the detailed character of the area and how Birchgrove is viewed from the water. A more traditional application of vertical timber or metal balustrades are to be used, as conditioned. The deletion of the design change condition 2.c. is not supported.

Condition 2(i):

Control C8 of Part C3.3 of the DCP requires that front windows shall not serve non-habitable rooms. To retain the rooms immediately above the front entrance foyer of each dwelling as bathrooms does not meet the requirements of this control. The deletion of the design change condition 2.i. is not supported.

Basement Level:

There are no concerns from a heritage perspective with the increased area proposed at the basement level. These amendments will not be visible from the public domain, so will not impact on the significance of the Birchgrove and Ballast Point Road HCA.

Upper Ground Level:

There are no concerns from a heritage perspective with relocation of the bin storage area. The proposed reduction in the width of the rear balconies will reduce the bulk as viewed from the water, which is a positive heritage outcome.

However, despite this, the proposed significant increases in the depth of the rear balconies would result in additional bulk when viewed from adjoining properties and the potential for these areas to result in adverse visual and acoustic privacy impacts to neighbouring properties.

Roof Terrace Plan:

The modification proposes to convert the void roof space on this level to an additional bedroom and bathroom for each dwelling including 2 dormer windows for the proposed bedrooms and bathrooms in the south-west (street) elevations of the dwellings and an additional dormer to the north-east (rear) elevation of Dwelling No.17A.

The original design submitted with the Development Application included 2 bedrooms and a void on the roof terrace level. From a heritage perspective, it was stated the height of the street (south-west) facades and the rear (north-east) facades of the dwellings must complement the established height of dwellings within the Wharf Road streetscape and in

particular those dwellings adjoining the site (Nos.15 and 19) and as viewed from the harbour. The proposal was amended to reduce the overall roof height of the dwellings.

The proposed conversion of the roof void areas is acceptable on heritage grounds as this will be wholly contained within the envelope of the approved dwellings and will not result in any additional height. It is evident in the 1943 aerial photo that dormer windows have formed part of the Wharf Road streetscape. Therefore, the proposed dormers will generally be complementary to the historic character of the streetscape and area and are acceptable.

C1.12 Landscaping

The proposed modification to Lot 1 (No.17) would result in a reduction in the provision of Landscaped Area on the site as a result of the introduction of new stairs and provision of bin storage area in the south-eastern side setback. However, the total provision of landscaped area on the site would remain compliant.

C1.19 Rock Faces, Rocky Outcrops, Cliff Faces, Steep Slopes and Rock Walls

The modification provides for additional excavation at the basement level to accommodate a repositioned Laundry and Wine Cellar. This excavation would not extend closer to the Wharf Road site frontage than the existing approved stairwell location in both dwellings. It is considered that such additional excavation would be imperceptible from either Wharf Road or the waterway.

C1.20 Foreshore Land

The proposal has been considered to be generally consistent with Clauses 6.5 and 6.6 of the Leichhardt LEP 2013. In this regard, the Foreshore Building Line (FBL) is located 26m from the front boundary of the site. The approved dwellings are located clear of the FBL and the proposed modifications will not alter this situation.

The proposal has been considered under the provisions of the SREP (Sydney Harbour Catchment) 2005 and Sydney Harbour Foreshores and Waterways Area DCP (2005). In this regard, the subject site is identified as Urban Development with Scattered Trees under this DCP. The proposed works are defined as *Land-based development*. The proposal satisfies the guidelines for land-based development under Section 5.

With regard to the appearance of the dwellings from the waterway and as noted elsewhere in this report, the proposed deletion of condition 2(i), which requires the glazed balustrades be replaced with vertical timber or metal is not supported.

C2.2.2.6 - Birchgrove Distinctive Neighbourhood

As noted elsewhere in this report, the form and character of the proposed modifications to the approved development are considered to be generally satisfactory subject to the retention of conditions 2(c) & 2(i).

C3.2 Site Layout and Building Design

Building Envelope – The site is subject to a 6m building envelope control. The proposed dormer windows would penetrate the building envelope. The controls allow for minor architectural details such as dormer windows to penetrate the envelope.

Building Location Zone – The proposed modifications will not result in a breach of the rear Building Location zone.

The rearward location of the dwellings is within the Foreshore Building Line (FBL) under the Leichhardt LEP2013; and also both the FBL and Building Line nominated under Part G5.3 of the Leichhardt DCP 2013.

Side Setbacks – The proposed modifications would not result in further breach of the side setback control, as the approved building wall heights are not proposed to be changed. Rather, the proposed dormer forms are architectural projections from the main building. In the case of the rear terraces, the approved form of the supporting building upon which they are located is not proposed to be enlarged.

C3.3 Elevation and Materials

As noted elsewhere in this report, the proposed use of glazed balustrades is not supported on heritage design grounds. Control C11 to this part stipulates that:

C11 Materials and finishes are compatible with those prevailing in the streetscape and the period of construction of the dwelling.

Consequently, it is considered that the proposed modification of the consent to delete condition 2(c) is not supported and the balustrades referred to are to be altered to have more traditional materials so as to satisfy control C11.

The original design of each dwelling included the provision of a bathroom on the first floor level above the entry foyer on the upper ground level immediately below. This design was required to be altered by condition of consent as the provision of non-habitable rooms in the façade facing the street is contrary to control C8 to this Part which states:

‘C8 - Front windows shall not serve non-habitable rooms.’

Given the development represents a new dwelling with significant scope for relocating the first floor front bathrooms elsewhere in the approved floorplate, the proposed modification of the consent to delete condition 2(i) is not supported.

The modification also involves the introduction of two front attic level roof dormers to each dwelling. One of which is proposed to serve a bathroom. It is considered that given the high position of these windows in the façade that the perceptibility of the bathroom use would be greatly reduced and acceptable in the circumstances.

C3.4 – Dormer Windows

The proposed modification includes the provision of two front dormer windows to each dwelling. The proposed dormers are to serve proposed upper level attic bedrooms and bathrooms. An additional dormer window is proposed to the rear roof plane of Lot 2 (No.17A). As noted elsewhere in this advice the proposed dormers are supported on heritage design grounds.

C3.9 Solar Access

The proposed modifications to the approved form of development have been assessed as satisfying the solar access requirements, which includes the following specific amenity controls:

C13 Where the surrounding allotments are orientated north/south and the dwelling has north facing glazing serving the main living room, ensure a minimum of three hours solar access is maintained between 9am and 3pm during the winter solstice.

C17 Where surrounding dwellings have north facing private open space, ensure solar access is retained for three hours between 9am and 3pm to 50% of the total area during the winter solstice.

In this regard, the modified proposal would not result in significant shadow impacts to Nos.6, 8, 15A or 19 Wharf Road. It is noted that the impact to 6 and 8 Wharf Road is limited to shadows to front windows at 9am mid-winter, with no impact by 10am.

Shadow impact to 19 Wharf Road is not significantly altered by the proposed modifications and is limited to shadows to the eastern side setback of that premises at 9am mid-winter. Solar access to rear private open space and main living room windows satisfies the controls or is unaffected during the assessment times.

Shadow impact to 15A Wharf Road is not significantly altered by the proposed modifications. Solar access to rear private open space and main living room windows satisfies the controls or is unaffected during the assessment times.

C3.10 Views

The proposed modifications to the approved development, including the proposed dormer windows to the attic (Roof Terrace) level would not result in any significant additional view loss to neighbouring properties to that of the current approved development.

While it is acknowledged that certain properties will be affected by view loss impact from the current approved form of development, it is considered that the proposal is reasonable. The proposal is therefore considered to be acceptable with regard to view impacts under Part C3.10.

C3.11 Visual Privacy & C3.12 Acoustic Privacy

Rear Upper Ground Level Terraces

The current approved development includes two elevated rear terraces to the Upper Ground floor level of each dwelling. The terrace located at the Upper Ground floor level of each dwelling was reduced in size by condition 2(j) so as to be no deeper than 1.5m. The terrace sizes at the Lower Ground level were approved with more significant dimensions of 3.6m deep x 6.9m wide (No.17) and 3.5m deep x 5.9m wide (No.17A). The lower ground floor terraces being located above similarly dimensioned Basement Level terraces to each dwelling which connect to the rear yard areas.

The modification seeks to increase the approved upper ground level terrace dimensions to be 3.5m x 5.6m to Lot 1 (No.17) & 3.5m x 5.0m to Lot 2 (No.17A). This represents an increase in these upper level terrace areas by approximately 230%. These terraces were reduced in depth so as to reduce the potential use of these spaces as large, elevated entertainment areas with consequent potential for adverse visual and acoustic privacy impacts to neighbouring properties. It is considered that the proposed modification is contrary to this intention. The modification seeks to offset potential impacts by increasing the side boundary setback of these terraces.

It is considered that, despite the proposed increase in the side setback, the placement of large terrace areas at this level would result in large elevated external entertainment areas at two levels of the subject dwellings, in addition to the terrace at basement (ground) level. The dwellings also maintain terrace/balconies at the First Floor and Attic (roof terrace) levels serving bedrooms.

The proposed modification to the approved rear upper ground level terraces would be contrary to control C9 to this Part. This control states:

C9 - Balconies at first floor or above at the rear of residential dwellings will have a maximum depth of 1.2m and length of 2m unless it can be demonstrated that due to the location of the balcony there will be no adverse privacy impacts on surrounding residential properties with the provision of a larger balcony.

As the proposed resultant large, elevated terraces extend rearward from lounge/dining rooms, they would likely be used as outdoor entertainment areas, with consequent implications for both visual and acoustic disturbance to neighbouring properties.

The request to modify the consent to allow the enlarged terraces would again facilitate their use as outdoor entertainment areas particularly given the elevation and site location. Further, the current modification application has failed to demonstrate that this would not reasonably be the case, or that the intent of Control C10, which limits living areas to ground level, has not been compromised. As a consequence, condition 2(j) should not be deleted.

Rear Roof Terrace (Attic) Level Terraces

The current approved development also includes two elevated rear terraces at the attic (Roof Terrace) level to each dwelling. The terrace located at the attic level of Lot 1 (No.17) was reduced in size by condition 2(k) so as to be no deeper than 1.5m.

The modification seeks to alter the approved attic level terrace of Lot 1 (No.17) by increasing the side boundary setbacks and the depth of the terrace resulting in the dimensions being increased to 2.3m x 3.0m. The approved dimensions being 1.5m x 4.5. This represents an increase in the terrace area by 0.15m².

The increase in terrace area is considered minor and in concert with the increased side boundary setbacks would not likely result in any perceptible decrease in visual or acoustic privacy to neighbouring properties. Consequently, condition 2(k) is recommended to be deleted.

G5.11 Wharf Road Birchgrove

The proposal has been assessed against this Part and is considered to comply with its provisions.

5(e) The Likely Impacts

The assessment of the Development Application demonstrates that, subject to the recommended conditions, the proposal will have minimal impact in the locality.

5(f) The suitability of the site for the development

Provided that any adverse effects on adjoining properties are minimised, this site is considered suitable to accommodate the proposed development, and this has been demonstrated in the assessment of the application.

5(g) Any submissions

The application was notified in accordance with the Community Engagement Framework for a period of 14 days to surrounding properties. Fifteen (15) submissions were received in response to the initial notification.

The following issues raised in submissions have been discussed in this report:

- Visual & acoustic privacy impacts from the enlargement of the rear upper ground level terraces.
- Use of glass balustrades would decrease visual privacy.
- Increased floor space ratio/scale/bulk.
- Breach of the side setback control.
- Additional excavation impact.
- Streetscape impact of front dormer windows.
- Rear dormer window not centrally located in roof.
- View Loss.
- Impact on appearance to waterway.
- Traffic/ Parking impacts.

In addition to the above issues, the submissions raised the following concerns which are discussed under the respective headings below:

Issue: View Loss

Comment: The proposed modification does not result in any significant increase to the approved bulk of the development such as would significantly impact existing views over or through the site.

Issue: Traffic/ Parking impacts.

Comment: The proposed modification involves changes to minor forms of architectural detail and projections to the approved development and does not result in any increase in parking demand or traffic generation.

5(h) The Public Interest

The public interest is best served by the consistent application of the requirements of the relevant Environmental Planning Instruments, and by Council ensuring that any adverse effects on the surrounding area and the environment are appropriately managed.

The proposal is not contrary to the public interest.

6 Referrals

6(a) Internal

The application was referred to the following internal sections/officers and issues raised in those referrals have been discussed in section 5 above.

- Heritage
- Engineering

7. Section 7.11 Contributions/7.12 Levy

Section 7.11 contributions payable for the proposal under the conditions of the original consent are not altered by the proposed modification.

8. Conclusion

The proposal generally complies with the aims, objectives and design parameters contained in Section 4.55 of the Environmental Planning and Assessment Act 1979, Leichhardt Local Environmental Plan 2013 and Leichhardt Development Control Plan 2013.

Subject to recommended conditions (retention of some of the existing conditions) the proposed modification to the approved development will not result in any significant impacts on the amenity of the adjoining premises/properties and the streetscape and is considered to be in the public interest.

The modification application is considered suitable for approval subject to the imposition of appropriate conditions.

9. Recommendation

- A. That the Inner West Local Planning Panel exercising the functions of the Council as the consent authority, pursuant to S4.55(2) of the *Environmental Planning and Assessment Act 1979*, grant consent to Modification Application No. MOD/2021/0451 to modify approval for Demolition of an existing single dwelling house, subdivision of the land into two lots and construction of a new dwelling house and pool on each new lot, with remediation of both lots, including additional excavation, new dormer windows and additional floor area at 17 Wharf Road, Birchgrove subject to the conditions listed in Attachment A below:

Therefore, it is recommended that Council, as the consent authority, modify Development Consent DA/2020/0461 at 17 Wharf Road Birchgrove, in the following way:

A. Modify the following Condition/s to read as follows:

1. Development must be carried out in accordance with Development Application No. D/2015/299, as modified, and the following plans and supplementary documentation, except where amended by the conditions of this consent.

Plan, Revision and Issue No.	Plan Name	Date Issued	Prepared by
1902-DA01C	Site & Site Analysis Plan	April 2021	ESNH Design
1902 DA01C	Site & Site Analysis Plan	August 2021	ESNH Design
1902 DA02A	Demolition Plan	October 2020	ESNH Design
1902 DA03B	Subdivision plan	March 2021	ESNH Design
1902-DA04D	Basement Plan	April 2021	ESNH Design
1902 DA04E	Basement Plan	August 2021	ESNH Design
1902 DA05B	Lower Ground Floor Plan	March 2021	ESNH Design
1902-DA06C	Upper Ground Floor Plan	March 2021	ESNH Design
1902 DA06D	Upper Ground Floor Plan	August 2021	ESNH Design
1902 DA07B	First Floor Plan	March 2021	ESNH Design
1902-DA08B	Roof Terrace Plan	March 2021	ESNH Design
1902 DA08C	Roof Terrace Plan	August 2021	ESNH Design
1902-DA09C	Roof Plan	April 2021	ESNH Design
1902 DA09D	Roof Plan	August 2021	ESNH Design
1902-DA10C	Elevations sheet 1 of 2	March 2021	ESNH Design
1902 DA10D	Elevations sheet 1 of 2	August 2021	ESNH Design
1902-DA11D	Elevations sheet 2 of 2	April 2021	ESNH Design
1902 DA11E	Elevations sheet 2 of 2	August 2021	ESNH Design
1902-DA12D	Sections sheet 1 of 2	April 2021	ESNH Design
1902 DA12D	Sections sheet 1 of 2	Sept 2021	ESNH Design
1902-DA13B	Sections sheet 2 of 2	April 2021	ESNH Design
1902 DA13C	Sections sheet 2 of 2	Sept 2021	ESNH Design
1902-DA14D	Landscape Plan	April 2021	ESNH Design

1902 DA14D	Landscape Plan	August 2021	ESNH Design
1902 DA15	Finishes Schedule	April 2020	ESNH Design
1094914S	BASIX Certificate - 17 Wharf Rd (Lot 1)	23/4/2020	ECOMODE Design
1245034S	BASIX Certificate - 17 Wharf Rd (Lot 1)	8/10/2021	Thermperform
1095402S	BASIX Certificate - 17A Wharf Rd (Lot 2)	23/4/2020	ECOMODE Design
1245071S	BASIX Certificate - 17A Wharf Rd (Lot 2)	8/10/2021	Thermperform
C-3522-01 Rev.4	Stormwater Drainage Plan & Driveway Cross-sections	15/12/2020	Kozarovski & Partners
C-3522-02 Rev.4	Stormwater Drainage Plan - Lower Ground, First & Roof Terrace Levels	15/12/2020	Kozarovski & Partners
-	Construction Methodology Report	21/4/2020	Design Engineering Management Interiors
GS7839-1A	Foreshore Risk Management Report	18/2/2020	Aargus
P1907572JR02V01	Geotechnical Report	28/4/2020	Martens Engineers
80822149:LO:01:CF	Structural And Geotechnical Report	21/2/2022	Cardno
P1907572JR04V01	Remedial Action Plan	2/6/2020	Martens Engineers
C-3522-01	Sediment & Erosion Control Plan	30/4/2020	Kozarovski & Partners
-	Site Waste Minimisation & Management Plan	April 2020	ESNH Design
8701-2	Statement of Heritage Impact	24/4/2020	Heritage 21
8701-2	Statement of Heritage Impact	24/4/2020	Heritage 21
9305 - Issue 4	Statement of Heritage Impact	14/10/2021	Heritage 21

(MOD/2021/0451)

As amended by the conditions of consent.

2. Design Change

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with amended plans demonstrating the following:

- a. That the windows in the south east elevation of the dwelling at No.17 adjacent to the stairs shall be redesigned so they are the same dimensions and proportions as the windows in the south west elevation of bedroom 2 on the first floor of dwelling No.17A.
- b. That the remaining extent of the existing garage shall be retained.
- c. That the glazing proposed for balustrades shall be replaced with vertical timber or metal balustrades.
- d. ~~That the front wall height of each of the dwellings shall be reduced by lowering the front wall height and main roof of the dwelling at 17 (Lot 1) by 0.3m, and the dwelling at 17A (Lot 2) by 0.5m. (Condition deleted under MOD/2021/0269 on 20 July 2021)~~
- e. That all proposed works below the existing rearmost retaining wall above the rock shelf shall be deleted, including the proposed rear waterfront deck and new access stairs from Lot 2 (17A); and any infill of the existing gap located under the existing timber deck at the western side of the exposed waterside rock face.
- f. That the appearance of the existing exposed rock shelf from the waterway shall be retained unaltered.
- g. That the appearance of the garage door opening to dwelling 17 (Lot 1) shall be treated by way of materials/finishes to increase its verticality in this facade.
- h. That the provision of electricity mains supply from Wharf Road to each of the proposed lots shall be effected without the use of power poles located within the lot/s. Electricity supply should be by way of underground cables.
- i. That the use of the rooms at First Floor Level located immediately above the front entrance foyer of each dwelling shall be changed from bathroom to a use such as bedroom, study or similar.
- j. That the Upper Ground Level rear terraces to each dwelling shall be reduced in area so as to have a maximum depth of 1.5m measured from the face of the rear access doors to those terraces. The Lower Ground Level rear terraces may be provided with a flat/skillion roof form of minimal thickness.
- k. ~~**That the 'Attic' level roof terrace to dwelling No.17 (Lot 1) shall be reduced so as to have a maximum depth of 1.5m measured from the face of the rear access door to that terrace. (MOD/2021/0451)**~~
- l. That privacy screens or devices, whether temporary or permanent, shall not be erected on the rear terraces/balconies at any time.

- m. That only excavation required for placement of the dwelling within the site shall be undertaken. Excavation beyond the immediate location of approved footings and walls shall not be undertaken and the extent of excavation shall be specified on drawings prior to issue of any construction certificate.
- n. That the proposed second kitchen (kitchenette) on the upper ground floor level of each dwelling house shall be deleted.
- o. That windows W10 & W19 located in dwelling 17A (lot 2) shall be fitted with obscure glazing.

Attachment A – Recommended modified conditions of consent

CONDITIONS OF CONSENT

DOCUMENTS RELATED TO THE CONSENT

1. Documents related to the consent

1. Development must be carried out in accordance with Development Application No. D/2015/299, as modified, and the following plans and supplementary documentation, except where amended by the conditions of this consent.

Plan, Revision and Issue No.	Plan Name	Date Issued	Prepared by
1902-DA01C	Site & Site Analysis Plan	April 2021	ESNH Design
1902 DA01C	Site & Site Analysis Plan	August 2021	ESNH Design
1902 DA02A	Demolition Plan	October 2020	ESNH Design
1902 DA03B	Subdivision plan	March 2021	ESNH Design
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1902 DA04E	Basement Plan	August 2021	ESNH Design
1902 DA05B	Lower Ground Floor Plan	March 2021	ESNH Design
1902-DA06C	Upper Ground Floor Plan	March 2021	ESNH Design
1902 DA06D	Upper Ground Floor Plan	August 2021	ESNH Design
1902 DA07B	First Floor Plan	March 2021	ESNH Design
1902-DA08B	Roof Terrace Plan	March 2021	ESNH Design
1902 DA08C	Roof Terrace Plan	August 2021	ESNH Design
1902-DA09C	Roof Plan	April 2021	ESNH Design
1902 DA09D	Roof Plan	August 2021	ESNH Design
1902-DA10C	Elevations sheet 1 of 2	March 2021	ESNH Design
1902 DA10D	Elevations sheet 1 of 2	August 2021	ESNH Design
1902-DA11D	Elevations sheet 2 of 2	April 2021	ESNH Design
1902 DA11E	Elevations sheet 2 of 2	August 2021	ESNH Design
1902-DA12D	Sections sheet 1 of 2	April 2021	ESNH Design

1902 DA12D	Sections sheet 1 of 2	Sept 2021	ESNH Design
1902 DA13B	Sections sheet 2 of 2	April 2021	ESNH Design
1902 DA13C	Sections sheet 2 of 2	Sept 2021	ESNH Design
1902 DA14D	Landscape Plan	April 2021	ESNH Design
1902 DA14D	Landscape Plan	August 2021	ESNH Design
1902 DA15	Finishes Schedule	April 2020	ESNH Design
1094914S	BASIX Certificate - 17 Wharf Rd (Lot 1)	23/4/2020	ECOMODE Design
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1095402S	BASIX Certificate - 17A Wharf Rd (Lot 2)	23/4/2020	ECOMODE Design
1245071S	BASIX Certificate - 17A Wharf Rd (Lot 2)	8/10/2021	Thermperform
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C-3522-02 Rev.4	Stormwater Drainage Plan - Lower Ground, First & Roof Terrace Levels	15/12/2020	Kozarovski & Partners
-	Construction Methodology Report	21/4/2020	Design Engineering Management Interiors
GS7839-1A	Foreshore Risk Management Report	18/2/2020	Aargus
P1907572JR02V01	Geotechnical Report	28/4/2020	Martens Engineers
80822149:LO:01:CF	Structural And Geotechnical Report	21/2/2022	Cardno
P1907572JR04V01	Remedial Action Plan	2/6/2020	Martens Engineers
C-3522-01	Sediment & Erosion Control Plan	30/4/2020	Kozarovski & Partners
-	Site Waste Minimisation & Management Plan	April 2020	ESNH Design
8701-2	Statement of Heritage Impact	24/4/2020	Heritage 21
8701-2	Statement of Heritage Impact	24/4/2020	Heritage 21
9305 - Issue 4	Statement of Heritage Impact	14/10/2021	Heritage 21

(MOD/2021/0451)

As amended by the conditions of consent.

DESIGN CHANGE**2. Design Change**

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with amended plans demonstrating the following:

- a. That the windows in the south east elevation of the dwelling at No.17 adjacent to the stairs shall be redesigned so they are the same dimensions and proportions as the windows in the south west elevation of bedroom 2 on the first floor of dwelling No.17A.
- b. That the remaining extent of the existing garage shall be retained.
- c. That the glazing proposed for balustrades shall be replaced with vertical timber or metal balustrades.
- d. ~~That the front wall height of each of the dwellings shall be reduced by lowering the front wall height and main roof of the dwelling at 17 (Lot 1) by 0.3m, and the dwelling at 17A (Lot 2) by 0.5m. (Condition deleted under MOD/2021/0269 on 20 July 2021)~~
- e. That all proposed works below the existing rearmost retaining wall above the rock shelf shall be deleted, including the proposed rear waterfront deck and new access stairs from Lot 2 (17A); and any infill of the existing gap located under the existing timber deck at the western side of the exposed waterside rock face.
- f. That the appearance of the existing exposed rock shelf from the waterway shall be retained unaltered.
- g. That the appearance of the garage door opening to dwelling 17 (Lot 1) shall be treated by way of materials/finishes to increase its verticality in this facade.
- h. That the provision of electricity mains supply from Wharf Road to each of the proposed lots shall be effected without the use of power poles located within the lot/s. Electricity supply should be by way of underground cables.
- i. That the use of the rooms at First Floor Level located immediately above the front entrance foyer of each dwelling shall be changed from bathroom to a use such as bedroom, study or similar.
- j. That the Upper Ground Level rear terraces to each dwelling shall be reduced in area so as to have a maximum depth of 1.5m measured from the face of the rear access doors to those terraces. The Lower Ground Level rear terraces may be provided with a flat/skillion roof form of minimal thickness.
- k. ~~**That the 'Attic' level roof terrace to dwelling No.17 (Lot 1) shall be reduced so as to have a maximum depth of 1.5m measured from the face of the rear access door to that terrace. (MOD/2021/0451)**~~
- l. That privacy screens or devices, whether temporary or permanent, shall not be erected on the rear terraces/balconies at any time.
- m. That only excavation required for placement of the dwelling within the site shall be undertaken. Excavation beyond the immediate location of approved footings and walls shall not be undertaken and the extent of excavation shall be specified on drawings prior to issue of any construction certificate.

- n. That the proposed second kitchen (kitchenette) on the upper ground floor level of each dwelling house shall be deleted.
- o. That windows W10 & W19 located in dwelling 17A (lot 2) shall be fitted with obscure glazing.

FEES

3. Security Deposit - Custom

Prior to the commencement of demolition works or prior to the issue of a Construction Certificate, the Certifying Authority must be provided with written evidence that a security deposit and inspection fee has been paid to Council to cover the cost of making good any damage caused to any Council property or the physical environment as a consequence of carrying out the works and as surety for the proper completion of any road, footpath and drainage works required by this consent.

Security Deposit:	\$15,000
Inspection Fee:	\$230.65

Payment will be accepted in the form of cash, bank cheque, EFTPOS/credit card (to a maximum of \$10,000) or bank guarantee. Bank Guarantees must not have an expiry date.

The inspection fee is required for the Council to determine the condition of the adjacent road reserve and footpath prior to and on completion of the works being carried out.

Should any of Council's property and/or the physical environment sustain damage during the course of the demolition or construction works, or if the works put Council's assets or the environment at risk, or if any road, footpath or drainage works required by this consent are not completed satisfactorily, Council may carry out any works necessary to repair the damage, remove the risk or complete the works. Council may utilise part or all of the security deposit to restore any damages, and Council may recover, in any court of competent jurisdiction, any costs to Council for such restorations.

A request for release of the security may be made to the Council after all construction work has been completed and a final Occupation Certificate issued.

The amount nominated is only current for the financial year in which the consent was issued and is revised each financial year. The amount payable must be consistent with Council's Fees and Charges in force at the date of payment.

4. Section 7.11 (Former Section 94) Contribution

Prior to the issue of a Construction Certificate/ issue of a Subdivision Certificate/ before commencing works written evidence must be provided to the Certifying Authority that a monetary contribution of \$XXX in accordance with Developer Contributions Plan No.1 – Open Space and Recreation; 'Developer Contributions Plan No.2 – Community Facilities and Services (2005); and Leichhardt Developer Contributions Plan – Transport and Access 'CP' has been paid to the Council.

The above contribution is the contribution applicable as at the date of consent.

The contribution payable has been calculated in accordance with the CP and relates to the following public amenities and/or services and in the following amounts:

Local Infrastructure Type:	Contribution \$
Open Space and Recreation	\$34,065.65
Community Facilities and Services	\$5,206.45
Access to Balmain Peninsula	\$698.81
Bicycle Works	\$29.09
TOTAL	\$40,000.00

A copy of the CP can be inspected at any of the Inner West Council Services Centres or viewed online at:

<https://www.innerwest.nsw.gov.au/develop/planning-controls/section-94-contributions>

Payment methods:

The required contribution must be paid either *by BPAY (to a maximum of \$500,000); unendorsed bank cheque (from an Australian Bank only); EFTPOS (Debit only); credit card (Note: A 1% credit card transaction fee applies to all credit card transactions; cash (to a maximum of \$10,000))*. It should be noted that personal cheques or bank guarantees cannot be accepted for the payment of these contributions. Prior to payment contact Council's Planning Team to review charges to current indexed quarter, please allow a minimum of 2 business days for the invoice to be issued before payment can be accepted.

*NB A 0.75% credit card transaction fee applies to all credit card transactions.

5. Long Service Levy

Prior to the issue of a Construction Certificate, written evidence must be provided to the Certifying Authority that the long service levy in accordance with Section 34 of the *Building and Construction Industry Long Service Payments Act 1986* has been paid at the prescribed rate of 0.35% of the total cost of the work to either the Long Service Payments Corporation or Council for any work costing \$25,000 or more.

GENERAL CONDITIONS

6. Contamination – Remedial Action Plan (No Site Auditor Engaged)

The site is to be remediated and validated in accordance with the recommendations set out in the Remedial Action Plan, prepared by Martens Consulting Engineers reference P1907572JR04V01 dated June 2020 the *Contaminated Land Management Act 1997* and the *State Environmental Planning Policy No 55*.

7. Hazardous Materials Survey

Prior to any demolition or the issue of a Construction Certificate (whichever occurs first), the Certifying Authority must provide a hazardous materials survey to Council. The survey shall be prepared by a suitably qualified Occupational Hygienist and is to incorporate appropriate hazardous material removal and disposal methods in accordance with the requirements of SafeWork NSW.

A copy of any SafeWork NSW approval documents is to be included as part of the documentation.

8. Tree Protection

No trees on public property (footpaths, roads, reserves etc.) are to be removed or damaged during works unless specifically approved in this consent or marked on the approved plans for removal.

Prescribed trees protected by Council's Management Controls on the subject property and/or any vegetation on surrounding properties must not be damaged or removed during works unless specific approval has been provided under this consent.

No activities, storage or disposal of materials taking place beneath the canopy of any tree (including trees on neighbouring sites) protected under Council's Tree Management Controls at any time.

9. Works Outside the Property Boundary

This development consent does not authorise works outside the property boundaries on adjoining lands.

10. Rock Anchors

This consent does not grant consent for any rock anchors on the road reserve or Council land.

11. Tree Planting Plan

Prior to the issue of a Construction Certificate, the Certifying Authority is required to be provided with a detailed tree planting plan, drawn to scale, by an AQF5 consultant Arborist or Landscape Designer. The plan must include:

1. Location of existing and proposed structures on the site including, but not limited to: existing and proposed trees, paved areas and planted areas;
2. Details of any earthworks, changes to existing grade and soil depths including mounding and retaining walls;
3. Location, numbers, type and supply of trees, with reference to AS2303:2018—*Tree stock for landscape use*
4. A minimum of four (4) new trees (two per lot) must be included in the design. The trees species must attain a minimum mature height of seven (7) metres. Trees listed as exempt species from Council's Tree Management Controls, Palms, fruit trees and species recognised to have a short life span are not acceptable in satisfaction of this condition;
5. New trees must be planted in natural ground. It must be demonstrated that there is sufficient soil volume to allow maturity to be achieved (refer to Council's *Development Fact Sheet—Trees on Development Sites* for further information).
6. New trees must be appropriately located away from buildings and structures to allow maturity to be achieved without restriction. Trees must be located at a minimum setback of 1.5 metres from any boundary or structure and 2.2 metres from any dwelling or garage.
7. Structures such as OSD's and below ground services are not to be located within areas of deep soil or under the canopy of any existing trees.
8. Details of planting specification and maintenance programme.

12. Noise Levels and Enclosure of Pool/spa Pumping Units

Noise levels associated with the operation of the pool/spa pumping units must not exceed the background noise level (L90) by more than 5dBA above the ambient background within habitable rooms of adjoining properties. Pool plant and equipment must be enclosed in a sound absorbing enclosure or installed within a building so as not to create an offensive noise as defined under the *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (Noise Control) Regulation 2008*.

Domestic pool pumps and filters must not be audible in nearby dwellings between 8:00pm to 7:00am Monday to Saturday and 8:00pm to 8:00am Sundays and Public Holidays.

13. Waste Management Plan

Prior to the commencement of any works (including any demolition works), the Certifying Authority is required to be provided with a Recycling and Waste Management Plan (RWMP) in accordance with the relevant Development Control Plan.

14. Erosion and Sediment Control

Prior to the issue of a commencement of any works (including any demolition works), the Certifying Authority must be provided with an erosion and sediment control plan and specification. Sediment control devices must be installed and maintained in proper working order to prevent sediment discharge from the construction site.

15. Standard Street Tree Protection

Prior to the commencement of any work, the Certifying Authority must be provided with details of the methods of protection of all street trees adjacent to the site during demolition and construction.

16. Verification of Levels and Location

Prior to the pouring of the ground floor slab or at dampcourse level, whichever is applicable or occurs first, the Principal Certifier must be provided with a survey levels certificate prepared by a Registered Surveyor indicating the level of the slab and the location of the building with respect to the boundaries of the site to AHD.

PRIOR TO ANY DEMOLITION

17. Hoardings

The person acting on this consent must ensure the site is secured with temporary fencing prior to any works commencing.

If the work involves the erection or demolition of a building and is likely to cause pedestrian or vehicular traffic on public roads or Council controlled lands to be obstructed or rendered inconvenient, or building involves the enclosure of public property, a hoarding or fence must be erected between the work site and the public property. An awning is to be erected, sufficient to prevent any substance from, or in connection with, the work falling onto public property.

Separate approval is required from the Council under the *Roads Act 1993* to erect a hoarding or temporary fence or awning on public property.

18. Construction Traffic Management Plan

Prior to any demolition, the Certifying Authority, must be provided with a detailed Construction Traffic Management Plan (CTMP) to cater for construction prepared by a person with RMS accreditation to prepare a work zone traffic management plan. Details must include haulage routes, estimated number of vehicle movements, truck parking areas, work zones, crane usage, etc., related to demolition/construction activities. A work zone approval must be obtained.

19. Dilapidation Report

Prior to any works commencing (including demolition), the Certifying Authority and owners of identified properties, must be provided with a colour copy of a dilapidation report prepared by a suitably qualified person. The report is required to include colour photographs of all the adjoining properties to the Certifying Authority's satisfaction. In the event that the consent of the adjoining property owner cannot be obtained to undertake the report, copies of the letter/s that have been sent via registered mail and any responses received must be forwarded to the Certifying Authority before work commences.

20. Advising Neighbors Prior to Excavation

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.

21. Construction Fencing

Prior to the commencement of any works (including demolition), the site must be enclosed with suitable fencing to prohibit unauthorised access. The fencing must be erected as a barrier between the public place and any neighbouring property.

PRIOR TO CONSTRUCTION CERTIFICATE**22. Light Spill**

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with details demonstrating that any lighting of the premises complies with Australian Standard AS4282:1992: Control of Obtrusive Effects of Outdoor Lighting.

23. Dilapidation Report – Pre-Development – Minor

Prior to the issue of a Construction Certificate or any demolition, the Certifying Authority must be provided with a dilapidation report including colour photos showing the existing condition of the footpath and roadway adjacent to the site.

24. Stormwater Drainage System

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with stormwater drainage design plans certified by a suitably qualified Civil Engineer that the design of the site drainage system complies with the following specific requirements:

- a. The design must generally be in accordance with the Stormwater Drainage Concept plan on Drawing No. C-3522-01 Rev 4 dated 15/12/20 prepared by Kozarovski and Partners.

- b. Stormwater runoff from all areas within the property must be collected in a system of gutters, pits and pipelines and be discharged together overflow pipelines from any rainwater tank(s) by gravity to Snails Bay.
- c. Comply with Council's Stormwater Drainage Code, Australian Rainfall and Runoff (A.R.R.), Australian Standard AS3500.3-2018 'Stormwater Drainage' and Council's Leichhardt DCP2013.
- d. Charged or pump-out stormwater drainage systems are not permitted including for roof drainage.
- e. The Drainage Plan must detail the existing and proposed site drainage layout, size, class and grade of pipelines, pit types, roof gutter and downpipe sizes.
- f. An overland flowpath must be provided within the setback to the eastern side boundary between the rear of the dwelling and the Snails Bay frontage. The rear courtyard must be graded so that bypass flows from the site drainage system are directed to the overland flowpath.
- g. Where there is no overland flow/flood path available to the Snails Bay frontage, the design of the sag pit and piped drainage system is to meet the following criteria:
 - a. Capture and convey the 100 year Average Recurrence Interval flow from the contributing catchment assuming 80% blockage of the inlet and 50% blockage of the pipe.
 - b. The maximum water level over the sag pit shall not be less than 150mm below the floor level or damp course of the building
 - c. The design shall make provision for the natural flow of stormwater runoff from uphill/upstream properties/lands.
- h. A minimum 150mm step up shall be provided between all external finished surfaces and adjacent internal floor areas except where a reduced step is permitted under Section 3.1.2.3 (b) of the Building Code of Australia for Class 1 buildings.
- i. The design must make provision for the natural flow of stormwater runoff from uphill/upstream properties/lands.
- j. No nuisance or concentration of flows to other properties.
- k. The stormwater system must not be influenced by backwater effects or hydraulically controlled by the receiving system.
- l. Plans must specify that any components of the existing system to be retained must be certified during construction to be in good condition and of adequate capacity to convey the additional runoff generated by the development and be replaced or upgraded if required.
- m. A baffled pit or trapped gully stormwater pit must be installed inside the property, adjacent to the boundary, for all stormwater outlets with a silt arrestor pit or similar must be installed on the site stormwater drainage system prior to discharging to Snails Bay.
- n. All redundant pipelines within footpath area must be removed and footpath/kerb reinstated.

25. Public Domain Works – Prior to Construction Certificate

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with a public domain works design, prepared by a qualified practising Civil Engineer and evidence that the works on the Road Reserve have been approved by Council under Section 138 of the *Roads Act 1993* incorporating the following requirements:

- a. The construction of light duty vehicular crossings to all vehicular access locations and removal of all redundant vehicular crossings to the site;
- b. Repair of any failed or damaged footpath and kerb and gutter along the frontage of the site.
- c. A long section, along both sides of the proposed vehicular crossing and ramp, drawn at a 1:20 or 1:25 natural scale demonstrating compliance with ground clearance

requirements of AS2890.1. The long section shall begin from the centreline of the adjacent road to a minimum of 5 metres into the property. The long section shall show both existing surface levels and proposed surface levels. The long section approved by Council shall define the Alignment Levels at the property boundary.

- d. Demonstrate no loss of on-street parking.

All works must be completed prior to the issue of an Occupation Certificate.

26. Foreshore Flood Risk Management Plan

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with a Foreshore Flood Risk Management Plan prepared and certified by a suitably qualified Civil Engineer. The Plan must be prepared/amended to make provision for the following:

- a. The plan must be generally in accordance with the recommendations of the Foreshore Risk Management Report for 17 Wharf Road Birchgrove document number GS7389-1A prepared by Aargus and dated 19/02/2020.
- b. Recommendations on all precautions to minimise risk to personal safety of occupants and the risk of property damage for the total development. Such recommendations must be consistent with the approved development. The flood impacts on the site must be assessed for the 100-year ARI and Probable Maximum Flood (PMF) storm events. The precautions must include but not be limited to the following:
 - i. Types of materials to be used to ensure the structural integrity of the building to immersion and impact of velocity and debris.
 - ii. Waterproofing methods, including electrical equipment, wiring, fuel lines or any other service pipes or connections.
 - iii. Flood warning signs/depth indicators for areas that may be inundated
 - iv. A flood evacuation strategy.
 - v. On-site response plan to minimise flood damage, demonstrating that adequate storage areas are available for hazardous materials and valuable goods above the flood level.
- c. All works must be designed to comply with the Standard for Construction of Buildings in Flood Hazard Areas in accordance with Section 3.10.3 of the Building Code of Australia. Note that some terms defined in this standard have equivalent meaning to terms used in Council's Development Control Plan as listed below.
 - i. Building Code of Australia
 - ii. Defined flood level (DFL) 100-year Average Recurrence Interval flood level
 - iii. Defined flood event (DFE) 100-year Average Recurrence Interval flood
 - iv. Flood hazard level (FHL) Flood Planning Level (FPL)

27. Amended Architectural Plans to Reflect Foreshore Flood Risk Management Plan

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with amended architectural plans that incorporate the recommendations of the Foreshore Flood Risk Management Plan. The design must be prepared to make provision for the following:

- a. Specification of materials; and
- b. Waterproofing works, where applicable.

No changes to the external form or appearance of the development contrary to the approved plans must occur except as identified by this condition. Any changes to such must be subject to separate approval.

28. Engineering Design - Structural Engineer Plans and Certification

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with plans prepared and certified by a suitably qualified Engineer who holds current Chartered Engineer qualifications with the Institution of Engineers Australia (CPEng) or current

Registered Professional Engineer qualifications with Professionals Australia (RPEng) that incorporate the recommendations of the Foreshore Flood Risk Management Plan.

The design must be prepared to make provision for the following:

- a. Structural integrity of all structures from immersion and/or impact of velocity and debris; and
- b. Waterproofing works, where applicable.

29. Structural and Geotechnical Report

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with an integrated structural and geotechnical report and structural plans that address the design of the proposed basement, prepared certified as compliant with the terms of this condition by a qualified practicing Structural and Geotechnical Engineer(s) who holds current Chartered Engineer qualifications with the Institution of Engineers Australia (CPEng) or current Registered Professional Engineer qualifications with Professionals Australia (RPEng). The report and plans must be prepared/ amended to make provision for the following:

- a. The basement must be fully tanked to prevent the ingress of subsurface flows into internal areas;
- b. Retaining walls must be entirely self-supporting in the event that excavation is undertaken within the road reserve adjacent to the property boundary to the depth of the proposed structure;
- c. Any existing or proposed retaining walls that provide support to the road reserve must be adequate to withstand the loadings that could be reasonably expected from within the constructed road and footpath area, including normal traffic and heavy construction and earth moving equipment, based on a design life of not less than 50 years;
- d. All components of the basement, including footings, must be located entirely within the property boundary;
- e. No adverse impact on surrounding properties including Council's footpath and road;
- f. The existing subsurface flow regime in the vicinity of the development must not be significantly altered as a result of the development;
- g. Recommendations regarding the method of excavation and construction, vibration emissions and identifying risks to existing structures or those on adjoining or nearby property; and
- h. Provide relevant geotechnical/ subsurface conditions of the site, as determined by a full geotechnical investigation.

30. Parking Facilities - Domestic

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with plans and certification by a suitably qualified Civil Engineer demonstrating that the design of the vehicular access and off-street parking facilities comply with Australian Standard AS/NZS2890.1-2004 Parking Facilities – Off-Street Car Parking and the following specific requirements:

- a. The floor/finished levels within the property must be adjusted to ensure that the levels at the boundary comply with the Alignment Levels issued with this consent.
- b. The garage slab or driveway must rise within the property to be 170mm above the adjacent road gutter level and higher than the street kerb and footpath across the full width of the vehicle crossing. The longitudinal profile across the width of the vehicle crossing must comply with the Ground Clearance requirements of AS/NZS 2890.1-2004.

- c. A minimum of 2200mm headroom must be provided throughout the access and parking facilities. Note that the headroom must be measured at the lowest projection from the ceiling, such as lighting fixtures, and to open garage doors.
- d. Longitudinal sections along each outer edge of the access and parking facilities, extending to the centreline of the road carriageway must be provided, demonstrating compliance with the above requirements.
- e. The external form and height of the approved structures must not be altered from the approved plans.

31. Structural Certificate for retained elements of the building

Prior to the issue of a Construction Certificate, the Certifying Authority is required to be provided with a Structural Certificate prepared by a practising structural engineer, certifying the structural adequacy of the property and its ability to withstand the proposed additional, or altered structural loads during all stages of construction. The certificate must also include all details of the methodology to be employed in construction phases to achieve the above requirements without result in demolition of elements marked on the approved plans for retention.

32. Sydney Water – Tap In

Prior to the issue of a Construction Certificate, the Certifying Authority is required to ensure approval has been granted through Sydney Water's online 'Tap In' program to determine whether the development will affect Sydney Water's sewer and water mains, stormwater drains and/or easements, and if further requirements need to be met.

Note: Please refer to the web site <http://www.sydneywater.com.au/tapin/index.htm> for details on the process or telephone 13 20 92

33. Fibre-ready Facilities

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with evidence that arrangements have been made for:

- a. The installation of fibre-ready facilities to all individual lots and/or premises the development so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.
- b. The provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises the development demonstrated through an agreement with a carrier.

34. Concealment of Plumbing and Ductwork

Prior to the issue of a Construction Certificate, the Certifying Authority must be provided with plans detailing the method of concealment of all plumbing and ductwork (excluding stormwater downpipes) within the outer walls of the building so they are not visible.

DURING DEMOLITION AND CONSTRUCTION

35. Contamination – New Evidence

Any new information revealed during demolition, remediation or construction works that have the potential to alter previous conclusions about site contamination must be immediately notified to the Council and the Certifying Authority.

36. Imported Fill Materials

All imported fill on the site shall be validated as Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM), in accordance with NSW Environment Protection Authority guidelines, 'Consultants Reporting on Contaminated Sites' (August 2011) to ensure the imported fill is suitable for the proposed land use.

All fill imported onto the site shall be validated by either one or both of the following methods:

- a. Imported fill be accompanied by documentation from the supplier which certifies that the material is not contaminated based upon analyses of the material for the known past history of the site where the material is obtained; and/or
- b. Sampling and analysis of the fill material be conducted in accordance with NSW Environment Protection Authority's Sampling Design Guidelines (September 1995).

37. Aboriginal Heritage – Unexpected Findings

During excavation, demolition and construction work, If unexpected archaeological deposits or Aboriginal objects are found during the works covered by this approval, work must cease in the affected area(s) and the Office of Environment & Heritage must be notified. Additional assessment and approval pursuant to the National Parks and Wildlife Act 1974 may be required prior to works continuing in the affected area(s) based on the nature of the discovery.

38. Front Iron Palisade Fence

During excavation, demolition and construction work, the existing iron palisade fence with sandstone base is to be retained in its current configuration and location, alterations required for proposed crossings are excepted, and the sandstone base to the palisade fence must not be painted.

39. Construction Hours – Class 1 and 10

Unless otherwise approved by Council, excavation, demolition, construction or subdivision work are only permitted between the hours of 7:00am to 5:00pm, Mondays to Saturdays (inclusive) with no works permitted on, Sundays or Public Holidays.

40. Survey Prior to Footings

Upon excavation of the footings and before the pouring of the concrete, the Certifying Authority must be provided with a certificate of survey from a registered land surveyor to verify that the structure will not encroach over the allotment boundaries.

PRIOR TO OCCUPATION CERTIFICATE

41. Contamination – Disposal of Soil

Prior to the issue of an Occupation Certificate, the Certifying Authority must be provided with a validation report confirming that all off site disposal of soil has been classified, removed and disposed of in accordance with the NSW DECC Waste Classification Guidelines, Part 1: Classifying Waste (EPA 2014), Protection of the Environment Operations (Waste) Regulation 2014 and the *Protection of the Environmental Operations Act 1997*.

42. Contamination – Validation (Site Audit Statement Required)

Prior to the issue of an Occupation Certificate, the Certifying Authority and Council must be provided with a Section A Site Audit Statement prepared by a NSW Environment Protection Authority accredited Site Auditor.

The Site Audit Statement must confirm that the site has been remediated in accordance with the Remedial Action Plan and clearly state that the site is suitable for the proposed use.

43. Certification of Tree Planting

Prior to the issue of any Occupation Certificate, the Principal Certifier is to be provided with evidence certified by a person holding a minimum qualification of AQF3 Certificate of Horticulture or Arboriculture that:

A minimum of 2 x seventy five (75) litre size trees, which will attain a minimum mature height of seven (7) metres, must be planted in a suitable location within each lot at a minimum of 1.5 metres from any boundary and 2.2 metres from any dwelling or garage and allowing for future tree growth. The trees are to conform to AS2303—*Tree stock for landscape use*. Trees listed as exempt species from Council's Tree Management Controls, palms, fruit trees and species recognised to have a short life span will not be accepted as suitable replacements.

If the replacement trees are found to be faulty, damaged, dying or dead within twelve (12) months of planting then they must be replaced with the same species (up to 3 occurrences). If the trees are found dead before they reach a height where they are protected by Council's Tree Management Controls, they must be replaced with the same species.

44. Arborist Certification

Prior to the issue of any Occupation Certificate, the Principal Certifier is to be provided with certification from an AQF Level 5 Arborist the requirements of the conditions of consent related to the landscape plan and tree planting have been complied with.

45. Public Domain Works

Prior to the issue of an Occupation Certificate, the Principal Certifying Authority must be provided with written evidence from Council that the following works on the Road Reserve have been completed in accordance with the requirements of the approval under Section 138 of the *Roads Act 1993* including:

- a. Light duty concrete vehicle crossing(s) at the vehicular access location(s).
- b. The existing power pole must be shown on the plans with suitable clearances demonstrated or power pole relocated.
- c. Other works subject to the Roads Act 1993 approval.

All works must be constructed in accordance with Council's standards and specifications and AUS-SPEC#2-"Roadworks Specifications".

46. No Encroachments

Prior to the issue of an Occupation Certificate, the Principal Certifier must ensure that any encroachments on to Council road or footpath resulting from the building works have been removed, including opening doors, gates and garage doors with the exception of any awnings or balconies approved by Council.

47. Light Duty Vehicle Crossing

Prior to the issue of an Occupation Certificate, the Principal Certifier must ensure that a light duty concrete vehicle crossing(s), in accordance with Council's Standard crossing and footpath specifications and AUS-SPEC#2-"Roadworks Specifications" have been constructed at the vehicular access locations.

48. Flood Risk Management Plan - Certification

Prior to the issue of an Occupation Certificate, the Principal Certifier must be provided with Certification by a qualified practising Civil Engineer that all aspects of the foreshore flood risk management plan have been implemented in accordance with the approved design, conditions of this consent and relevant Australian Standards.

49. Parking Signoff – Minor Developments

Prior to the issue of an Occupation Certificate, the Principal Certifier must be provided with certification from a qualified practising Civil Engineer that the vehicle access and off street parking facilities have been constructed in accordance with the approved design and relevant Australian Standards.

50. Works as Executed – Site Stormwater Drainage System

Prior to the issue of an Occupation Certificate, the Principal Certifier must be provided with Certification by a suitably qualified Civil Engineer that:

- a. The stormwater drainage system has been constructed in accordance with the approved design and relevant Australian Standards; and
- b. Works-as-executed plans of the stormwater drainage system certified by a Registered Surveyor, to verify that the drainage system has been constructed in accordance with the approved design and relevant Australian Standards have been submitted to Council. The works-as-executed plan(s) must show the as built details in comparison to those shown on the drainage plans approved with the Construction Certificate. All relevant levels and details indicated must be marked in red on a copy of the Principal Certifier stamped Construction Certificate plans.

PRIOR TO SUBDIVISION CERTIFICATE**51. Section 73 Certificate**

Prior to the issue of a Subdivision Certificate, the Certifying Authority must be provided with the Section 73 Certificate. A Section 73 Compliance Certificate under the *Sydney Water Act 1994* must be obtained from Sydney Water Corporation.

52. Separate Stormwater

Prior to the issue of a Subdivision Certificate, the Certifying Authority must be provided with details, endorsed by a practising stormwater engineer demonstrating separate drainage systems to drain each proposed lot.

53. Release of Subdivision Certificate

Prior to the release of a Subdivision Certificate, the Certifying Authority must be provided with a copy of the Final Occupation Certificate.

ON-GOING**54. Noise General**

The proposed use of the premises and the operation of all plant and equipment must not give rise to an 'offensive noise' as defined in the *Protection of the Environment Operations Act 1997* and Regulations, NSW EPA Noise Policy for Industry and NSW EPA Noise Guide for Local Government.

55. Tree Establishment

The trees planted as part of this consent are to be maintained in a healthy and vigorous condition until they have reached a height whereby they are protected under Council's Tree Management Controls. If any of the trees are found faulty, damaged, dying or dead they must be replaced with the same species within one (1) month (up to 3 occurrences).

56. Foreshore Flood Risk Management Plan

The Foreshore Flood Risk Management Plan approved with the Occupation Certificate, must be implemented and kept in a suitable location on site at all times.

ADVISORY NOTES**Asbestos Removal**

A demolition or asbestos removal contractor licensed under the Work Health and Safety Regulations 2011 must undertake removal of more than 10m² of bonded asbestos (or otherwise specified by WorkCover or relevant legislation).

Removal of friable asbestos material must only be undertaken by a contractor that holds a current Class A Friable Asbestos Removal Licence.

Demolition sites that involve the removal of asbestos must display a standard commercially manufactured sign containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS' measuring not less than 400mm x 300mm is to be erected in a prominent visible position on the site to the satisfaction of Council's officers. The sign is to be erected prior to demolition work commencing and is to remain in place until such time as all asbestos has been removed from the site to an approved waste facility.

All asbestos waste must be stored, transported and disposed of in compliance with the Protection of the Environment Operations (Waste) Regulation 2014. All receipts detailing method and location of disposal must be submitted to Council as evidence of correct disposal.

Arborists standards

All tree work must be undertaken by a practicing Arborist. The work must be undertaken in accordance with AS4373—*Pruning of amenity trees* and the Safe Work Australia Code of Practice—*Guide to Managing Risks of Tree Trimming and Removal Work*. Any works in the vicinity of the Low Voltage Overhead Network (including service lines—pole to house connections) must be undertaken by an approved Network Service Provider contractor for the management of vegetation conflicting with such services. Contact the relevant Network Service Provider for further advice in this regard.

Tree Protection Works

All tree protection for the site must be undertaken in accordance with Council's *Development Fact Sheet—Trees on Development Sites* and AS4970—*Protection of trees on development sites*.

Permits

Where it is proposed to occupy or carry out works on public roads or Council controlled lands, the person acting on this consent must obtain all applicable Permits from Council in accordance with Section 68 (Approvals) of the *Local Government Act 1993* and/or Section 138 of the *Roads Act 1993*. Permits are required for the following activities:

- a. Work zone (designated parking for construction vehicles). Note that a minimum of 2 months should be allowed for the processing of a Work Zone application;
- b. A concrete pump across the roadway/footpath;
- c. Mobile crane or any standing plant;
- d. Skip Bins;
- e. Scaffolding/Hoardings (fencing on public land);
- f. Public domain works including vehicle crossing, kerb & guttering, footpath, stormwater, etc.;
- g. Awning or street veranda over the footpath;
- h. Partial or full road closure; and
- i. Installation or replacement of private stormwater drain, utility service or water supply.

If required contact Council's Road Access team to ensure the correct Permit applications are made for the various activities. Applications for such Permits must be submitted and approved by Council prior to the commencement of the works associated with such activity.

Insurances

Any person acting on this consent or any contractors carrying out works on public roads or Council controlled lands is required to take out Public Liability Insurance with a minimum cover of twenty (20) million dollars in relation to the occupation of, and approved works within those lands. The Policy is to note, and provide protection for Inner West 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 property.

Public Domain and Vehicular Crossings

The vehicular crossing and/or footpath works are required to be constructed by your contractor. You or your contractor must complete an application for *Design of Vehicle Crossing and Public Domain Works – Step 1* form and *Construction of Vehicle Crossing and Public*

Domain Works – Step 2 form, lodge a bond for the works, pay the appropriate fees and provide evidence of adequate public liability insurance, before commencement of works.

You are advised that Council has not undertaken a search of existing or proposed utility services adjacent to the site in determining this application. Any adjustment or augmentation of any public utility services including Gas, Water, Sewer, Electricity, Street lighting and Telecommunications required as a result of the development must be at no cost to Council

Any damage caused during construction to Council assets on the road reserve or on Council or Crown land must be repaired at no cost to Council.

Any driveway crossovers or other works within the road reserve must be provided at no cost to Council.

No consent is given or implied for any Encroachments onto Council's road or footpath of any service pipes, sewer vents, boundary traps, downpipes, gutters, eaves, awnings, stairs, doors, gates, garage tilt up panel doors or any structure whatsoever, including when open.

Rock Anchors

If you are seeking to use temporary anchors, you must make a request for approval for a Permit under Section 138 of the Roads Act 1993. The submission would need to be supported by an engineering report prepared by a suitably qualified Structural Engineer, with supporting details addressing the following issues:

- a. Demonstrate that any structures within the road reserve are of adequate depth to ensure no adverse impact on existing or potential future service utilities in the road reserve. All existing services must be shown on a plan and included on cross-sectional details where appropriate.
- b. Demonstrate how the temporary anchors will be removed or immobilised and replaced by full support from structures within the subject site by completion of the works.
- c. The report must be supported by suitable geotechnical investigations to the efficacy of all design assumptions.

Prescribed Conditions

This consent is subject to the prescribed conditions of consent within clause 98-98E of the *Environmental Planning and Assessment Regulations 2000*.

Notification of commencement of works

At least 7 days before any demolition work commences:

- a. the Council must be notified of the following particulars:
 - i. the name, address, telephone contact details and licence number of the person responsible for carrying out the work; and
 - ii. the date the work is due to commence and the expected completion date; and
- b. a written notice must be placed in the letter box of each directly adjoining property identified advising of the date the work is due to commence.

Storage of Materials on public property

The placing of any materials on Council's footpath or roadway is prohibited, without the prior consent of Council.

Toilet Facilities

The following facilities must be provided on the site:

- a. Toilet facilities in accordance with WorkCover NSW requirements, at a ratio of one toilet per every 20 employees; and
- b. A garbage receptacle for food scraps and papers, with a tight fitting lid.

Facilities must be located so that they will not cause a nuisance.

Infrastructure

The developer must liaise with the Sydney Water Corporation, Ausgrid, AGL and Telstra concerning the provision of water and sewerage, electricity, natural gas and telephones respectively to the property. Any adjustment or augmentation of any public utility services including Gas, Water, Sewer, Electricity, Street lighting and Telecommunications required as a result of the development must be undertaken before occupation of the site.

Other Approvals may be needed

Approvals under other acts and regulations may be required to carry out the development. It is the responsibility of property owners to ensure that they comply with all relevant legislation. Council takes no responsibility for informing applicants of any separate approvals required.

Failure to comply with conditions

Failure to comply with the relevant provisions of *the Environmental Planning and Assessment Act 1979* and/or the conditions of this consent may result in the serving of penalty notices or legal action.

Other works

Works or activities other than those approved by this Development Consent will require the submission of a new Development Application or an application to modify the consent under Section 4.55 of the *Environmental Planning and Assessment Act 1979*.

Obtaining Relevant Certification

This development consent does not remove the need to obtain any other statutory consent or approval necessary under any other Act, such as (if necessary):

- a. Application for any activity under that Act, including any erection of a hoarding;
- b. Application for a Construction Certificate under the *Environmental Planning and Assessment Act 1979*;
- c. Application for an Occupation Certificate under the *Environmental Planning and Assessment Act 1979*;
- d. Application for a Subdivision Certificate under the *Environmental Planning and Assessment Act 1979* if land (including stratum) subdivision of the development site is proposed;
- e. Application for Strata Title Subdivision if strata title subdivision of the development is proposed;
- f. Development Application for demolition if demolition is not approved by this consent;
or
- g. Development Application for subdivision if consent for subdivision is not granted by this consent.

Disability Discrimination Access to Premises Code

The *Disability Discrimination Act 1992* (Commonwealth) and the *Anti-Discrimination Act 1977* (NSW) impose obligations on persons relating to disability discrimination. Council's determination of the application does not relieve persons who have obligations under those Acts of the necessity to comply with those Acts.

National Construction Code (Building Code of Australia)

A complete assessment of the application under the provisions of the National Construction Code (Building Code of Australia) has not been carried out. All building works approved by this consent must be carried out in accordance with the requirements of the National Construction Code.

Notification of commencement of works

Residential building work within the meaning of the *Home Building Act 1989* must not be carried out unless the PCA (not being the council) has given the Council written notice of the following information:

- a. In the case of work for which a principal contractor is required to be appointed:
 - i. The name and licence number of the principal contractor; and
 - ii. The name of the insurer by which the work is insured under Part 6 of that Act.
- b. In the case of work to be done by an owner-builder:
 - i. The name of the owner-builder; and
 - ii. If the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

Dividing Fences Act

The person acting on this consent must comply with the requirements of the *Dividing Fences Act 1991* in respect to the alterations and additions to the boundary fences.

Swimming Pools

Applicants are advised of the following requirements under the *Swimming Pools Act 1992*:

- a. The owner of the premises is required to register the swimming pool on the NSW State Government's Swimming Pool Register. Evidence of registration should be provided to the Certifying Authority.
- b. Access to the pool/spa is restricted by a child resistant barrier in accordance with the regulations prescribed in the. The pool must not be filled with water or be allowed to collect stormwater until the child resistant barrier is installed. The barrier is to conform to the requirements of Australian Standard AS 1926:2012.
- c. A high level overflow pipe has been provided from the back of the skimmer box to the filter backwash line discharging to the sewer. This line must not directly vent the receiving Sydney Water sewer. Evidence from the installer, indicating compliance with this condition must be submitted to the Principal Certifier prior to the issue of an Occupation Certificate.
- d. Permanently fixed water depth markers are to be clearly and prominently displayed on the internal surface above the water line at the deep and shallow ends on in-ground pools / spas and on the outside of aboveground pools / spas.

- e. A durable cardiopulmonary resuscitation information poster sign authorised by the Life Saving Association is to be displayed in the pool / spa area in accordance with Clause 10 of the *Swimming Pool Regulation 2008*.
- f. Access to the swimming pool/spa must be restricted by fencing or other measures as required by the *Swimming Pools Act 1992* at all times.

All drainage, including any overland waters associated with the pool/spa, must be pipe-drained via the filter to the nearest sewer system in accordance with the requirements of Council & Sydney Water. No drainage, including overflow from the pool or spa must enter Council's stormwater system.

Permits from Council under Other Acts

Where it is proposed to occupy or carry out works on public roads or Council controlled lands, the person acting on this consent must obtain all applicable Permits from Council in accordance with Section 68 (Approvals) of the *Local Government Act 1993* and/or Section 138 of the *Roads Act 1993*. Permits are required for the following activities:

- a. Work zone (designated parking for construction vehicles). Note that a minimum of 2 months should be allowed for the processing of a Work Zone application;
- b. A concrete pump across the roadway/footpath;
- c. Mobile crane or any standing plant;
- d. Skip bins;
- e. Scaffolding/Hoardings (fencing on public land);
- f. Public domain works including vehicle crossing, kerb & guttering, footpath, stormwater, etc.;
- g. Awning or street verandah over footpath;
- h. Partial or full road closure; and
- i. Installation or replacement of private stormwater drain, utility service or water supply.

Contact Council's Road Access team to ensure the correct Permit applications are made for the various activities. A lease fee is payable for all occupations.

Noise

Noise arising from the works must be controlled in accordance with the requirements of the *Protection of the Environment Operations Act 1997* and guidelines contained in the New South Wales Environment Protection Authority Environmental Noise Control Manual.

Amenity Impacts General

The use of the premises must not give rise to an environmental health nuisance to the adjoining or nearby premises and environment. There are to be no emissions or discharges from the premises, which will give rise to a public nuisance or result in an offence under the *Protection of the Environment Operations Act 1997* and Regulations. The use of the premises and the operation of plant and equipment must not give rise to the transmission of a vibration nuisance or damage other premises.

Construction of Vehicular Crossing

The vehicular crossing and/or footpath works are required to be constructed by your own contractor. You or your contractor must complete an application for *Construction of a Vehicular Crossing & Civil Works* form, lodge a bond for the works, pay the appropriate fees and provide evidence of adequate public liability insurance, prior to commencement of works.

Lead-based Paint

Buildings built or painted prior to the 1970's may have surfaces coated with lead-based paints. Recent evidence indicates that lead is harmful to people at levels previously thought safe. Children particularly have been found to be susceptible to lead poisoning and cases of acute child lead poisonings in Sydney have been attributed to home renovation activities involving the removal of lead based paints. Precautions should therefore be taken if painted surfaces are to be removed or sanded as part of the proposed building alterations, particularly where children or pregnant women may be exposed, and work areas should be thoroughly cleaned prior to occupation of the room or building.

Dial before you dig

Contact "Dial Prior to You Dig" prior to commencing any building activity on the site.

Useful Contacts

BASIX Information	1300 650 908 weekdays 2:00pm - 5:00pm www.basix.nsw.gov.au
Department of Fair Trading	13 32 20 www.fairtrading.nsw.gov.au Enquiries relating to Owner Builder Permits and Home Warranty Insurance.
Dial Prior to You Dig	1100 www.dialprior toyoudig.com.au
Landcom	9841 8660 To purchase copies of Volume One of "Soils and Construction"
Long Service Payments Corporation	131441 www.lspc.nsw.gov.au
NSW Food Authority	1300 552 406 www.foodnotify.nsw.gov.au
NSW Government	www.nsw.gov.au/fibro www.diySAFE.nsw.gov.au Information on asbestos and safe work practices.
NSW Office of Environment and Heritage	131 555 www.environment.nsw.gov.au
Sydney Water	13 20 92

www.sydneywater.com.au

Waste Service - SITA 1300 651 116
Environmental Solutions

www.wasteservice.nsw.gov.au

Water Efficiency Labelling and Standards (WELS) www.waterrating.gov.au

WorkCover Authority of NSW 13 10 50

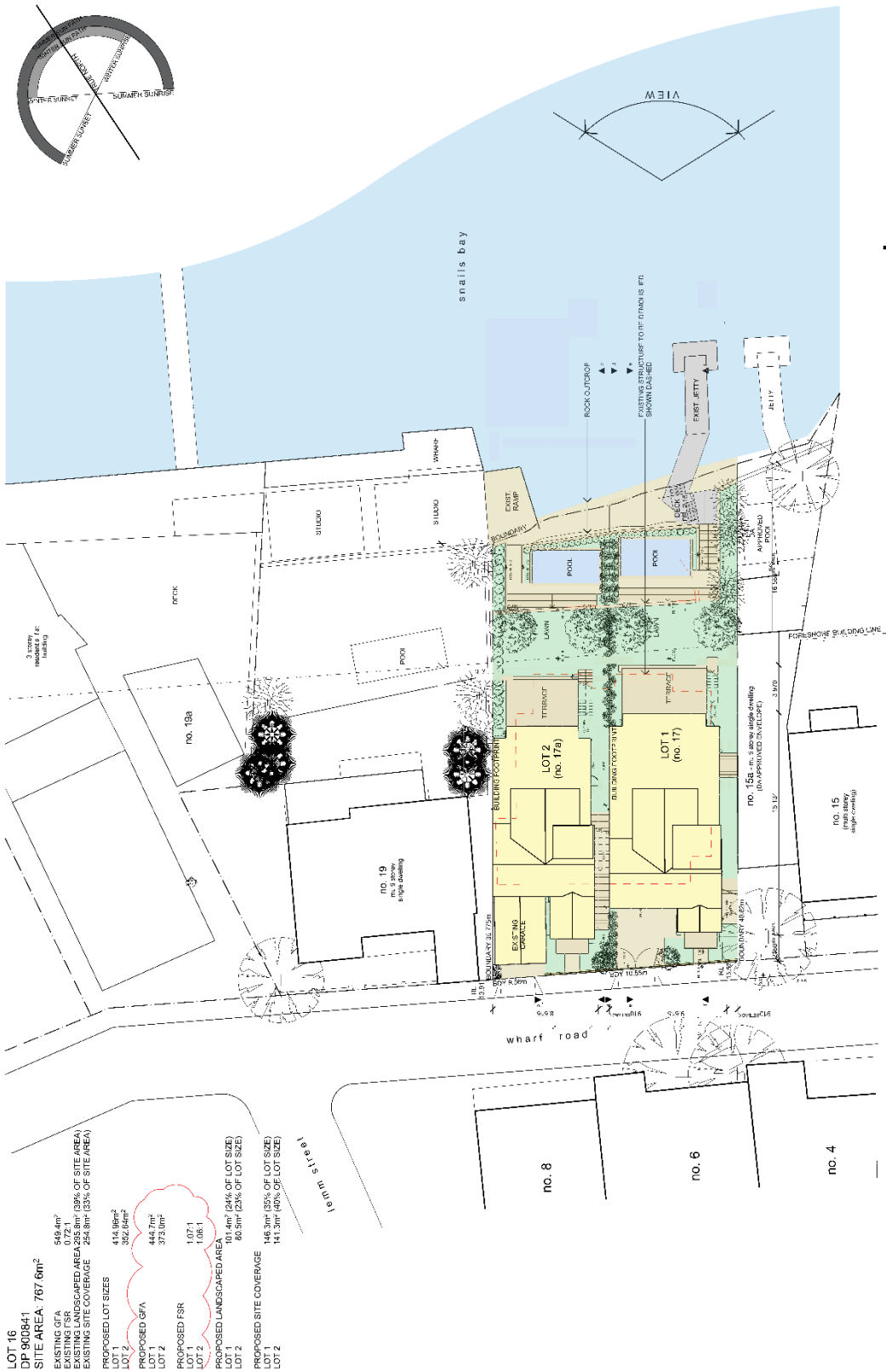
www.workcover.nsw.gov.au

Enquiries relating to work safety and asbestos removal and disposal.

Street Numbering

If any new street numbers or change to street numbers (this includes unit and shop numbers) are required, a separate application must be lodged with and approved by Council's GIS Team before being displayed.

Attachment B – Plans of proposed development



LOT 16
DP 900841
SITE AREA: 767.6m²
 EXISTING GFA 549.4m²
 EXISTING FSR 0.72:1
 EXISTING GFA AREA (33% OF SITE AREA) 183.3m²
 EXISTING SITE COVERAGE 254.8m² (33% OF SITE AREA)

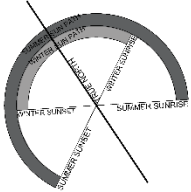
PROPOSED LOT SIZES
 LOT 1 444.7m²
 LOT 2 322.84m²

PROPOSED GFA
 LOT 1 444.7m²
 LOT 2 373.0m²

PROPOSED FSR
 LOT 1 1.07:1
 LOT 2 1.08:1

PROPOSED LANDSCAPED AREA
 LOT 1 101.4m² (24% OF LOT SIZE)
 LOT 2 80.3m² (23% OF LOT SIZE)

PROPOSED SITE COVERAGE
 LOT 1 146.3m² (33% OF LOT SIZE)
 LOT 2 141.3m² (43% OF LOT SIZE)



ESNH
DESIGN PTY LTD
 18/02 DAV/C
 SCALE 1:200
 17 Wharf Road
 SALES/MSL/APPJ
 15/04/18 15:47:31 A
 2017 184 137 90252P
 No. 1011 044 00000

DWG NO. 1802 DAV/C
 SCALE 1:200
 17 Wharf Road
 SALES/MSL/APPJ

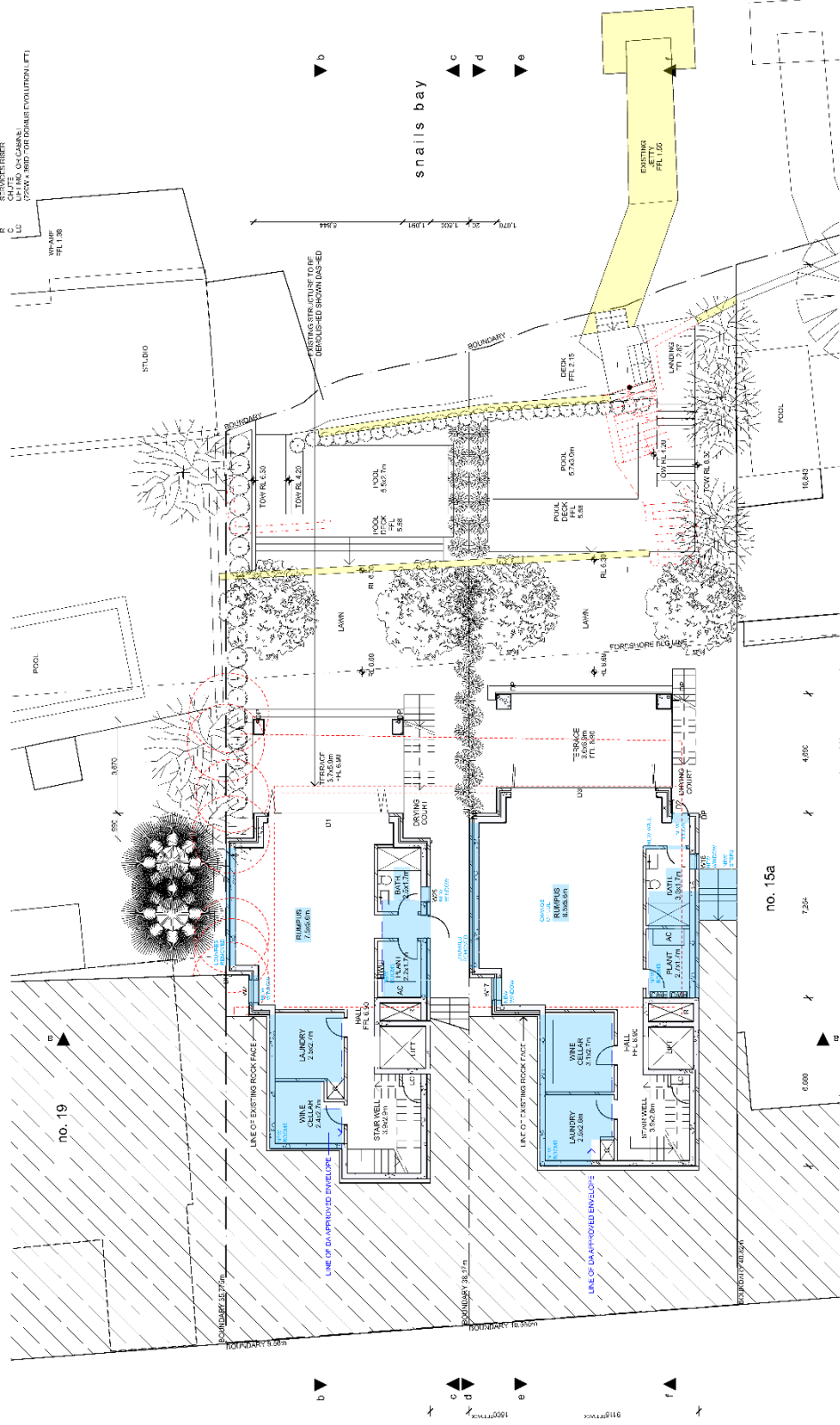


new dwelling houses
for mr & ms gobbo
17 wharf road
birchgrove

Document Ref: 24/05/2022
 Version: 1, Version Date: 24/05/2022

NOTES:
 1. EXISTING STRUCTURES ARE SHOWN IN YELLOW
 2. PROPOSED AMENDMENTS ARE SHOWN IN BLUE

LEGEND:
 HWU HOT WATER UNIT (AS PER BASIN REQUIREMENTS)
 HWU HOT WATER UNIT (AS PER BASIN REQUIREMENTS)
 R RIMMER
 LC LAUNDRY CUPBOARD
 CH CHAIR
 LWC LIVING WALL CUPBOARD (FOR DOMAINS EVOLUTION-LFT)



ESNH
 DESIGN PTY LTD
 1902 DADE
 SCALE 1:100
 AUGUST 2021
 ISSUE 1
 Sec-4-50-000-Page 1
 1/23/18 07:33:39
 AIN: 01/20/2020
 4/11/2020 10:04:00

DWG NO.
 SCALE
 ISSUE

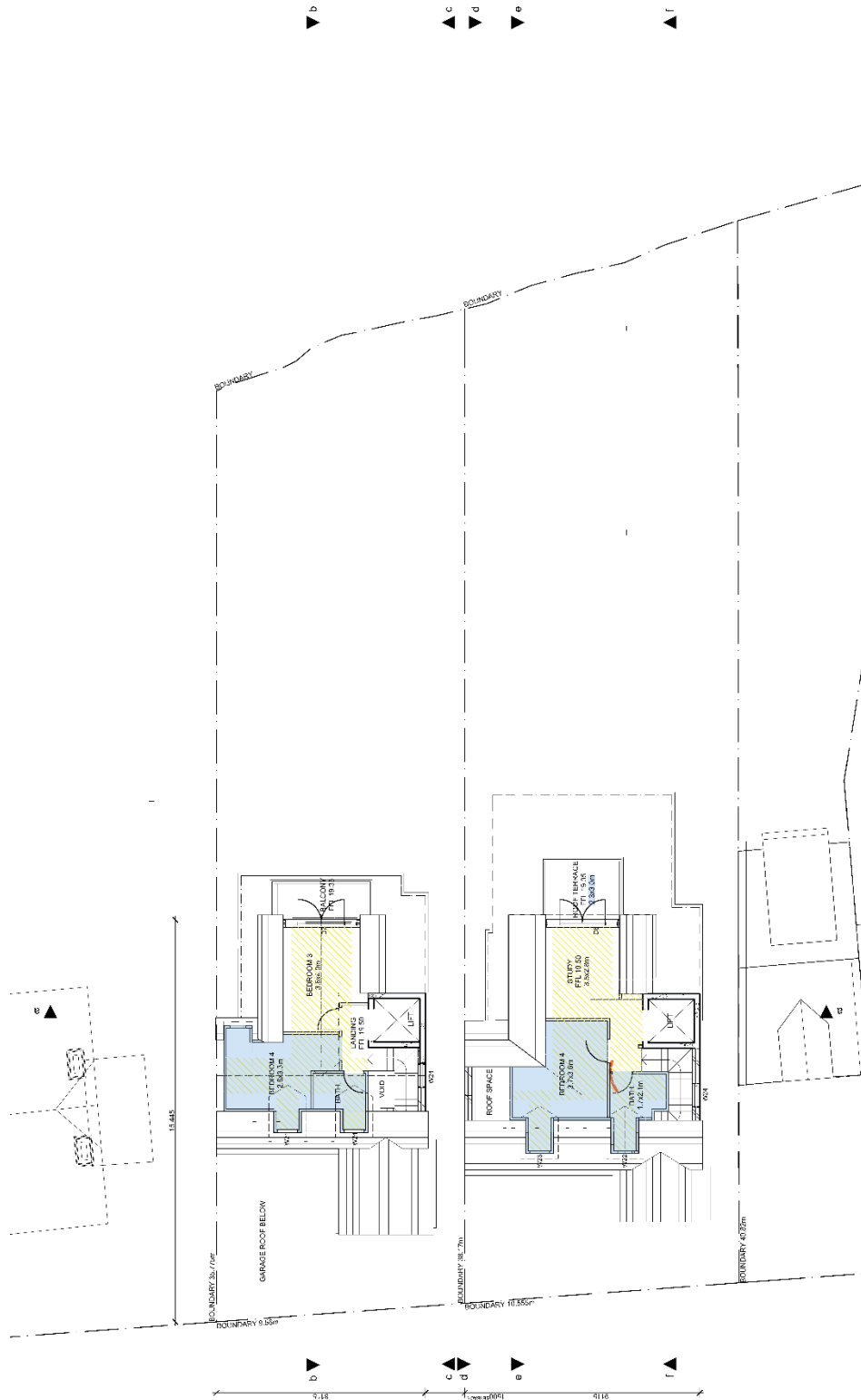
basement plan



new dwelling houses
 for mr & ms gobbo
 17 wharf road
 birchgrove

Document ID: 2020/183
 Version: 1, Version Date: 24/05/2021

NOTES:
 1. PROPOSED AMENDMENTS ARE SHOWN IN BLUE.
 2. DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.



ESNH
 DESIGN PTY LTD
 1902 DARGIE
 SCALE 1:100
 APPROVED
 15/04/2021
 SW. 4.15 Mod App
 15/04/2021

DWG NO. 1902 DARGIE
 SCALE 1:100
 APPROVED
 15/04/2021
 SW. 4.15 Mod App
 15/04/2021



new dwelling houses
 for mr & ms gobbo
 17 wharf road
 birchgrove

Document ID: 20200153
 Version: 1, Version Date: 21/05/2021

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	15/05/2024	ESNH	ESNH
2	REVISED PER PERMIT CONDITIONS	15/05/2024	ESNH	ESNH

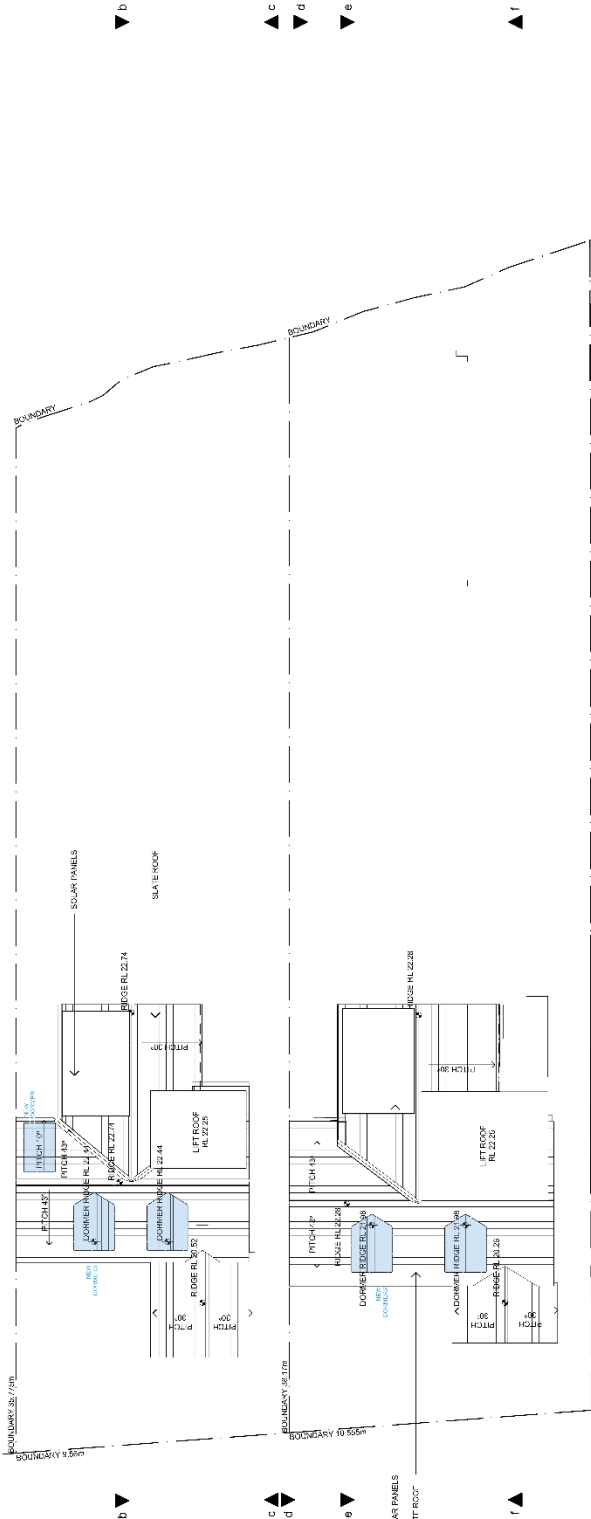
PROJECT NAME	17 WARRI ROAD, BIRCHGROVE NSW 2161
CLIENT	MR & MS GOBBO
DESIGNER	ESNH DESIGN PTY LTD
DATE	15/05/2024
SCALE	1:100
ISSUE	AS SHOWN
APPROVAL	See 4.65 Mod Appl

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	15/05/2024	ESNH	ESNH
2	REVISED PER PERMIT CONDITIONS	15/05/2024	ESNH	ESNH

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	15/05/2024	ESNH	ESNH
2	REVISED PER PERMIT CONDITIONS	15/05/2024	ESNH	ESNH

NOTE:
 1. ALL DIMENSIONS ARE TO FACE UNLESS SPECIFIED OTHERWISE.
 2. ALL DIMENSIONS ARE TO FACE UNLESS SPECIFIED OTHERWISE.
 3. ALL DIMENSIONS ARE TO FACE UNLESS SPECIFIED OTHERWISE.
 4. ALL DIMENSIONS ARE TO FACE UNLESS SPECIFIED OTHERWISE.
 5. ALL DIMENSIONS ARE TO FACE UNLESS SPECIFIED OTHERWISE.

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	15/05/2024	ESNH	ESNH
2	REVISED PER PERMIT CONDITIONS	15/05/2024	ESNH	ESNH



ESNH
 DESIGN PTY LTD
 1902 DAVID
 1:100
 SCALE
 AS SHOWN
 See 4.65 Mod Appl
 DWG NO.
 SCALE
 ISSUE

roof plan



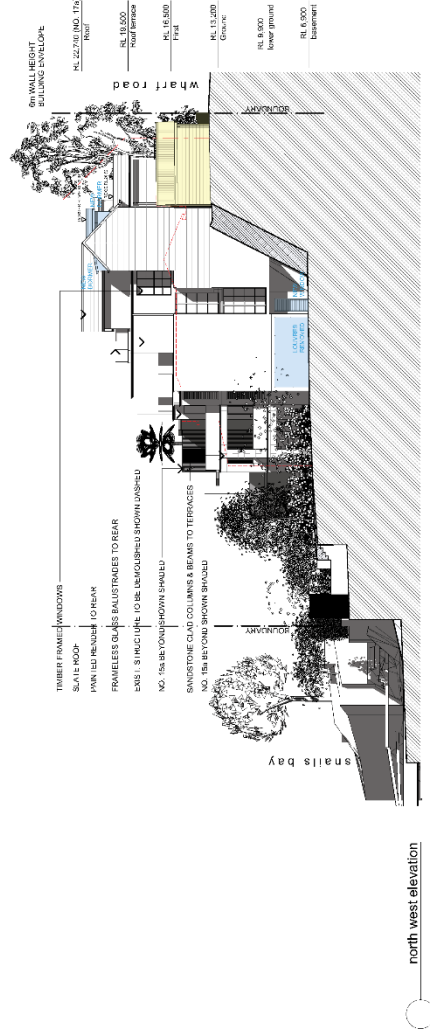
new dwelling houses
 for mr & ms gobbo
 17 warri road
 birchgrove

Document ID: 24050202
 Version: 1, Version Date: 24/05/2024

NOTES:
 1. STRUCTURES ARE SHADED YELLOW
 2. PROPOSED AMENDMENT IS PINK SHADDED BLUE.



rear (north east) elevation



north west elevation

ALIGNMENT OF COLUMNS WITH CABLE OF NO. 19
 FIRST FLOOR LEVEL VARIANCE BETWEEN
 NO. 15 AND NO. 19
 GROUND FLOOR LEVEL VARIANCE BETWEEN
 NO. 15 AND VORING OF NO. 19

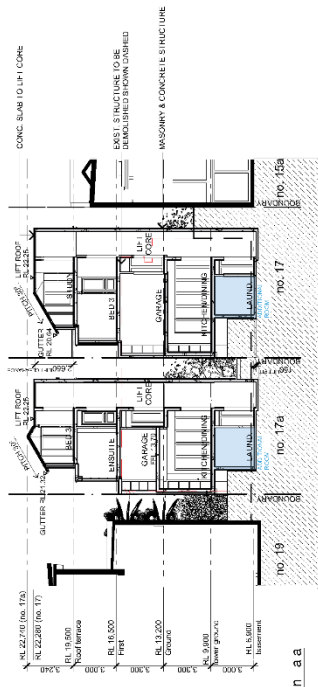
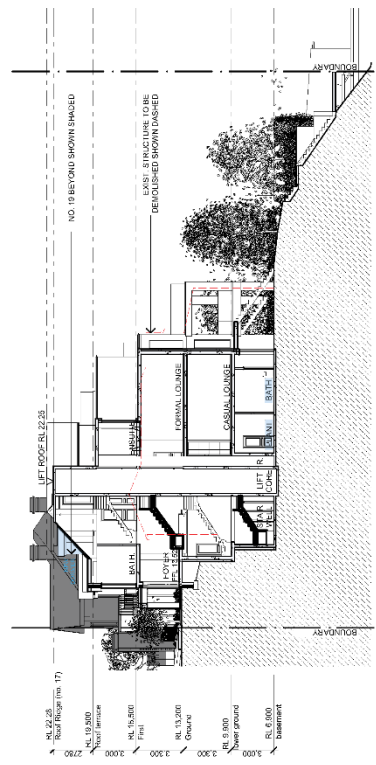
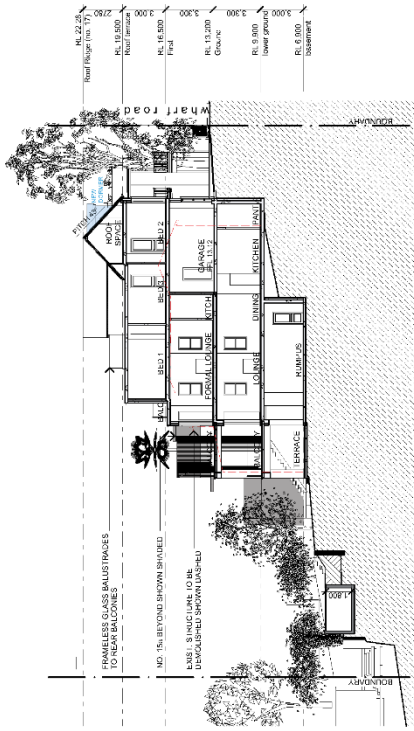
new dwelling houses
 for mr & ms gobbo
 17 wharri road
 birchgrove

Document Ref: 20254153
 Version: 1, Version Date: 2/16/2022

DWG NO. 1802 DATE
 SCALE 1:100 (A0); 1:200 (A2)
 ISSUE Section 4.55 Natl. App.
 E S N H
 DESIGN PTY LTD
 1. Tom Ibbotson
 2. Lisa Ibbotson
 3. Lisa Ibbotson
 4. Lisa Ibbotson
 5. Lisa Ibbotson

elevations sheet 2 of 2

NOTES:
 1. EXISTING STRUCTURES ARE SHOWN IN YELLOW
 2. PROPOSED AMENDMENT IS PINK SHOWN IN BLUE



ESNH
 DESIGN PTY LTD
 1902 DA'2D
 1:100 (A0): 1:200 (A2)
 1:500 (A3): 1:1000 (A4)
 1:2000 (A5): 1:5000 (A6)
 1:10000 (A7): 1:25000 (A8)
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 1:10000000000000000 (A43): 1:25000000000000000 (A44)
 1:50000000000000000 (A45): 1:100000000000000000 (A46)
 1:250000000000000000 (A47): 1:500000000000000000 (A48)
 1:1000000000000000000 (A49): 1:2500000000000000000 (A50)

DWG NO. 1902 DA'2D
 SCALE 1:100 (A0): 1:200 (A2)
 ISSUE 1
 sections sheet 1 of 2

new dwelling houses
 for mr & ms gobbo
 17 wharri road
 birchgrove

Document Ref: 202504153
 Version: 1, Version Date: 2/16/2022

PLANTING SCHEDULE

Code	Botanical Name	Common Name	Height	Spread	For size	Quantity
Ro	Rosemary officinalis 'Salem'	Rosemary 'Salem'	clip to 1m	clip to 1m	ZL	40
Tr	Trachycarpus fortunei	Star Jasmine	0.5m	1m	500ml	60
My	Myrica carolinensis	Myrica	clip to 1m	2m	ZOL	2

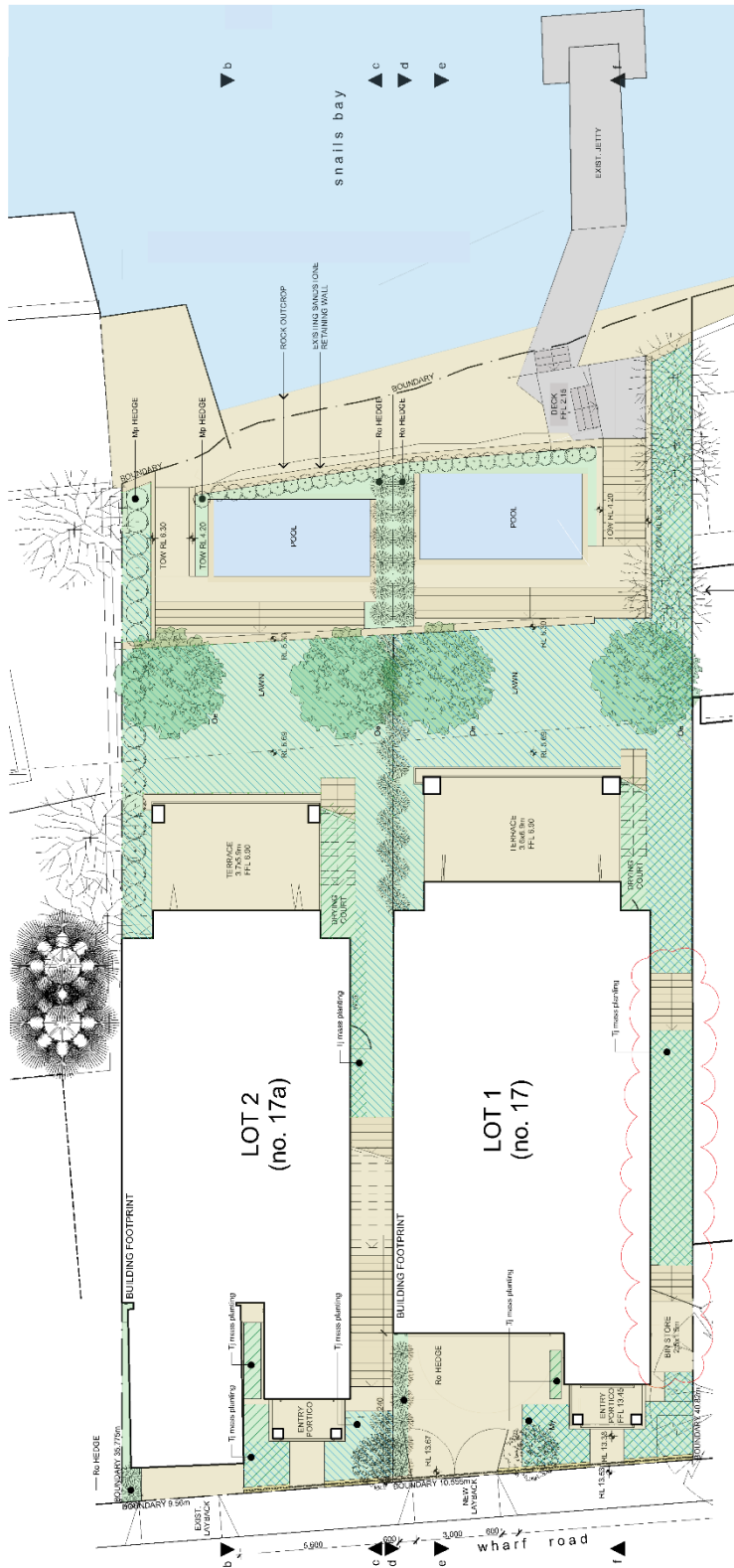
LEGEND

GARDEN INCLUDED IN THE CALCULATION OF LANDSCAPED AREA

TREE PLANTING SPECIFICATION

1. TREES ARE TO BE HEALTHY SPECIMENS FREE OF PESTS/DISEASES. TREES ARE TO BE WELL WATERED (MAXIMUM OF 24 HOURS PRIOR TO PLANTING).
2. EXCAVATE SHALLOW PLANTING HOLES WITH SLOPING SIDES 3 TIMES THE WIDTH OF THE HOOD BALL AND BREAK UP SIDES AND BASE UNLESS IT IS COMPACT SOIL UNDER THE ROOT BALL TO PREVENT SETTLING AND BACKFILL WITH 80/20 BLEND OF IMPORTED TOPSOIL SITE TOPSOIL BROKEN UP TO 100MM.
3. COMPACT SOIL UNDER THE ROOT BALL TO PREVENT SETTLING AND BACKFILL WITH 80/20 BLEND OF IMPORTED TOPSOIL SITE TOPSOIL BROKEN UP TO 100MM.
4. PROVIDE A TRIM HIGH BURN AROUND THE TOP OF THE ROOT BALL AND CLEAR OF THE TREE TRUNK TO FORM A WATERING BASIN.
5. SPREAD THE MULCH A MINIMUM OF 100MM UNLESS FROM THE GROUND OF THE TREE AND BEYOND THE EDGE OF THE PLANTING HOLE.
6. OVERLAPPING UNDISTURBED SOIL.
7. PROVIDE 300MM WIDE HESKAYTES KNIFE AROUND THE TRUNK ABOVE THE TREE THROUGHLY REGARDLESS OF WEATHER CONDITIONS. QUANTITY OF WATER TO BE IRRIGATE IMMEDIATELY AFTER PLANTING. WATER THE TREE THROUGHLY REGARDLESS OF WEATHER CONDITIONS. QUANTITY OF WATER TO BE IRRIGATE 10 LITRES PLANTING. PROVIDE A MINIMUM OF 20L OF WATER TO THE NEWLY PLANTED TREE PER SEVEN DAYS.

LOT 16
 DP 900841
 SITE AREA: 767.6m²
PROPOSED LOT SIZES
 LOT 1 414.96m²
 LOT 2 352.64m²
PROPOSED LANDSCAPED AREA
 LOT 1 103.6m² (25% OF LOT SIZE)
 LOT 2 86.9m² (25% OF LOT SIZE)



ESNH
 DESIGN PTY LTD
 1/1100
 Avenue Road
 K154 North Sydney
 NSW 1585
 02 9333 3339
 www.esnh.com.au

DWG NO. 1902 DA 14 D
 SCALE 1:100
 ANNOTATED
 54-55 Main Appl.
 ISSUE

landscape plan

new dwelling houses
 for mr & ms gobbo
 17 wharf road
 birchgrove

Document Ref: 202304153
 Version: 1, Version Date: 21/02/2023

Attachment C- Statement of Heritage Impact

STATEMENT OF HERITAGE IMPACT

Proposed Development at
17 Wharf Road,
Birchgrove



Job No. 9305
October 2021



RAPPOPORT PTY LTD ©
CONSERVATION ARCHITECTS AND HERITAGE CONSULTANTS
Suite 48, 20-28 Maddox Street, Alexandria, NSW 2015
(02) 9519 2521
reception@Heritage 21.com.au

Table with 3 columns: Heritage Impact Statements, Conservation Management Plans, On-site Conservation Architects; Photographic Archival Recordings, Interpretation Strategies, Expert Heritage Advice; Fabric Analyses, Heritage Approvals & Reports, Schedules of Conservation Work

Document Set ID: 36358152
Version: 1, Version Date: 24/05/2022

Statement of Heritage Impact - 17 Wharf Road, Birchgrove

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Statement of Heritage Impact - 17 Wharf Road, Birchgrove

Acknowledgement of Country

Heritage 21 wishes to acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and community. We pay our respects to them and their cultures; and to elders both past and present.

Cover page: Subject site at 17 Wharf Road, Birchgrove, from Snails Bay looking to the rear façade (Source: Heritage 21, 10.02.20)

The following Table forms part of the quality management control undertaken by Heritage 21 regarding the monitoring of its intellectual property as issued.

Issue	Description	Date	Written by	Reviewed by	Issued by
1	Draft report (D1) issued for comment.	30.09.2021	SH	PR	SH
2	Draft report (D2) issued for comment.	01.10.2021	SH	PR	SH
3	Draft report (D3) issued for comment.	06.10.2021	SH	PR/DJ	SH
4	Report Issued (RI) for DA.	14.10.2021	SH	--	SH

Heritage21
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Statement of Heritage Impact - 17 Wharf Road, Birchgrove

1.0 INTRODUCTION

1.1 Background

This Statement of Heritage Impact ('SOHI' or 'report') has been prepared on behalf of ESNH Design Pty Ltd, in the context of an application to Inner West Council pursuant to Section 4.55 of the *Environmental Planning & Assessment Act 1979* ('the Act'), to modify an approved Development Application. The current application is regarding approved works at 17 Wharf Road, Birchgrove ('the site'), which is subject to approved Development Application (DA/2020/0461), for which consent was granted by Council on 8 June 2021.

Note – The original SOHI containing the previously approved works has been attached as an appendix to this report.

1.2 Site Identification

The subject site is located 17 Wharf Road, Birchgrove, which falls within the boundaries of the Inner West Local Government Area (LGA), and it comprises Lot 16, Deposited Plan (DP), 900841. As depicted in Figure 1 below, the site is located on the northern side of Wharf Road and borders the Paramatta River to the North. The site consists of a three-storey dwelling constructed in 1995. The setting and topography of the site will be more fully described in Section 3.0 below.

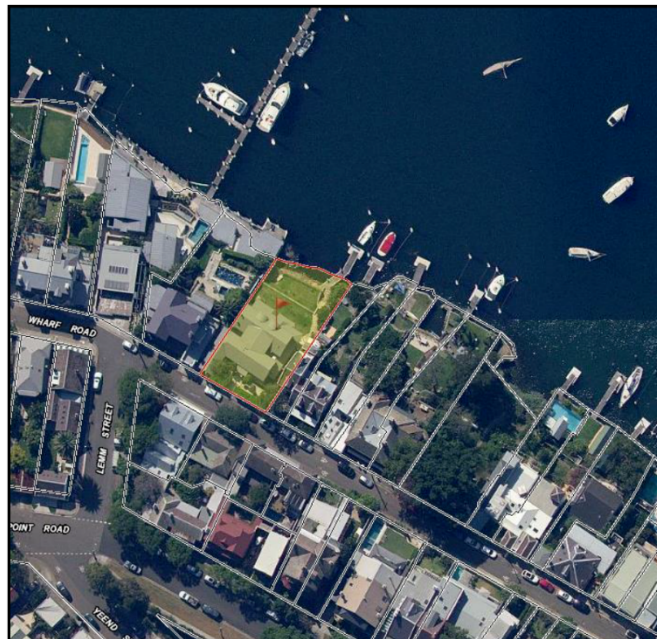


Figure 1. Contemporary aerial view of the site highlighted yellow, and surrounding urban environment (Source: NSW Land and Property Information, 'SIX Maps', n.d., <http://maps.six.nsw.gov.au/>).

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1.3 Heritage Context

1.3.1 Heritage Listings

The subject site is **not** listed as an item of environmental heritage under Schedule 5 of the Leichhardt Local Environmental Plan 2013 ('LLEP'). It also is **not** listed on the NSW State Heritage Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Register (NSW), or the former Register of the National Estate.¹

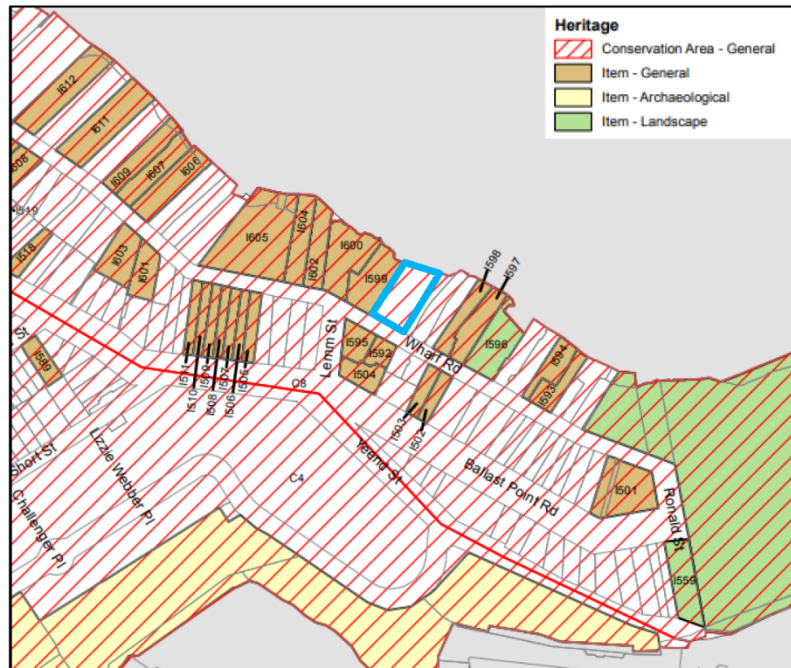


Figure 2. Detail from Heritage Map HER_010; the subject site is indicated by the blue outline and heritage items, some of which are within the vicinity of the site, are marked brown and heritage conservation areas are cross hatched red. The subject site is a part of Birchgrove and Ballast Point Road HCA. (Source: NSW Legislation Online, https://www.legislation.nsw.gov.au/maps/667fa485-c3ad-4059-b0ed-c0c4b619b547/4800_COM_HER_010_005_20150427.pdf, annotated by Heritage 21).

The subject site is also located within the Sydney Harbour-Foreshores and Waterways area and the Sydney Harbour Catchment as shown in Figure 3 below.

¹ The Register of the National Estate ceased as a statutory heritage list in 2007; however it continues to exist as an inventory of Australian heritage places.

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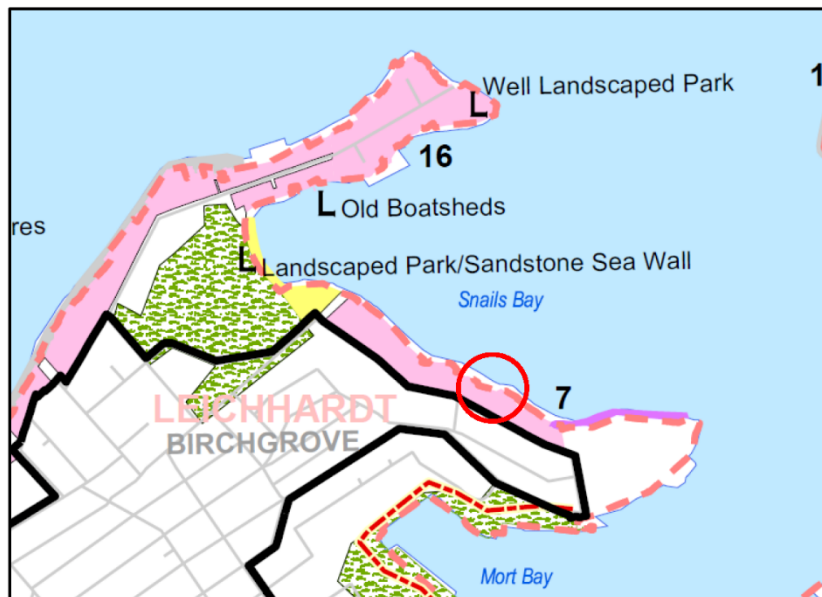


Figure 3. Detail from Sydney Harbour Foreshores and Waterways Area Map, the approximate location of the subject site is circled in red (Source: NSW Department of Planning, <https://www.planning.nsw.gov.au/~media/Files/DPE/Plans-and-policies/sydney-harbour-foreshores-and-waterways-area-development-control-plan-2005.ashx>, annotated by Heritage 21)

1.3.2 Heritage Conservation Areas

As depicted in Figure 2 above, the subject site is located within the boundaries of the Birchgrove and Ballast Point Heritage Conservation Area ('HCA'), listed under Schedule 5 of the Leichhardt LEP 2013.

As the current building on the site was constructed in 1995, it is our opinion that the subject building is **not** a contributory item within the HCA.

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1.3.3 Heritage Items in the Vicinity

As depicted in Figure 2 above, the subject site is situated within the general vicinity of the following heritage items and HCA's listed under Schedule 5 of the Leichhardt LEP 2013. The details of the listings follow:

Item/HCA Name	Address	Significance	Item Number
House and remnants of former Stannard's Marina, including interiors	19 Wharf Road	Local	I599
Remnants of former Stannard's Marina, including interiors	19A Wharf Road	Local	I600
Semi-detached House, "Normanton", including interiors	21 Wharf Road	Local	I602
Semi-detached flats "Maybank", including interiors	23 Wharf Road	Local	I604
House, including interiors	8 Wharf Road	Local	I595
Timber house, including interior	6 Wharf Road	Local	I592
Semi-detached house, including interiors	27 Ballast Point Road	Local	I503
Semi-detached house, including interiors	25 Ballast Point Road	Local	I502
House, including interiors	13A Wharf Road	Local	I598
House, including interiors	13 Wharf Road	Local	I597
Brownlee Reserve	11 Wharf Road	Local	I596
Town of Waterview Heritage Conservation Area	-	-	C4

Among the above heritage items in the vicinity listed above, the subject site is adjacent to or within the visual catchment of items I595 (8 Wharf Road), I592 (6 Wharf Road), I503 (27 Ballast Point Road),

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I502(25 Ballast Point Road), I599 (19 Wharf Road) and I600 (19A Wharf Road). Accordingly, the impact of the proposal on these items is discussed in Section 6.0 of this report below.

1.4 Purpose

The subject site is located within the Birchgrove and Ballast Point Heritage Conservation Area and is located in the vicinity of a number of heritage items: I595, I592, I503, I502, I599 and I600, all of which are listed under Schedule 5 of the LLEP 2013. Sections 5.10(4) and 5.10(5) of the LLEP 2013 require the Inner West Council to assess the potential heritage impact of non-exempt development, such as the proposed works (refer to Section 5.0), on the heritage significance of the abovementioned heritage items and heritage conservation areas and, also, to assess the extent (whether negative, neutral or positive) to which the proposal would impact the heritage significance of those heritage items and heritage conservation areas. This assessment is carried out in Section 6.0 below.

Accordingly, this SOHI provides the necessary information for Council to make an assessment of the proposal on heritage grounds.

1.5 Methodology

The methodology used in this SOHI is consistent with *Statements of Heritage Impact* (1996) and *Assessing Heritage Significance* (2001) published by the Heritage Division of the NSW Office of Environment and Heritage and has been prepared in accordance with the principles contained in the most recent edition of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* 2013 ('Burra Charter').

1.6 Authors

This Statement of Heritage Impact ('SOHI' or 'report') has been prepared by Shabani Sehra, reviewed by Divya Joseph and overseen by Paul Rappoport, of Heritage 21, Heritage Consultants.

1.7 Limitations

- This SOHI is based upon an assessment of the heritage issues only and does not purport to have reviewed or in any way endorsed decisions or proposals of a planning or compliance nature. It is assumed that compliance with non-heritage aspects of Council's planning instruments, the BCA and any issues related to services, contamination, structural integrity, legal matters or any other non-heritage matter is assessed by others.
- This SOHI essentially relies on secondary sources. Primary research has not necessarily been included in this report, other than the general assessment of the physical evidence on site.
- It is beyond the scope of this report to address Indigenous associations with the subject site.
- It is beyond the scope of this report to locate or assess potential or known archaeological sub-surface deposits on the subject site or elsewhere.

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- It is beyond the scope of this report to assess items of movable heritage.
- Heritage 21 has only assessed aspects of the subject site that were visually apparent and not blocked or closed or to which access was not given or was barred, obstructed or unsafe on the day of the arranged inspection.

1.8 Copyright

Heritage 21 holds copyright for this report. Any reference to or copying of the report or information contained in it must be referenced and acknowledged, stating the full name and date of the report as well as Heritage 21's authorship.

2.0 HISTORICAL CONTEXT

2.1 Local History

2.1.1 Aboriginal History

The Traditional owners of the Birchgrove Area are the Wangul clan of the Dharug people who named Birchgrove Point, Yur(r)ulbin (swift running waters). The name originates from the change in water movement around the point. This is mostly owed to the location of the bay to west, which is protected from the open waters of the harbour to the east.²

2.1.2 European History

The following is an extract from Area 14 Birchgrove and Ballast Point Road by Godden Mackay Logan Heritage Consultants:³

The Birchgrove and Ballast Point Conservation Area covers the area of the George Whitfield's 30-acre grant of 1796 (Birchgrove) and sections of John Gilchrist's Balmain Estate (Ballast Point). Birch acquired Whitfield's grant in 1810 and built Birch Grove house (at 67 Louisa Road, demolished 1967).

Along Ballast Point to the east of Birchgrove Park, land was released for subdivision and sale in 1852. It was part of John Gilchrist's 550-acre Balmain Estate, and subdivisional activities across the whole estate had been suspended in 1841 because of disputes about his will. Once resolved, Surveyor Charles Langley was responsible for subdividing the remaining acres into 46/47 sections, using existing contour-aligned routes such as Darling Street, Birchgrove Road and Ballast Point Road to delineate the parcels. The sections were purchased over the next thirty years by wealthy investors, local speculators and builders. Speculators Joshua Josephson, Charles Smith, William Cover and George Thorne bought up the land on both sides of Ballast Point Road in 1853. This marine location, with most allotments possessing water frontages, attracted some keen bidding.

In 1860 the estate was purchased by Didier Joubert of Hunters Hill and the Parramatta Ferry Service. He commissioned Surveyor Brownrigg to subdivide the land into villa allotments, and despite later small resubdivisions, Brownrigg's layout provides the backbone for Birchgrove today...The estate was eventually mortgaged to the Bank of New South Wales. By 1878, only twenty-three lots had been sold.

...The estate was again put up for sale in 1878. Sydney's boom period of the 1880s saw many more allotments taken up and villas in stone or rendered brick were built. This

² State Heritage Inventory, 'Wyoming,' <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045304> [accessed 17 February 2020].

³ Godden Mackay Logan, *Area 14 Birchgrove and Ballast Point Road*, Leichhardt Municipal Council, 2004, file:///C:/Users/Research/Downloads/Birchgrove%20and%20Ballast%20Point%20Road%20C8.pdf.

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dramatic tongue of sandstone at the western end of the harbour also attracted industries dependent on water (shipbuilding and repair) or on water for the transport of its raw materials (timber yards, a cooperage, a coalyard, an oil refinery)....By 1941 when Storey and Keers shipwrights were established ... all land in Birchgrove had been taken up.

By 1891 the whole process of building up Ballast Point Road, Wharf Road, Yeend, Ronald and Lemm Streets was largely complete. There were marine villas on generous parcels of land along Wharf Road. They were sited well up from the waterfront for a stylish setting and for views, with their backs to the road. Large terraces and villas occupied the high ground along Ballast Point Road. Cooper, who had already received twenty-three acres in Morts Bay (later part of Mort's Town of Waterview) also owned Ballast Point itself. The Point was purchased and used by Caltex Oil Co for oil storage purposes until the 1980s.

In the 1970s change in industrial operations and the nature of maritime industry left the former small industrial sites of Birchgrove available for new residential development.

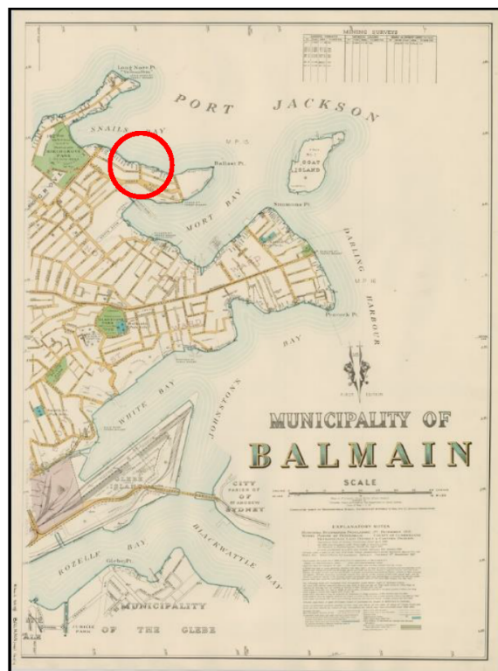


Figure 4. Map of Balmain 1917, the approximate location of the subject site is circled in red (Source: State Library of NSW, https://search.slnsw.gov.au/primo-explore/fulldisplay?docid=SLNSW_ALMA21127523780002626&context=L&vid=SLNSW&lang=en_US&tab=default_tab)

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2.2 Site Specific History

In 1872, Layman Martin Harrison purchased lots 14, 16 (the subject site) and 18 of the Birch Grove Estate. Certificates of title indicate that throughout the late 1800s, the lot was bought and sold several times.. In 1910, it was purchased by Marmaduke Levitt Deloitte, the youngest of the Deloitte family – who were a prominent family within the local community.⁴ Later that year, the lot was sold to Lucy Jane Bignell and the house was listed under the name “Llanabar”. Newspaper records indicate that the Bignell family occupied the house during the first half of the twentieth century.

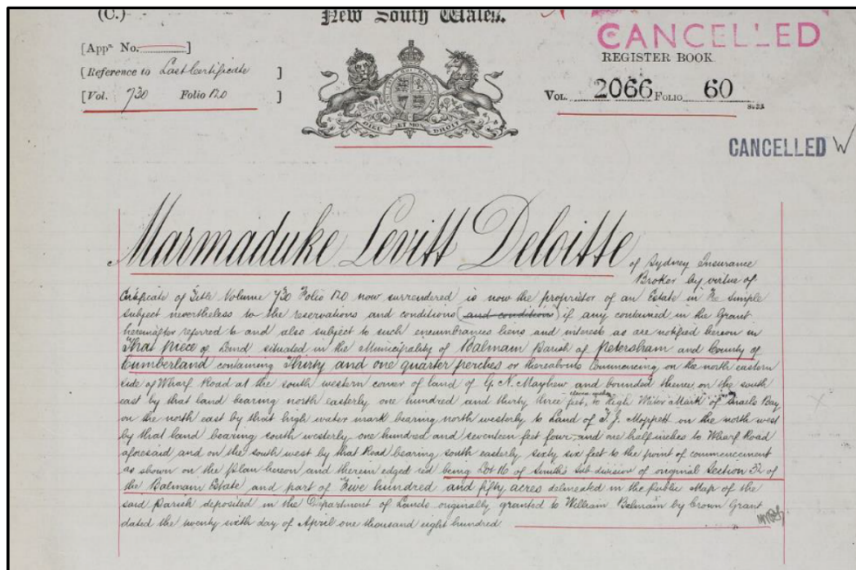


Figure 5. Certificate of title, Marmaduke Levitt Deloitte, Volume 2066 Folio 60 (Source: Historic Land Records Viewer, hlr.v.nswlrs.com.au)

⁴ Wyoming, State Heritage Inventory, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045304>.

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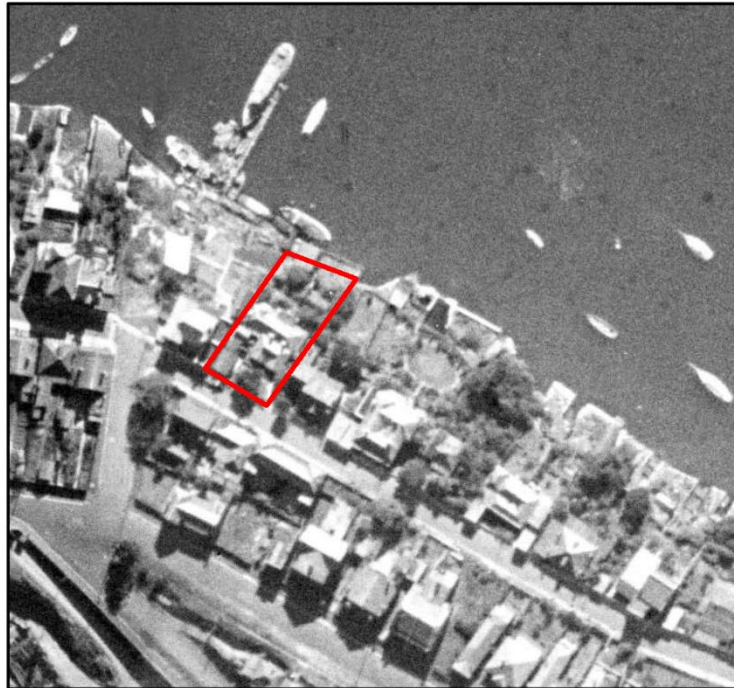


Figure 6. 1943 Aerial Survey, the subject site is outlined in red (Source: SIX Maps, maps.six.nsw.gov.au, annotated by Heritage 21)

The 1943 aerial survey shows a substantial dwelling named “Llanabar” located within the subject site and the transformation of the area from a port to primarily residential.

In 1964, the land was leased to the Nicholson Brothers Transport Company, a maritime business that operated out of Snails Bay.⁵ The Stannard family, who also ran a series of maritime operations across Sydney, purchased the property during the second half of the twentieth century. Throughout the 1980s and 1990s, the maritime industry in Balmain became redundant and the Stannard family sold off their property in the area.⁶

⁵ *Sailing Sabots at Snails Bay, Balmain Library Exhibition*, Asa Wahlquist, <http://asawahlquist.com/?p=290>.
⁶ *Ibid.*

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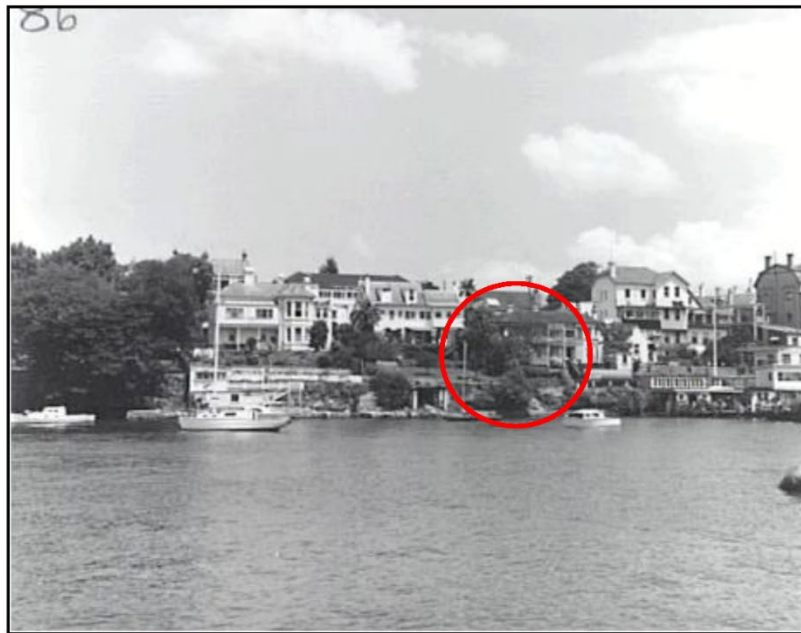


Figure 7. Foreshore, Birchgrove 1976, the subject site featuring the original dwelling before its demolition in 1995 (circled in red) (Source: Inner West Libraries, <https://innerwest.spydus.com/cgi-bin/spydus.exe/FULL/WPAC/BIBENQ/50534201/998393,49?FMT=IMG>, annotated by Heritage 21)

In 1994, the subject site was purchased from the Stannard family by construction operators Thomas and Susan Tosich. In 1995, the “Llanabar”, was demolished after much controversy, facing community criticism and a court proceeding. The current dwelling located within the allotment was constructed in 1995.

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Figure 8. The original house 'Llanabar' at 17 Wharf Road, prior to its demolition, 1995 (Source: Inner West Libraries, <https://innerwest.spydus.com/cgi-bin/spydus.exe/FULL/WPAC/BIBENQ/50488817/994650,3?FMT=IMG>)

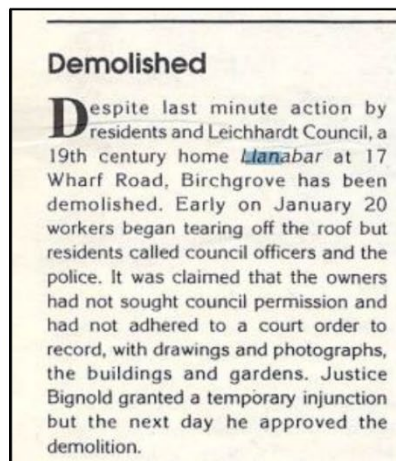


Figure 9. The Peninsular Observer, 1994 (Source: Balmain Association, <https://balmainsassociation.org.au/newsletters/contents/233%20199403.pdf>)

3.0 PHYSICAL EVIDENCE

3.1 The Setting

The site is located at 17 Wharf Road. The suburb of Birchgrove is located 5 kilometres west of the Sydney Central Business District. The subject site is located on the northern side of Wharf Road and the rear of the property is bordered by Snails Bay. Wharf Road runs from Ballast Point Park to the east of the subject site, and to Grove Street to the west. Wharf Road is characterised by a series of single-storey and double-storey Victorian and Federation cottages which front Snails Bay and increase in scale to the rear.

3.2 Physical Description

The subject site slopes downwards towards Snails Bay to the north. It features a three-storey rendered dwelling. The building is set back from Wharf Road and is concealed from view by a hedge. The subject site itself is separated from Wharf Road by an original iron palisade fence with a sandstone base which is obscured by the hedge. On the south-western corner of the property is an early and original timber garage featuring a decorative bargeboard and trimming. The interior of the garage is likely not original and features cement flooring. The garage and the iron palisade fence with a sandstone base are of heritage significance. The front yard features soft landscaping and to the south of the primary façade is a series of plantings.

To the rear of the site is a terraced backyard featuring a sandstone retaining wall. A sandstone set of stairs leads to a jetty on the north-eastern corner of the subject site. The backyard is partially covered in a timber deck to the north-western corner. In the north-eastern corner of the site are a series of plantings abutting the eastern boundary line.

The current dwelling was built in 1995. The house features a corrugated iron gabled roof. The interiors of the house feature four bedrooms and the floor is lined with timber and tiles. The first floor features a balcony to the rear of the site overlooking Snails Bay. Additionally, there are two dormers to the second storey of the southern elevation, looking towards Snails Bay. The 1995 dwelling does not possess any features of heritage significance.

3.3 Condition and Integrity

The subject site has few remnants of the original dwelling. The current building, while in a good condition overall, does not possess significant fabric and the construction of the dwelling has impacted the integrity of the site. The garage and iron palisade fence with sandstone footing are the only fabric on the site connected with the original dwelling (which has been demolished). The interior of the garage has been significantly altered and as such, the façade contains the majority of the original fabric.

3.4 Views

The subject site is a readily visible item within the context of the Birchgrove and Ballast Point HCA. As depicted in Figure 2 above, the primary view lines to the primary elevation of the site are made

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from items I595 (8 Wharf Road), I592 (6 Wharf Road), I503 (27 Ballast Point Road), I502 (25 Ballast Point Road) and the Wharf Road streetscape, all within the HCA. The proposed works would be visible from this perspective and would alter views from the site to those places.

The secondary view lines into the rear and side elevations of the site are made from items I599 (19 Wharf Road) and I600 (19A Wharf Road), within the HCA. These secondary view lines would also be affected by the proposal.

Accordingly, the impact of the proposal on these items is discussed in the Assessment of Heritage Impact in Section 6.0 below.

The proposed works would not be observable from items I602, I604, I598, I597, I596 or C4, and nor would the proposal impact view lines from the site to those places. Accordingly, the impact of the proposal on these places is not discussed in the Assessment of Heritage Impact in Section 6.0 below.

3.5 Images

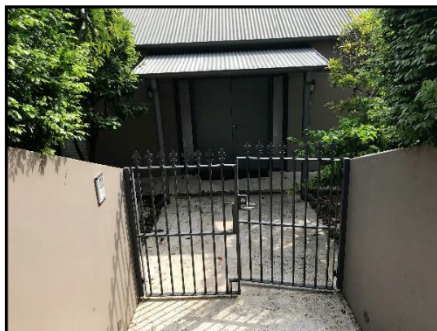
The following photographs have been taken by Heritage 21 at the site inspection undertaken on 10 February 2020, unless stated otherwise.



Figure 10. The primary façade of the subject site as viewed facing north from Wharf Road.



Figure 11. The subject site as viewed facing west along Wharf Road.



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Figure 12. The entrance to the subject site viewed facing north from Wharf Road.



Figure 13. Sandstone base and iron palisade fence on Wharf Road boundary of subject site.



Figure 14. View to rear facade of dwelling facing west from eastern boundary of subject site.



Figure 15. View to Snails Bay facing north from subject site.



Figure 16. Sandstone stairs leading to jetty to rear of subject site.



Figure 17. Sandstone wall to rear of subject site as viewed facing west.



Figure 18. Rear elevation of subject site as viewed facing south from rear boundary.



Figure 19. Western building line and boundary wall.



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Figure 20. View east from rear veranda towards Sydney Harbour Bridge



Figure 21. Internal staircase leading to entrance door to Wharf Road.

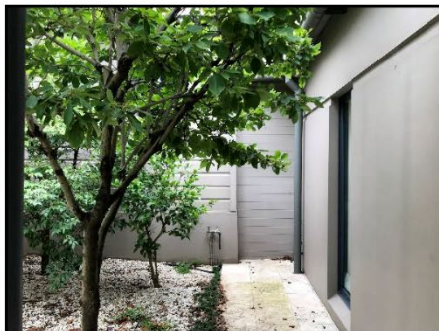


Figure 22. Facing west from entrance door towards garage.



Figure 23. Timber window on eastern elevation of garage.



Figure 24. Interior of garage.



Figure 25. Decorative bargeboard to Wharf Road elevation of garage.

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Figure 26. Iron palisade fence and sandstone base to Wharf Road boundary of subject site.



Figure 27. Iron Palisade fencing detail.

4.0 HERITAGE SIGNIFICANCE

In order to assess the impact of the proposed works on the heritage significance of the subject site, the Birchgrove and Ballast Point HCA (in which the subject site is located), and heritage items in the vicinity of the site, it is necessary to first ascertain the heritage significance of these places. Accordingly, Statements of Significance for the subject site (refer to Section 4.2), and the established significance (refer to Section 4.1) of the Birchgrove and Ballast Point HCA, and items I595, I592, I503, I502, I599, and I600 are provided below. The significance of these places, will form part of our considerations in the assessment of heritage impact, undertaken in Section 6.0 below.

4.1 Established Significance

4.1.1 The Birchgrove and Ballast Point HCA

The following Statement of Significance is available for the heritage conservation area on Council's website:⁷

- *One of a number of conservation areas which collectively illustrate the nature of Sydney's early suburbs and Leichhardt's suburban growth particularly between 1871 and 1891, with pockets of infill up to the end of the 1930s (ie prior to World War II). This area retains evidence (though somewhat diminished in the last twenty years) of the growth of Birchgrove and Ballast Point as marine suburbs and as a maritime industrial area from the 1870s–1920s, and other industry developed prior to 1941.*
- *Demonstrates the close relationship between landform, the layout of the roads and the siting of the early villas and industries to take advantage of the marine position.*
- *Demonstrates the close physical relationship between industry and housing (both middle class and workers housing) in nineteenth century cities.*
- *Demonstrates the development of brick making in Sydney through its building materials with the use of plastered brick walls and dry-pressed face bricks (unplastered, unpainted) walls.*
- *Demonstrates one of a number of late nineteenth century bay reclamation projects which characterise Sydney Harbour.*

⁷ Area 14, Birchgrove and Ballast Point Road, Inner West Council, <https://www.innerwest.nsw.gov.au/develop/planning-controls/heritage-and-conservation/heritage-conservation-areas>.

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4.1.2 House, including interior (I595)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 8 Wharf Road:⁸

No. 8 Wharf Road is of local historic and aesthetic significance as a good representative example of a Victorian single storey plus attic stone dwelling constructed sometime between the 1860s and 1880s. The building significantly retains its overall scale, form, character and details as presents to the street including the stone facades, roof form and chimney, open front verandah and associated details and simple pattern of openings. The building also retains a garden setting including a number of mature trees and stone outbuilding and overall makes a positive contribution to the Wharf Road and Lemm Street streetscapes.

4.1.3 Timber house, including interior (I592)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 6 Wharf Road:⁹

No. 6 Wharf Road is of local historic and aesthetic significance as an early Victorian timber weatherboard dwelling constructed sometime between the 1860s and 1880s. Despite infill of the front verandah, the building significantly retains its overall scale, form, character and details as presents to the street including the timber weatherboard facades, roof form and chimneys, projecting gable roofed wing and timber decorative details, front verandah form and simple pattern of openings. The building is associated with the neighbouring buildings and makes a positive contribution to the Wharf Road streetscape.

4.1.4 Semi-detached housing, including interiors (I503)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 27 Ballast Point Road:¹⁰

No. 27 Ballast Point Road is of local historic and aesthetic significance as a representative example of a Victorian semi detached dwelling constructed in c. 1886. Despite alterations and additions to the rear, the building significantly retains its overall scale, form, character and details as it presents to the street including the rendered facades and associated decorative details and mouldings,

⁸ Heritage NSW, State Heritage Inventory, *House*, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940616>.

⁹ Heritage NSW State Heritage Inventory, *Timber House*, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940613>.

¹⁰ Heritage NSW, State Heritage Inventory, *"Tyne Villas", semi-detached house*, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940525>.

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roof form and chimneys, large street facing gable and decorative timber elements, two storey faceted bay, open verandah and pattern of openings. The building is part of a distinctive pair of semis (Nos. 25 and 27) that occupy an elevated site and make a positive contribution to the Ballast Point Road streetscape.

4.1.5 Semi-detached house, including interiors (I502)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 25 Ballast Point Road:¹¹

No. 25 Ballast Point Road is of local historic and aesthetic significance as a representative example of a Victorian semi detached dwelling constructed in c. 1886. Despite alterations and additions to the roof and rear, the building significantly retains its overall scale, form, character and details as it presents to the street including the rendered facades and associated decorative details and mouldings, roof form and chimneys, large street facing gable and decorative timber elements, two storey faceted bay, open verandah and pattern of openings. The building is part of a distinctive pair of semis (Nos. 25 and 27) that occupy an elevated site and make a positive contribution to the Ballast Point Road streetscape.

4.1.6 House and remnants of former Stannard's Marina, including interiors (I599)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 19 Wharf Road:¹²

No. 19 Wharf Road is of local historic and aesthetic significance as a good representative example of a two storey house originally constructed in 1872 but later modified. The building retains its overall scale, form, character and details as presents to the street including the rendered facades, roof form and chimney, open front verandah and associated details and simple pattern of openings.

The building is associated with the maritime industry as well as for residential use for the Nicholson family. The site contains various other buildings with group value associated with the maritime industry, the primary phase being 1913-1970s. The site has historical associations with prominent Sydney maritime companies; Nicholson Bros. who commenced maritime uses at No. 19 from 1913, gradually increasing landholding and maritime activity along the waterfront (Nos. 17-25) throughout the century, and Stannard Bros. (Dreadnought Trading Pty Ltd).

¹¹ Heritage NSW, State Heritage Inventory, "Tyne Villas", semi-detached house, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940524>.

¹² Heritage NSW, State Heritage Inventory, House and former Stannard's marina, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940620>.

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The collection of maritime/industrial buildings are a remnant of the former extent of industrial activities which developed along the Balmain waterfront. The significance of the structures and associated fabric is generally low/moderate.

4.1.7 Remnants of former Stannard’s Marina, including interiors (I600)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 19a Wharf Road:¹³

The site has historical associations with prominent Sydney maritime companies; Nicholson Bros. who commenced maritime uses at No. 19 from 1913, gradually increasing landholding and maritime activity along the waterfront (Nos. 17-25) throughout the century, and Stannard Bros. (Dreadnought Trading Pty Ltd).

The collection of maritime/industrial buildings are a remnant of the former extent of industrial activities which developed along the Balmain waterfront. The significance of the former structures and associated fabric was generally low/moderate. The jetty has heritage significance.

The three separate strata buildings built in 2009 have no heritage value.

4.2 The Subject Site

4.2.1 Assessment of Significance

In order to make an assessment of whether or not the proposed development of the subject site would have either a negative, neutral or positive impact upon the significance of the subject place, it is necessary first to ascertain the significance of the subject site. The assessment is based upon criteria specified by the NSW Office of Environment and Heritage.¹⁴

Criterion	Assessment
<p>A. Historical Significance</p> <p><i>An item is important in the course, or pattern, of NSW’s (or the local area’s) cultural or natural history.</i></p>	<p>The dwelling on the subject site, constructed in 1995, does not meet the criteria for historical significance. However, the subject site’s allotment depicts the subdivision and subsequent development of the Birchgrove area during the 19th century.</p> <p>Furthermore, the remnants of the original dwelling consisting of the timber garage and palisade fence further demonstrate the historical development of the site and the Birchgrove area. As such the subject site does display historical significance at a local level.</p>

¹³ State Heritage Inventory, *Former Stannard’s jetty*, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940621>.

¹⁴ State Heritage Inventory, ‘Statements of Heritage Impact’ (Heritage Office and Department of Urban Affairs & Planning, 1996), NSW Heritage Manual, <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/nmstatementsofhi.pdf>.

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Criterion	Assessment
<p>B. Associative Significance</p> <p><i>An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's (or the local area's) cultural or natural history.</i></p>	<p>The original dwelling on the subject site was first associated with the prominent local Deloitte family, and later the maritime industry through the Nicholson and Stannard families. However, there is no evidence that the current dwelling is related to any significant human occupation or any event, person, or group of importance. As such, the subject site does not meet the criteria for associative significance.</p>
<p>C. Aesthetic Significance</p> <p><i>An item is important in demonstrating aesthetic characteristics and/or high degree of creative or technical achievement in NSW (or the local area).</i></p>	<p>Heritage 21 does not believe that the dwelling on the subject site demonstrates aesthetic characteristics associated with contemporary architecture, nor does it demonstrate a high degree of creative or technical achievement in NSW or the local Birchgrove area.</p> <p>Otherwise, the remnants of the original dwelling including the timber garage and the iron palisade fence display characteristics of Victorian architecture. However, alterations to the interior of the garage have diminished its significance and furthermore the demolition of the original dwelling has impacted the relationship between the garage, the fence, and the site.</p> <p>As such, notwithstanding the aesthetic significance conveyed in the timber garage and the iron palisade fence, the subject site as a whole does not meet the criterion for aesthetic significance.</p>
<p>D. Social Significance</p> <p><i>An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i></p>	<p>To our knowledge, the subject site has no known association with an identifiable group in the area nor was it used by a particular community for social, cultural or spiritual purposes. Thus, it does not meet the criterion for social significance.</p>
<p>E. Technical/Research Significance</p> <p><i>An item has potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history.</i></p>	<p>There is no evidence to suggest that the building demonstrates construction techniques other than those commonly employed at the time. The subject site therefore does not meet the requirements of this criterion.</p>
<p>F. Rarity</p> <p><i>An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history.</i></p>	<p>Dwellings built in the style of the subject dwelling are not currently rare in Sydney and there are numerous examples in the Birchgrove and Inner West area. Accordingly, the subject item does not attain the requisite standard of significance under this criterion.</p>

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Criterion	Assessment
<p>G. Representativeness</p> <p><i>An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or cultural or natural environments.</i></p>	<p>There is no evidence that the subject building exhibits principal characteristics of 1990s architecture, nor is it considered a fine example of its type.</p> <p>However, the original garage and palisade fence convey characteristics of Victorian architecture. Despite alterations to the interior of the garage, the façade exhibiting the decorative bargeboard demonstrates features of the 19th century. Furthermore, the iron palisade fence represents fence types common to the period.</p> <p>Despite the original fabric on the site including the timber garage and the iron palisade fence, the primary dwelling on the subject site is not representative of principal characteristics of a period of architecture. As such, the subject site as a whole does not meet the criteria for representative significance.</p>

Notwithstanding the historical development of the subject site, there is no evidence to suggest that the existing structure located at 17 Wharf Road, Birchgrove, constructed in 1995, demonstrates any of the criteria against which heritage significance is assessed

Statement of Heritage Impact - 17 Wharf Road, Birchgrove

5.0 WORKS PROPOSED

5.1 Proposal Description

The proposed works for the 4.55 application which have a potential heritage impact include:

- Introduction of 2 dormer windows to the roof form of each of the two proposed dwellings in place of three dormer windows as proposed earlier; and
- Introduction of non-reflective glazed balustrades towards the rear in place of previously proposed glazed balustrades and in lieu of the timber or metal balustrades required under DA Condition of Consent 2c of Development Application No. DA/2020/0461.

5.2 Drawings

Our assessment of the proposal is based on the following drawings by ESNH dated August 2021 and received by Heritage 21 on 23 August 2021. These are reproduced below for reference only; the full set of drawings accompanying the development application should be referred to for any details.

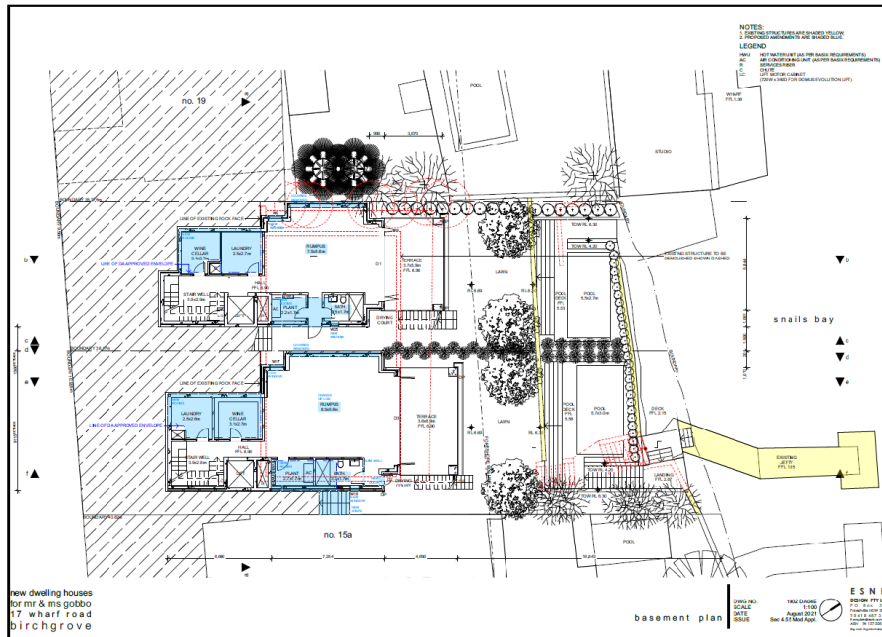


Figure 28. Proposed basement plan.

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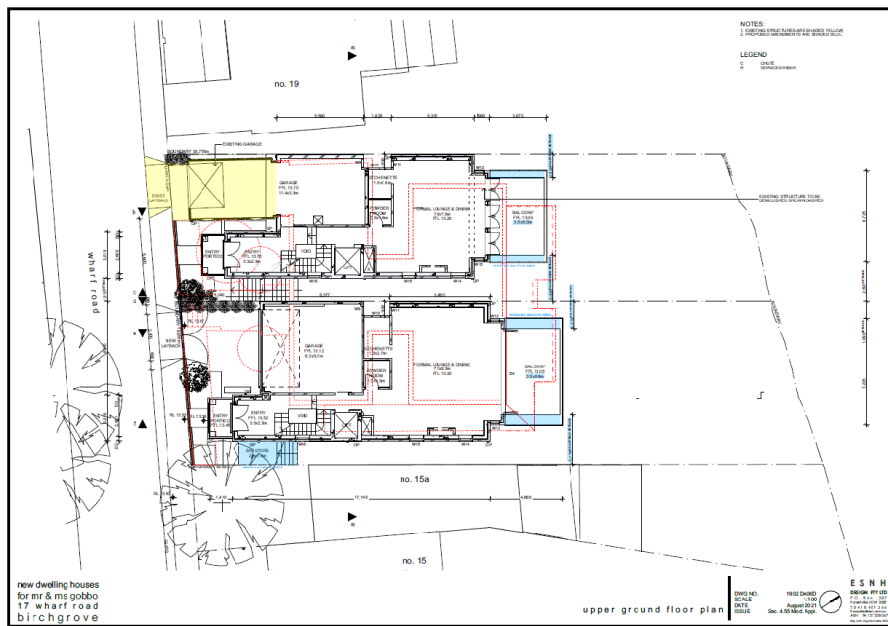


Figure 29. Proposed upper ground floor plan.

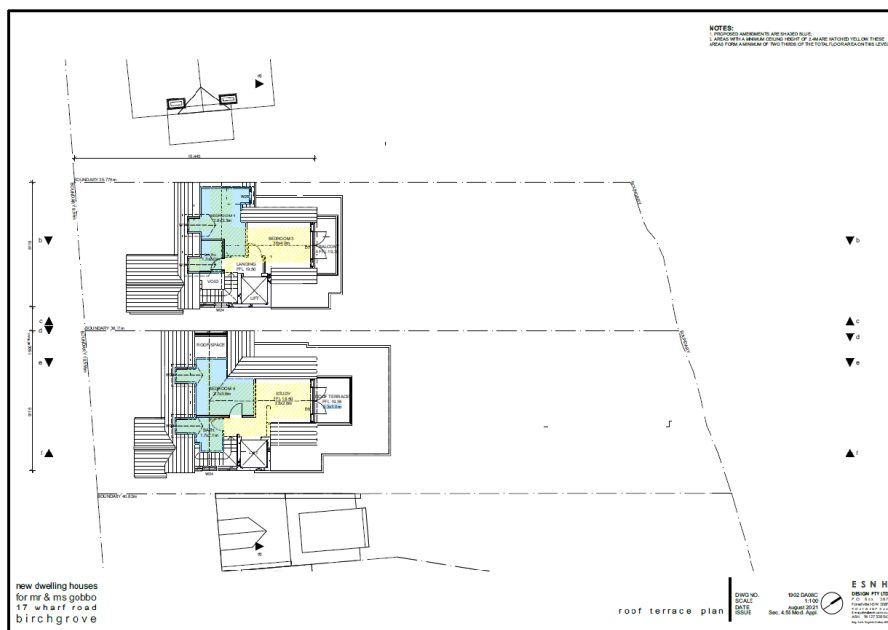


Figure 30. Proposed roof terrace plan.

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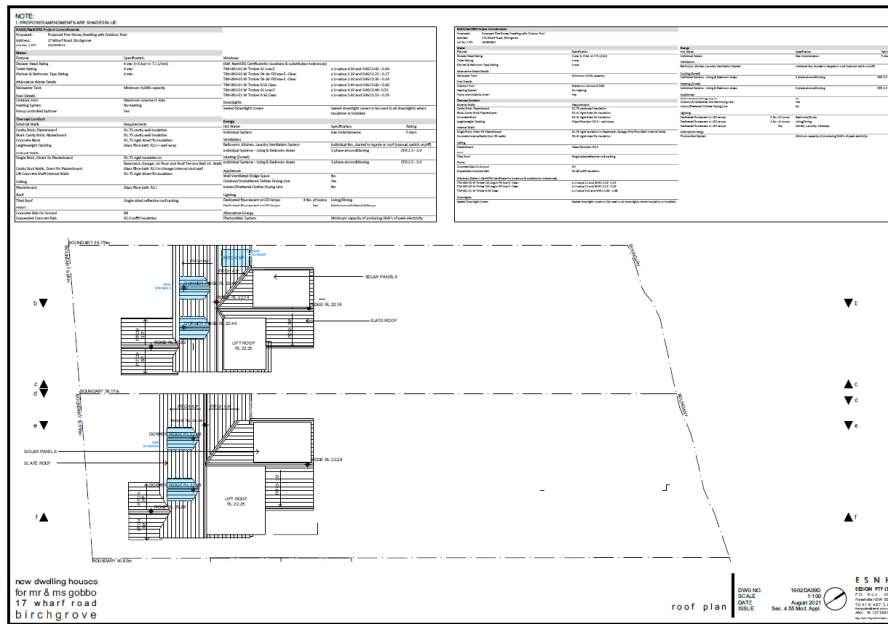


Figure 31. Proposed roof plan.

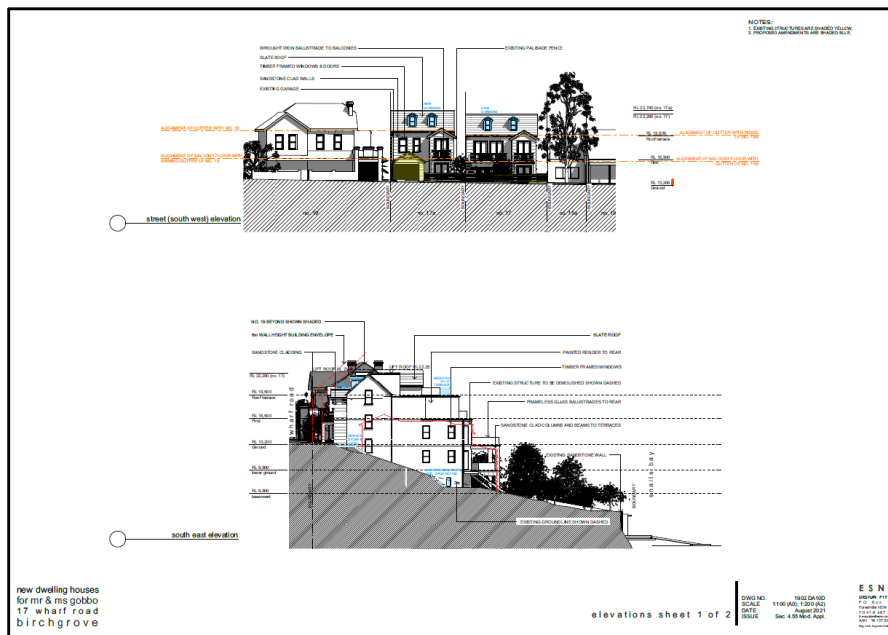


Figure 32. Proposed south-east and south-west elevations.

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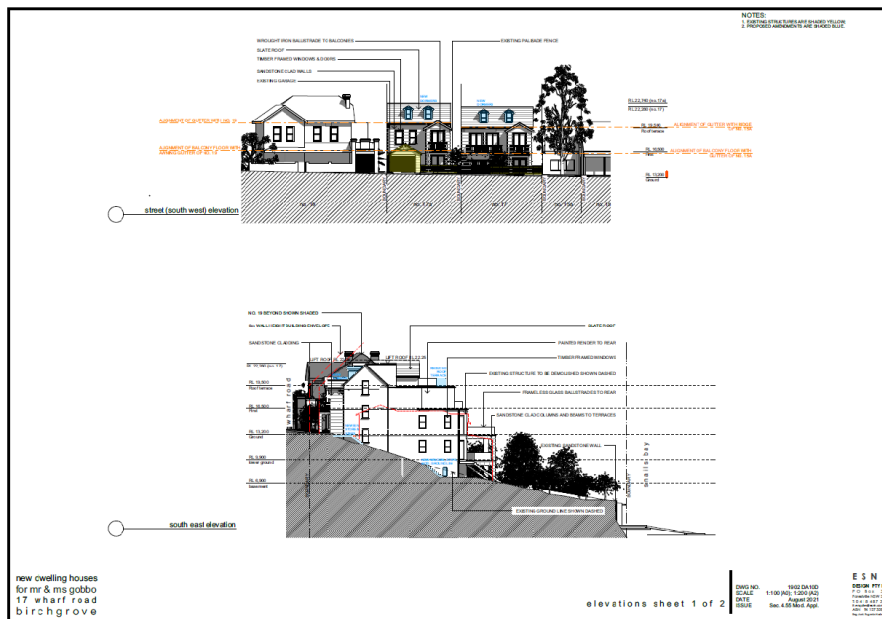


Figure 33. Proposed north-east and north-west elevations.

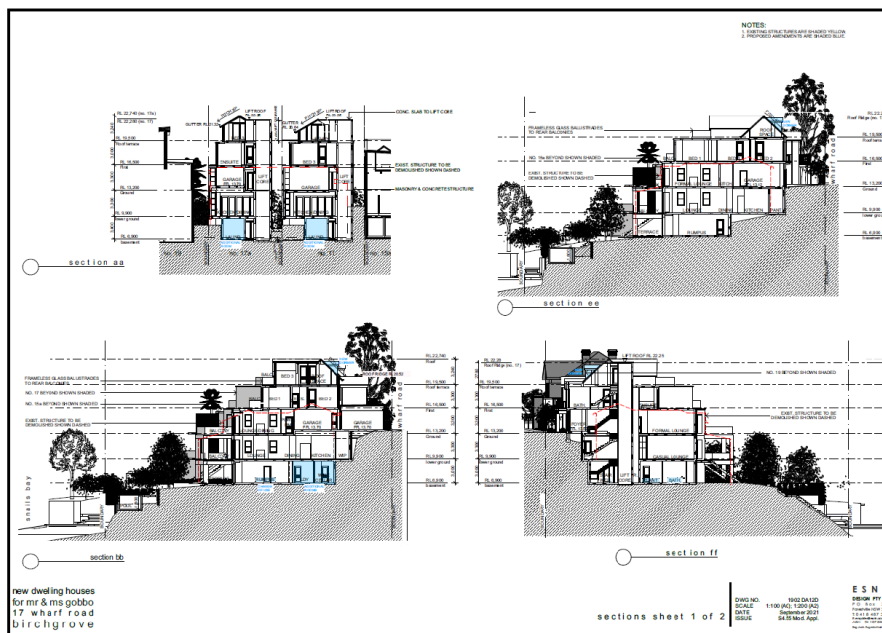


Figure 34. Proposed sections aa, bb, ee and ff.

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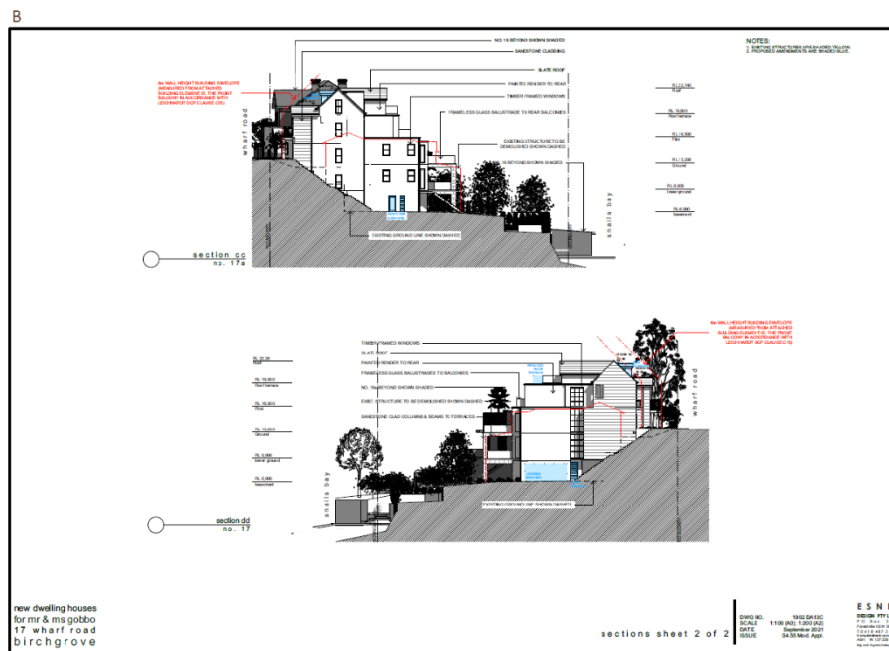


Figure 35. Proposed sections cc and dd.

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6.0 ASSESSMENT OF HERITAGE IMPACT

6.1 Heritage Management Framework

Below we outline the heritage-related statutory and non-statutory constraints applicable to the subject site including the objectives, controls and considerations which are relevant to the proposed development as described in Section 5.0 above. These constraints and requirements form the basis of this Heritage Impact Assessment.

6.1.1 Leichhardt Local Environmental Plan 2013

The statutory heritage conservation requirements contained in Section 5.10 of the Leichhardt LEP (LLEP) 2013 are pertinent to any heritage impact assessment for future development on the subject site. The relevant clauses for the site and proposal are outlined below:

- (1) Objectives
- (2) Requirement for consent
- (4) Effect of proposed development on heritage significance
- (5) Heritage assessment

6.1.2 Leichhardt Development Control Plan 2013

Our assessment of heritage impact also considers the heritage-related sections of the Leichhardt Development Control Plan (LDCP) 2013 that are pertinent to the subject site and proposed development. These include:

Part C – Place

Sections 1 – General Provisions

C1.4 Heritage Conservation Areas and Heritage Items

Section 2 – Urban Character

C2.2.2.6 Birchgrove Distinctive Neighbourhood

Section 3 – Residential Provisions

C3.4 Dormer Windows

6.1.3 Sydney Harbour Foreshores & Waterways Area Development Control Plan 2005

5. Design Guidelines for Land-Based Development

5.4 Built Form

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6.1.4 NSW Office of Environment & Heritage guidelines

In its guidelines for the preparation of Statements of Heritage Impact, the NSW Office of Environment & Heritage provides a list of considerations in the form of questions aiming at directing and triggering heritage impact assessments.¹⁵ These are divided in sections to match the different types of proposal that may occur on a heritage item, item in a heritage conservation area or in the vicinity of heritage. Below are listed the considerations which are most relevant to the proposed development as outlined in Section 5.0 of this report.

New development adjacent to a heritage item (including additional buildings and dual occupancies)

- *How is the impact of the new development on the heritage significance of the item or area to be minimised?*
- *Why is the new development required to be adjacent to a heritage item?*
- *How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?*
- *How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?*
- *Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?*
- *Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?*
- *Will the additions visually dominate the heritage item? How has this been minimised?*
- *Will the public, and users of the item, still be able to view and appreciate its significance?*

¹⁵ Ibid.

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6.2 Heritage Impact Assessment

Below we assess the impact that the proposed development would have upon the subject site, the Birchgrove and Ballast Point heritage conservation area in which it is located, and the heritage items in the vicinity. This assessment is based upon the Historical Context (refer to Section 2.0), the Physical Evidence (refer to Section 3.0), Heritage Significance (refer to Section 4.0) the Proposal (refer to Section 5.0), a review of the Heritage Management Framework (refer to Section 6.1) and the impact of the proposal on the relevant heritage items situated in the vicinity of the site (refer to Sections 1.3 and 3.4).

6.2.1 Impact Assessment against the LLEP 2013

The statutory heritage conservation requirements contained in Section 5.10 of the Leichhardt LEP 2013 are pertinent to any heritage impact assessment for future development on the subject site. We assess the proposal against the relevant clauses below.

CLAUSE	ASSESSMENT
(1) Objectives	The proposal pertains to the new development of a site located within the Birchgrove and Ballast Point heritage conservation area listed under Schedule 5 of the LLEP 2013. The subject site is also located adjacent to a heritage item, and in the general vicinity of other heritage items, all of which are listed under Schedule 5 of LLEP 2013. It is our general assessment that the proposed works would not engender a negative impact on the HCA in which the site is located, and heritage items located in the vicinity of the site, including their contributory fabric and general setting.
(2) Requirement for consent	This Development Application is lodged to Council to gain consent for the works proposed within a heritage conservation area and in the vicinity of heritage items listed under Schedule 5 of the Leichhardt LEP 2013.
(4) Effect of proposed development on heritage significance	This Statement of Heritage Impact accompanies the Development Application in order to enable the Inner West Council, as the consent authority, to ascertain the extent to which the proposal would affect the heritage significance of the HCA and heritage items located in the vicinity of the site.
(5) Heritage assessment	

6.2.2 Impact Assessment Against the LDCP 2013

Section 1 – General Provisions

C1.4 Heritage Conservation Areas and Heritage Items

C1 Development maintains the characteristics and is consistent with the objectives and controls for the relevant building type contained in Appendix B – Building Typologies of this Development Control Plan.

Section 3 – Residential Provisions

C3.4 Dormer Windows

C5 The dormer window pattern shall reflect the existing windows within the front elevation of the building.

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C9 A maximum of one dormer shall be permitted for single fronted dwellings or a maximum of two dormers shall be permitted for double fronted dwellings. Where one dormer is proposed it shall be centrally located on the roof, where two dormers, they should be symmetrically positioned.

Assessment: The proposed development at 17 Wharf Road, Birchgrove would adopt characteristics synonymous with the architecture style of the period of significance within the HCA in a contemporary fashion to ensure that the proposed dwellings would be compatible with the buildings located within the broader HCA. The proposed development comprises a pair of dormer windows to the roof of each of the proposed dwellings. The dormers are commonplace elements in the neighbouring dwellings to the subject site within the HCA, the nearest example being at 21 and 23 Wharf Rd, Birchgrove (refer to Figure 36 below) and also at 15 Wharf Road, Birchgrove. The proposed dormers would feature timber framed windows and would be consistent with the common architectural features in the HCA. Further, these windows would be symmetrically positioned on the roof of each of the proposed dwelling.

Although the proposal includes two dormers on each dwelling, the sympathetic proportions, traditional form, and materials would ensure that the overall primary façade maintains a homogenous presentation within the streetscape. Additionally, the proposed development would introduce two similar separate dwellings within the streetscape, with common architectural elements and similar facades, which results in a sympathetic rhythm within the streetscape. It is the assessment of Heritage 21 that, the addition of the new dormers and the overall development of the site would not engender an adverse impact within the HCA or the heritage significance of HCA.



Figure 36. View towards 21 and 23 Wharf Road, Birchgrove depicting a pair of dormer windows to the roof (Source: ESNH Design Pty Ltd).

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Section 2 – Urban Character

Part C.2.2.6 Birchgrove Distinctive Neighbourhood

C3 Preserve and where practicable, enhance public and private views over Snails Bay and Parramatta River. Buildings on the waterfront should follow the slope and help preserve view lines by stepping down with the contours.

C21 Development visible from the water is to be designed to preserve the conservation values of the area. When viewed from the water a balance between built form and landscape is to be achieved/maintained through side setbacks and landscaping. Additionally, the rear elevation must be designed so it does not detract from the form, character and scale of the conservation area. The amount of glazing to solid ratio on the rear elevation must be sympathetic to the immediately surrounding development

Assessment: The proposed dwellings would incorporate non-reflective glazed balustrades towards the rear. The proposed glazed balustrades are not an uncharacteristic feature within the Birchgrove and Ballast Point HCA as evident from the dwellings within the HCA immediately in the vicinity of the subject site at 15a Wharf Road, Birchgrove (refer to Figure 35); 13 Wharf Road, Birchgrove; the heritage listed dwellings at 19 Wharf Road, Birchgrove and at 19a Wharf Road, Birchgrove (refer to Figure 36). Therefore, the amount of glazing to solid ratio on the rear elevation would be sympathetic to the immediately surrounding development. Further, the non-reflective glazing would, in our opinion, ensure minimal disturbance to the established view lines to Snails Bay and Parramatta River, thus, these balustrades would not have any negative impact on the conservation values of the area. For the reasons outlined above, it is Heritage 21’s opinion that the proposal would be compatible with the significance and character of the Birchgrove and Ballast Point HCA.



Figure 37. View towards 15a Wharf Road, Birchgrove (as indicated by the yellow arrow), depicting glazed balustrades, located adjacent to the subject site (as indicated by the red arrow). (Source: ESNH Design Pty Ltd).

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Figure 38. View towards the subject site (as indicated by the red arrow) and the neighbouring dwellings at 15a, 19 and 19a Wharf Road, Birchgrove depicting glazed balustrades. (Source: ESNH Design Pty Ltd).

6.2.3 Impact Assessment against the Sydney Harbour Foreshores & Waterways Area DCP 2005

The proposal would respect the heritage significance and the character of Snails Bay. The addition of a pair of dormer windows to each of the proposed dwellings would complement the heritage items and contemporary development in the vicinity by incorporating architectural features sympathetic to the surrounding streetscape. The proposal would further include the addition of non-reflective glazed balustrades towards the rear. These would enhance the scenic quality of Snails Bay as recessive elements which would ensure minimal disturbance to the established view lines to Snails Bay. Hence, the proposal would be in compliance with the following control in Sydney Harbour Foreshores & Waterways Area DCP 2005:

“use of reflective materials is minimised and the relevant provisions of the Building Code of Australia are satisfied.”

6.2.4 Impact Assessment Against the NSW Office of Environment & Heritage guidelines

As acknowledged in Section 6.1.4, the NSW Office of Environment & Heritage has identified a list of considerations in the form of questions aiming at directing and triggering heritage impact assessment. Below, we assess the proposal against the most pertinent of these questions.

New development adjacent to a heritage item (including additional buildings and dual occupancies)

The proposed development at 17 Wharf Road, Birchgrove, would be located adjacent to a heritage item as well as within a heritage conservation area, both of which are listed under Schedule 5 of the LLEP 2013. The proposed works would alter the views made to and from the adjacent heritage item

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as well as within the HCA. However, the design of the proposed development has been carefully considered in order to minimise the impact on the adjacent heritage item and the HCA. The proposed development would incorporate a combination of traditional and contemporary materials including timber framed dormer windows and non-reflective glazed balustrades that would be sympathetic to the design and character of the heritage items in the surrounding streetscape. The addition of a pair of timber framed dormer windows to each of the proposed dwellings would complement the architecture style of the dwellings within the Birchgrove and Ballast Point HCA. This would further ensure that the heritage items in the vicinity retain their visual prominence within the HCA, thus, the proposed addition would be in accordance with the the Article 22.2 of the Burra Charter. Further, the proposed glazed balustrades are not an uncharacteristic feature of the Birchgrove and Ballast Point HCA, and the benefits of their use are threefold:

- i. They complement surrounding buildings which also incorporate glazed balustrades;
- ii. Non-reflective glazed balustrades are recessive in character, and this is of particular importance adjacent to a heritage item; and
- iii. They ensure that there is minimal visual impact on the significant view lines from adjoining properties to Snails Bay.

Therefore, in H21's opinion, the proposal would be sympathetic to the heritage significance of the adjacent heritage item as well as the Birchgrove and Ballast Point HCA.

7.0 CONCLUSION & RECOMMENDATIONS

7.1 Impact Summary

The NSW Office of Environment & Heritage's guidelines require the following aspects of the proposal to be summarised.¹⁶

7.1.1 Aspects of the proposal which respect or enhance heritage significance

In our view, the following aspects of the proposal would respect the heritage significance of the subject site, the Birchgrove and Ballast Point heritage conservation area and heritage items in the vicinity:

- The proposal would not remove any fabric of heritage significance;
- The proposed additions would have minimal impact on the significant view lines to and from the Wharf Road streetscape and Snails Bay;
- The form, design, scale and materiality of the proposed dormer windows would be sympathetic to the character of the dwellings within the Birchgrove and Ballast Point HCA; and
- The proposal would result in dwellings that would be more sympathetic to the heritage significance of the Wharf Road streetscape compared to the existing 1995 structure.

7.1.2 Aspects of the proposal which could have detrimental impact on heritage significance

In our view, there are no aspects of the proposal which could be detrimental to the significance of the subject site, the Ballast and Birchgrove heritage conservation area and heritage items in the vicinity. The positive impacts of the proposal have been addressed above in Section 7.1.1.

7.1.3 Sympathetic alternative solutions which have been considered

Heritage 21 provided heritage advice to the applicant which has been incorporated in the final proposal as described in Section 5.0 and which includes:

- Incorporation of non-reflective glazed balustrades to ensure minimal disturbance to the established view lines to Snails Bay.

No solutions of greater sympathy with the significance of the subject site, heritage conservation area or heritage items in the vicinity have been discounted to our knowledge.

7.2 Conclusion

The proposed development of the subject site would be sympathetic to the heritage items in the vicinity and the Birchgrove and Ballast Point Heritage Conservation Area (in which it is located). Heritage 21 is therefore confident that the proposed development complies with pertinent heritage controls and would engender a neutral impact on the heritage significance of the Birchgrove and

¹⁶ NSW Office of Environment and Heritage, 'Statements of Heritage Impact' (Heritage Office and Department of Urban Affairs & Planning, 1996), <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf>.

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Ballast Point HCA and heritage items in the vicinity. We therefore recommend that Inner West Council view the application favourably on heritage grounds.

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APPENDIX

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STATEMENT OF HERITAGE IMPACT

Proposed Development at
17 Wharf Road,
Birchgrove



Job No. 8701
April 2020

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Acknowledgement of Country

Heritage 21 wishes to acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and community. We pay our respects to them and their cultures; and to elders both past and present.

Cover page: Subject site at 17 Wharf Road, Birchgrove, from Snails Bay looking to the rear façade (Source: Heritage 21, 10.02.20)

The following Table forms part of the quality management control undertaken by Heritage 21 regarding the monitoring of its intellectual property as issued.

Issue	Description	Date	Written by	Reviewed by	Issued by
1	Draft report (D1) issued for comment.	22.04.2020	SDA & EZ	NF	SDA
2	Report issued (RI).	24.04.2020	SDA	-	SDA

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 Suite 48, 20-28 Maddox Street
 Alexandria
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 reception@heritage21.com.au
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Document Set ID: 36358152
 Version: 1, Version Date: 24/05/2022

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1.0 INTRODUCTION

1.1 Background

This Statement of Heritage Impact ('SOHI' or 'report') has been prepared on behalf of ESNH Design Pty Ltd who have been engaged by the owner of the site to submit a development application for subdivision and a new development at the site.

1.2 Site Identification

The subject site is located 17 Wharf Road, Birchgrove, which falls within the boundaries of the Inner West Local Government Area (LGA) and it comprises Lot 16, Deposit Plan (DP), 900841. As depicted in Figure 1 below, the site is located on the northern side of Wharf Road and borders the Paramatta River to the North. The site consists of a three-storey dwelling constructed in 1995. The setting and topography of the site will be more fully described in Section 3.0 below.

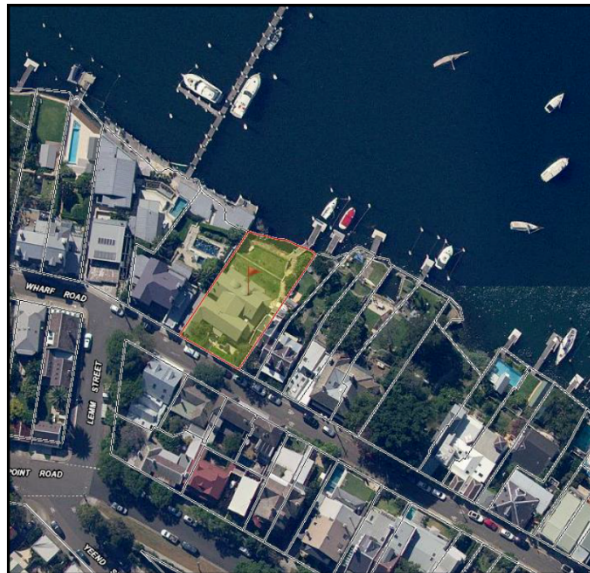


Figure 1. Contemporary aerial view of the site highlighted yellow, and surrounding urban environment (Source: NSW Land and Property Information, 'SIX Maps', n.d., <http://maps.six.nsw.gov.au/>).

1.3 Heritage Context

1.3.1 Heritage Listings

The subject site is **not** listed as an item of environmental heritage under Schedule 5 of the Leichhardt Local Environmental Plan 2013 ('LLEP'). It also is **not** listed on the NSW State Heritage

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Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Register (NSW), or the former Register of the National Estate.¹

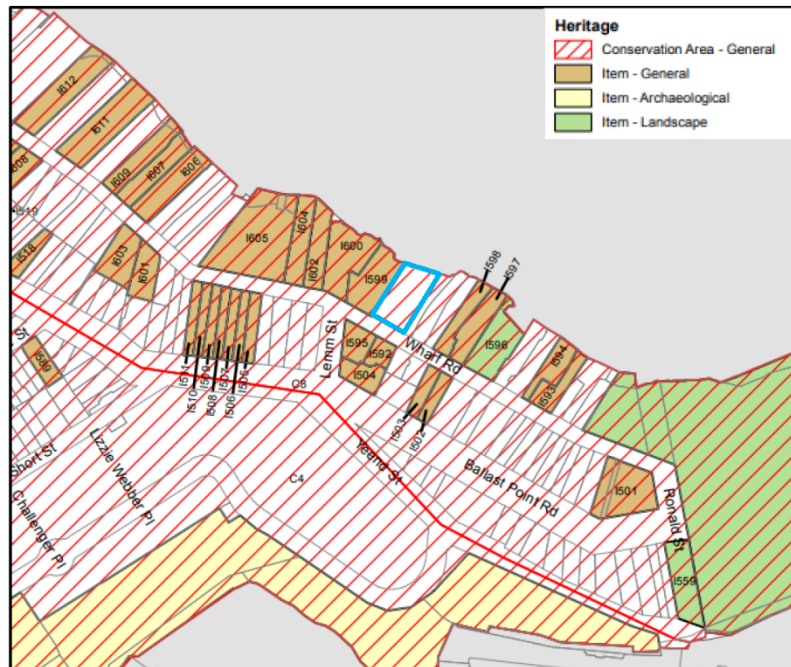


Figure 2. Detail from Heritage Map HER_010; the subject site is indicated by the blue outline and heritage items, some of which are within the vicinity of the site, are marked brown. The Birchgrove and Ballast Point Road HCA is cross hatched red (Source: NSW Legislation Online, https://www.legislation.nsw.gov.au/maps/667fa485-c3ad-4059-b0ed-c0c4b619b547/4800_COM_HER_010_005_20150427.pdf, annotated by Heritage 21).

The subject site is also located within the Sydney Harbour-Foreshores and Waterways area and the Sydney Harbour Catchment as shown in Figure 3 below.

¹ The Register of the National Estate ceased as a statutory heritage list in 2007; however it continues to exist as an inventory of Australian heritage places.

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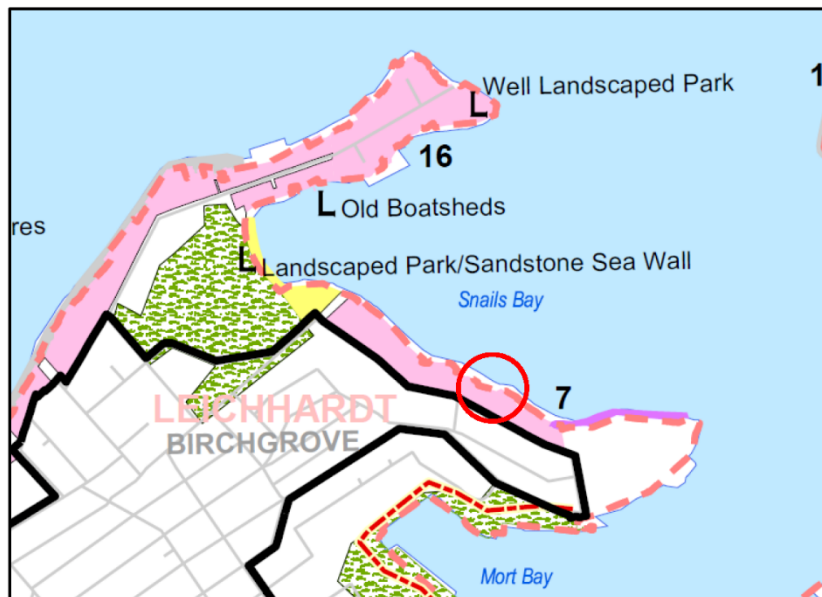


Figure 3. Detail from Sydney Harbour Foreshores and Waterways Area Map, the approximate location of the subject site is circled in red (Source: NSW Department of Planning, <https://www.planning.nsw.gov.au/~media/Files/DPE/Plans-and-policies/sydney-harbour-foreshores-and-waterways-area-development-control-plan-2005.ashx>, annotated by Heritage 21)

1.3.2 Heritage Conservation Areas

As depicted in Figure 2 above, the subject site is located within the boundaries of the Birchgrove and Ballast Point Heritage Conservation Area ('HCA'), listed under Schedule 5 of the Leichhardt LEP 2013.

As the current building on the site was constructed in 1995, it is our opinion that the subject building is **not** a contributory item within the HCA.

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1.3.3 Heritage Items in the Vicinity

As depicted in Figure 2 above, the subject site is situated within the general vicinity of the following heritage items and HCA's listed under Schedule 5 of the Leichhardt LEP 2013. The details of the listings follow:

Item/HCA Name	Address	Significance	Item Number
House and remnants of former Stannard's Marina, including interiors	19 Wharf Road	Local	I599
Remnants of former Stannard's Marina, including interiors	19A Wharf Road	Local	I600
Semi-detached House, "Normanton", including interiors	21 Wharf Road	Local	I602
Semi-detached flats "Maybank", including interiors	23 Wharf Road	Local	I604
House, including interiors	8 Wharf Road	Local	I595
Timber house, including interior	6 Wharf Road	Local	I592
Semi-detached house, including interiors	27 Ballast Point Road	Local	I503
Semi-detached house, including interiors	25 Ballast Point Road	Local	I502
House, including interiors	13A Wharf Road	Local	I598
House, including interiors	13 Wharf Road	Local	I597

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Brownlee Reserve	11 Wharf Road	Local	I596
Town of Waterview Heritage Conservation Area	-	-	C4

Among the above heritage items in the vicinity listed above, the subject site is adjacent to or within the visual catchment of items I595, I592, I503, I502, I599 and I600. Accordingly, the impact of the proposal on these items is discussed in Section 6.0 of this report below.

1.4 Purpose

The subject site is located within the Birchgrove and Ballast Point Heritage Conservation Area and is located in the vicinity of a number of heritage items: I595, I592, I503, I502, I599 and I600, all of which are listed under Schedule 5 of the Leichhardt LEP. Sections 5.10(4) and 5.10(5) of the Leichhardt LEP require the Inner West Council to assess the potential heritage impact of non-exempt development, such as the proposed works (refer to Section 5.0), on the heritage significance of the abovementioned heritage items and heritage conservation areas and, also, to assess the extent (whether negative, neutral or positive) to which the proposal would impact the heritage significance of those heritage items and heritage conservation areas. This assessment is carried out in Section 6.0 below.

Accordingly, this SOHI provides the necessary information for Council to make an assessment of the proposal on heritage grounds.

1.5 Methodology

The methodology used in this SOHI is consistent with *Statements of Heritage Impact* (1996) and *Assessing Heritage Significance* (2001) published by the Heritage Division of the NSW Office of Environment and Heritage and has been prepared in accordance with the principles contained in the most recent edition of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* 2013 ('Burra Charter').

1.6 Authors

This Statement of Heritage Impact ('SOHI' or 'report') has been prepared by Siena Di-Giovanni-Arundell and overseen by Paul Rappoport, of Heritage 21, Heritage Consultants.

1.7 Limitations

- This SOHI is based upon an assessment of the heritage issues only and does not purport to have reviewed or in any way endorsed decisions or proposals of a planning or compliance nature. It is assumed that compliance with non-heritage aspects of Council's planning

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instruments, the BCA and any issues related to services, contamination, structural integrity, legal matters or any other non-heritage matter is assessed by others.

- This SOHI essentially relies on secondary sources. Primary research has not necessarily been included in this report, other than the general assessment of the physical evidence on site.
- It is beyond the scope of this report to address Indigenous associations with the subject site.
- It is beyond the scope of this report to locate or assess potential or known archaeological sub-surface deposits on the subject site or elsewhere.
- It is beyond the scope of this report to assess items of movable heritage.
- Heritage 21 has only assessed aspects of the subject site that were visually apparent and not blocked or closed or to which access was not given or was barred, obstructed or unsafe on the day of the arranged inspection.

1.8 Copyright

Heritage 21 holds copyright for this report. Any reference to or copying of the report or information contained in it must be referenced and acknowledged, stating the full name and date of the report as well as Heritage 21's authorship.

2.0 HISTORICAL CONTEXT

2.1 Local History

2.1.1 Aboriginal History

The Traditional owners of the Birchgrove Area are the Wangul clan of the Dharug people who named Birchgrove Point, Yur(r)ulbin (swift running waters). The name originates from the change in water movement around the point. This is mostly owed to the location of the bay to west, which is protected from the open waters of the harbour to the east.²

2.1.2 European History

The following is an extract from Area 14 Birchgrove and Ballast Point Road by Godden Mackay Logan Heritage Consultants:³

The Birchgrove and Ballast Point Conservation Area covers the area of the George Whitfield's 30-acre grant of 1796 (Birchgrove) and sections of John Gilchrist's Balmain Estate (Ballast Point). Birch acquired Whitfield's grant in 1810 and built Birch Grove house (at 67 Louisa Road, demolished 1967).

Along Ballast Point to the east of Birchgrove Park, land was released for subdivision and sale in 1852. It was part of John Gilchrist's 550-acre Balmain Estate, and subdivisional activities across the whole estate had been suspended in 1841 because of disputes about his will. Once resolved, Surveyor Charles Langley was responsible for subdividing the remaining acres into 46/47 sections, using existing contour-aligned routes such as Darling Street, Birchgrove Road and Ballast Point Road to delineate the parcels. The sections were purchased over the next thirty years by wealthy investors, local speculators and builders. Speculators Joshua Josephson, Charles Smith, William Cover and George Thorne bought up the land on both sides of Ballast Point Road in 1853. This marine location, with most allotments possessing water frontages, attracted some keen bidding.

In 1860 the estate was purchased by Didier Joubert of Hunters Hill and the Parramatta Ferry Service. He commissioned Surveyor Brownrigg to subdivide the land into villa allotments, and despite later small resubdivisions, Brownrigg's layout provides the backbone for Birchgrove today...The estate was eventually mortgaged to the Bank of New South Wales. By 1878, only twenty-three lots had been sold.

...The estate was again put up for sale in 1878. Sydney's boom period of the 1880s saw many more allotments taken up and villas in stone or rendered brick were built. This

² NSW Office of Environment and Heritage,

'Wyoming,' <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045304> [accessed 17 February 2020].

³ Godden Mackay Logan, *Area 14 Birchgrove and Ballast Point Road*, Leichhardt Municipal Council, 2004, file:///C:/Users/Research/Downloads/Birchgrove%20and%20Ballast%20Point%20Road%20C8.pdf.

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dramatic tongue of sandstone at the western end of the harbour also attracted industries dependent on water (shipbuilding and repair) or on water for the transport of its raw materials (timber yards, a cooperage, a coalyard, an oil refinery)....By 1941 when Storey and Keers shipwrights were established ... all land in Birchgrove had been taken up.

By 1891 the whole process of building up Ballast Point Road, Wharf Road, Yeend, Ronald and Lemm Streets was largely complete. There were marine villas on generous parcels of land along Wharf Road. They were sited well up from the waterfront for a stylish setting and for views, with their backs to the road. Large terraces and villas occupied the high ground along Ballast Point Road. Cooper, who had already received twenty-three acres in Morts Bay (later part of Mort's Town of Waterview) also owned Ballast Point itself. The Point was purchased and used by Caltex Oil Co for oil storage purposes until the 1980s.

In the 1970s change in industrial operations and the nature of maritime industry left the former small industrial sites of Birchgrove available for new residential development.

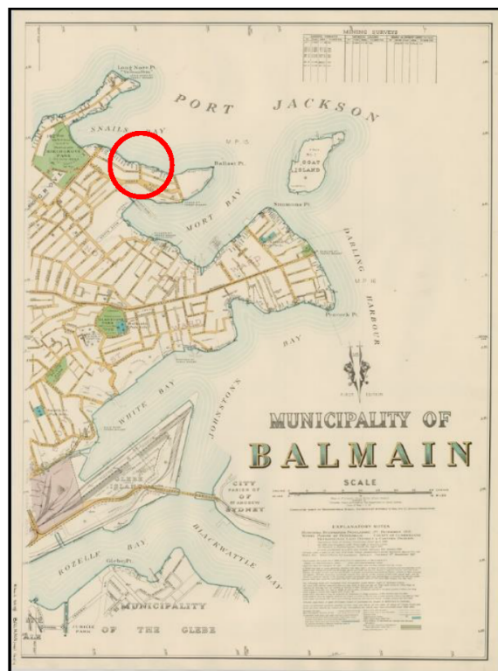


Figure 4. Map of Balmain 1917, the approximate location of the subject site is circled in red (Source: State Library of NSW, https://search.slnsw.gov.au/primo-explore/fulldisplay?docid=SLNSW_ALMA21127523780002626&context=L&vid=SLNSW&lang=en_US&tab=default_tab)

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Suite 48, 20-28 Maddox Street
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2.2 Site Specific History

In 1872, Layman Martin Harrison purchased lots 14, 16 (the subject site) and 18 of the Birch Grove Estate. Certificates of title indicate that throughout the late 1800s, the lot was bought and sold several times. It is likely that during this period the original dwelling (now demolished) was built. In 1910, it was purchased by Marmaduke Levitte Deloitte, the youngest of the Deloitte family – who were a prominent family within the local community.⁴ Later that year, the lot was sold to Lucy Jane Bignell and the house was listed under the name “Llanabar”. Newspaper records indicate that the Bignell family occupied the house during the first half of the twentieth century.

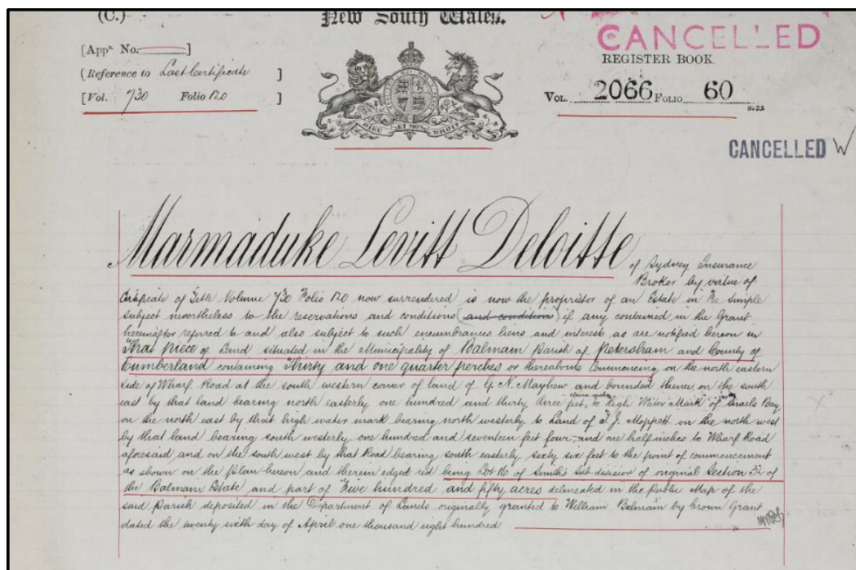


Figure 5. Certificate of title, Marmaduke Levitt Deloitte, Volume 2066 Folio 60 (Source: Historic Land Records Viewer, hlr.v.nswlrs.com.au)

⁴ Wyoming, State Heritage Inventory, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045304>.

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Figure 6. 1943 Aerial Survey, the subject site is outlined in red (Source: SIX Maps, maps.six.nsw.gov.au, annotated by Heritage 21)

The 1943 aerial survey shows the original building on the subject site and the transformation of the area from a port to primarily residential.

In 1964, the land was leased to the Nicholson Brothers Transport Company, a maritime business that operated out of Snails Bay.⁵ The Stannard family, who also ran a series of maritime operations across Sydney, purchased the property during the second half of the twentieth century. Throughout the 1980s and 1990s, the maritime industry in Balmain became redundant and the Stannard family sold off their property in the area.⁶

⁵ *Sailing Sabots at Snails Bay, Balmain Library Exhibition*, Asa Wahlquist, <http://asawahlquist.com/?p=290>.
⁶ *Ibid.*

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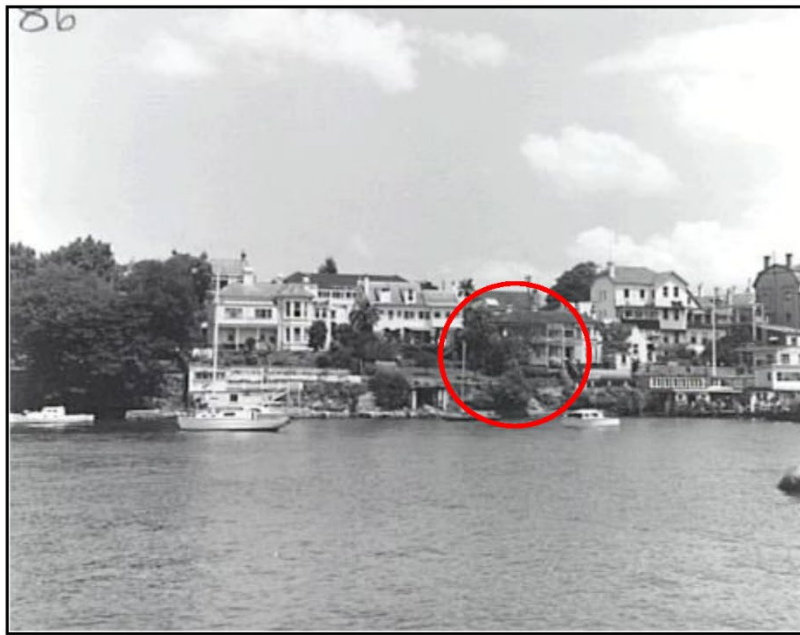


Figure 7. Foreshore, Birchgrove 1976, the subject site featuring the original dwelling before its demolition in 1995 (circled in red) (Source: Inner West Libraries, <https://innerwest.spydus.com/cgi-bin/spydus.exe/FULL/WPAC/BIBENQ/50534201/998393,49?FMT=IMG>, annotated by Heritage 21)

In 1994, the subject site was purchased from the Stannard family by construction operators Thomas and Susan Tosich. In 1995, the original house “Llanabar”, was controversially demolished after facing community criticism and a court proceeding. The current dwelling occupying the lot was constructed in its place in 1995.

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Figure 8. The original house 'Llanabar' at 17 Wharf Road, prior to its demolition, 1995 (Source: Inner West Libraries, <https://innerwest.spydus.com/cgi-bin/spydus.exe/FULL/WPAC/BIBENQ/50488817/994650,3?FMT=IMG>)

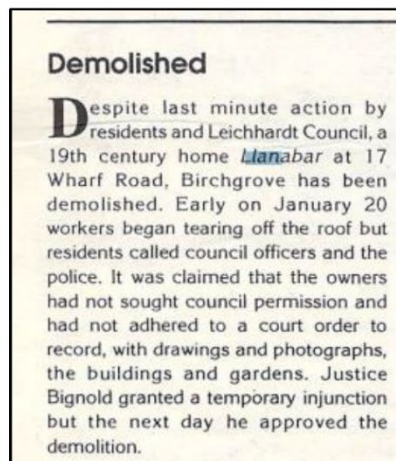


Figure 9. The Peninsular Observer, 1994 (Source: Balmain Association, <https://balmainsassociation.org.au/newsletters/contents/233%20199403.pdf>)

3.0 PHYSICAL EVIDENCE

3.1 The Setting

The site is located at 17 Wharf Road. The suburb of Birchgrove is located 5 kilometres west of the Sydney Central Business District. The subject site is located on the northern side of Wharf Road and the rear of the property is bordered by Snails Bay. Wharf Road runs from Ballast Point Park to the east of the subject site, and to Grove Street to the west. Wharf Road is characterised by a series of single-storey and double-storey Victorian and Federation cottages which front Snails Bay and increase in scale to the rear.

3.2 Physical Description

The subject site slopes downwards towards Snails Bay to the north. It features a three-storey rendered dwelling. The building is set back from Wharf Road and is concealed from view by a hedge. The subject site itself is separated from Wharf Road by an original iron palisade fence with a sandstone base which is obscured by the hedge. On the south-western corner of the property is an early and original timber garage featuring a decorative bargeboard and trimming. The interior of the garage is likely not original and features cement flooring. The garage and the iron palisade fence with a sandstone base are of heritage significance. The front yard features soft landscaping and to the south of the primary façade is a series of plantings.

To the rear of the site is a terraced backyard featuring a sandstone retaining wall. A sandstone set of stairs leads to a jetty on the north-eastern corner of the subject site. The backyard is partially covered in a timber deck to the north-western corner. In the north-eastern corner of the site are a series of plantings abutting the eastern boundary line.

The current dwelling was built in 1995. The house features a corrugated iron gabled roof. The interiors of the house feature four bedrooms and the floor is lined with timber and tiles. The first floor features a balcony to the rear of the site overlooking Snails Bay. Additionally, there are two dormers to the second storey of the southern elevation, looking towards Snails Bay. The 1995 dwelling does not possess any features of heritage significance.

3.3 Condition and Integrity

The subject site has few remnants of the original dwelling. The current building, while in a good condition overall, does not possess significant fabric and the construction of the dwelling has impacted the integrity of the site. The garage and iron palisade fence with sandstone footing are the only fabric on the site connected with the original dwelling (which has been demolished). The interior of the garage has been significantly altered and as such, the façade contains the majority of the original fabric.

3.4 Views

The subject site is a readily visible item within the context of the Birchgrove and Ballast Point HCA. As depicted in Figure 2 above, the primary view lines to the primary elevation of the site are made

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from items I595, I592, I503, I502, and the Wharf Road streetscape, all within the HCA. The proposed works would be visible from this perspective and would alter views from the site to those places.

The secondary view lines into the rear and side elevations of the site are made from items I599 and I600, within the HCA. These secondary view lines would also be affected by the proposal.

Accordingly, the impact of the proposal on these items is discussed in the Assessment of Heritage Impact in Section 6.0 below.

The proposed works would not be observable from items I602, I604, I598, I597, I596 or C4, and nor would the proposal impact view lines from the site to those places. Accordingly, the impact of the proposal on these places is not discussed in the Assessment of Heritage Impact in Section 6.0 below.

3.5 Images

The following photographs have been taken by Heritage 21 at the site inspection undertaken on 10 February 2020, unless stated otherwise.



Figure 10. The primary façade of the subject site as viewed facing north from Wharf Road.



Figure 11. The subject site as viewed facing west along Wharf Road.



Figure 12. The entrance to the subject site viewed facing north from Wharf Road.



Figure 13. Sandstone base and iron palisade fence on Wharf Road boundary of subject site.

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Figure 14. View to rear facade of dwelling facing west from eastern boundary of subject site.



Figure 15. View to Snails Bay facing north from subject site.



Figure 16. Sandstone stairs leading to jetty to rear of subject site.



Figure 17. Sandstone wall to rear of subject site as viewed facing west.



Figure 18. Rear elevation of subject site as viewed facing south from rear boundary.



Figure 19. Western building line and boundary wall.

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Figure 20. View east from rear veranda towards Sydney Harbour Bridge



Figure 21. Internal staircase leading to entrance door to Wharf Road.

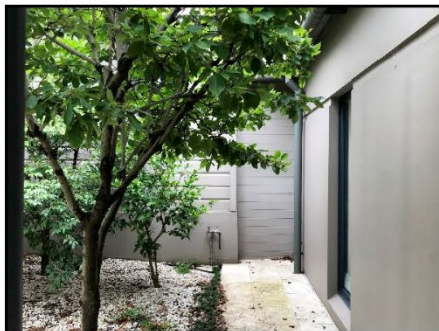


Figure 22. Facing west from entrance door towards garage.



Figure 23. Timber window on eastern elevation of garage.



Figure 24. Interior of garage.

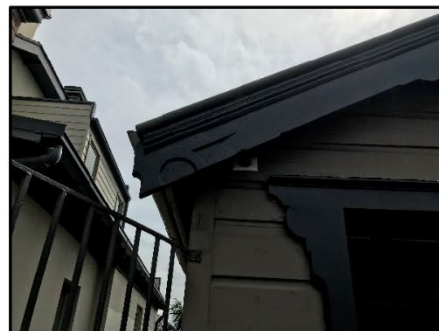


Figure 25. Decorative bargeboard to Wharf Road elevation of garage.

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Figure 26. Iron palisade fence and sandstone base to Wharf Road boundary of subject site.



Figure 27. Iron Palisade fencing detail.

4.0 HERITAGE SIGNIFICANCE

In order to assess the impact of the proposed works on the heritage significance of the subject site, the Birchgrove and Ballast Point HCA (in which the subject site is located), and heritage items in the vicinity of the site, it is necessary to first ascertain the heritage significance of these places. Accordingly, Statements of Significance for the subject site (refer to Section 4.2), and the established significance (refer to Section 4.1) of the Birchgrove and Ballast Point HCA, and items I595, I592, I503, I502, I599, and I600 are provided below. The significance of these places, will form part of our considerations in the assessment of heritage impact, undertaken in Section 6.0 below.

4.1 Established Significance

4.1.1 The Birchgrove and Ballast Point HCA

The following Statement of Significance is available for the heritage conservation area on Council's website:⁷

- *One of a number of conservation areas which collectively illustrate the nature of Sydney's early suburbs and Leichhardt's suburban growth particularly between 1871 and 1891, with pockets of infill up to the end of the 1930s (ie prior to World War II). This area retains evidence (though somewhat diminished in the last twenty years) of the growth of Birchgrove and Ballast Point as marine suburbs and as a maritime industrial area from the 1870s–1920s, and other industry developed prior to 1941.*
- *Demonstrates the close relationship between landform, the layout of the roads and the siting of the early villas and industries to take advantage of the marine position.*
- *Demonstrates the close physical relationship between industry and housing (both middle class and workers housing) in nineteenth century cities.*
- *Demonstrates the development of brick making in Sydney through its building materials with the use of plastered brick walls and dry-pressed face bricks (unplastered, unpainted) walls.*
- *Demonstrates one of a number of late nineteenth century bay reclamation projects which characterise Sydney Harbour.*

⁷ Area 14, Birchgrove and Ballast Point Road, Inner West Council, <https://www.innerwest.nsw.gov.au/develop/planning-controls/heritage-and-conservation/heritage-conservation-areas>.

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4.1.2 House, including interior (I595)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 8 Wharf Road:⁸

No. 8 Wharf Road is of local historic and aesthetic significance as a good representative example of a Victorian single storey plus attic stone dwelling constructed sometime between the 1860s and 1880s. The building significantly retains its overall scale, form, character and details as presents to the street including the stone facades, roof form and chimney, open front verandah and associated details and simple pattern of openings. The building also retains a garden setting including a number of mature trees and stone outbuilding and overall makes a positive contribution to the Wharf Road and Lemm Street streetscapes.

4.1.3 Timber house, including interior (I592)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 6 Wharf Road:⁹

No. 6 Wharf Road is of local historic and aesthetic significance as an early Victorian timber weatherboard dwelling constructed sometime between the 1860s and 1880s. Despite infill of the front verandah, the building significantly retains its overall scale, form, character and details as presents to the street including the timber weatherboard facades, roof form and chimneys, projecting gable roofed wing and timber decorative details, front verandah form and simple pattern of openings. The building is associated with the neighbouring buildings and makes a positive contribution to the Wharf Road streetscape.

4.1.4 Semi-detached housing, including interiors (I503)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 27 Ballast Point Road:¹⁰

No. 27 Ballast Point Road is of local historic and aesthetic significance as a representative example of a Victorian semi detached dwelling constructed in c. 1886. Despite alterations and additions to the rear, the building significantly retains its overall scale, form, character and details as it presents to the street including the rendered facades and associated decorative details and mouldings,

⁸ House, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940616>.

⁹ Timber House, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940613>.

¹⁰ "Tyne Villas", semi-detached house, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940525>.

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roof form and chimneys, large street facing gable and decorative timber elements, two storey faceted bay, open verandah and pattern of openings. The building is part of a distinctive pair of semis (Nos. 25 and 27) that occupy an elevated site and make a positive contribution to the Ballast Point Road streetscape.

4.1.5 Semi-detached house, including interiors (I502)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 25 Ballast Point Road:¹¹

No. 25 Ballast Point Road is of local historic and aesthetic significance as a representative example of a Victorian semi detached dwelling constructed in c. 1886. Despite alterations and additions to the roof and rear, the building significantly retains its overall scale, form, character and details as it presents to the street including the rendered facades and associated decorative details and mouldings, roof form and chimneys, large street facing gable and decorative timber elements, two storey faceted bay, open verandah and pattern of openings. The building is part of a distinctive pair of semis (Nos. 25 and 27) that occupy an elevated site and make a positive contribution to the Ballast Point Road streetscape.

4.1.6 House and remnants of former Stannard's Marina, including interiors (I599)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 19 Wharf Road:¹²

No. 19 Wharf Road is of local historic and aesthetic significance as a good representative example of a two storey house originally constructed in 1872 but later modified. The building retains its overall scale, form, character and details as presents to the street including the rendered facades, roof form and chimney, open front verandah and associated details and simple pattern of openings.

The building is associated with the maritime industry as well as for residential use for the Nicholson family. The site contains various other buildings with group value associated with the maritime industry, the primary phase being 1913-1970s. The site has historical associations with prominent Sydney maritime companies; Nicholson Bros. who commenced maritime uses at No. 19 from 1913, gradually increasing landholding and maritime activity along the waterfront (Nos. 17-25) throughout the century, and Stannard Bros. (Dreadnought Trading Pty Ltd).

¹¹ "Tyne Villas", semi-detached house, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940524>.

¹² House and former Stannard's marina, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940620>.

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The collection of maritime/industrial buildings are a remnant of the former extent of industrial activities which developed along the Balmain waterfront. The significance of the structures and associated fabric is generally low/moderate.

4.1.7 Remnants of former Stannard’s Marina, including interiors (I600)

The following Statement of Significance is available on the State Heritage Inventory listing for the property located in the vicinity of the subject site at 19a Wharf Road:¹³

The site has historical associations with prominent Sydney maritime companies; Nicholson Bros. who commenced maritime uses at No. 19 from 1913, gradually increasing landholding and maritime activity along the waterfront (Nos. 17-25) throughout the century, and Stannard Bros. (Dreadnought Trading Pty Ltd).

The collection of maritime/industrial buildings are a remnant of the former extent of industrial activities which developed along the Balmain waterfront. The significance of the former structures and associated fabric was generally low/moderate. The jetty has heritage significance.

The three separate strata buildings built in 2009 have no heritage value.

4.2 The Subject Site

4.2.1 Assessment of Significance

In order to make an assessment of whether or not the proposed development of the subject site would have either a negative, neutral or positive impact upon the significance of the subject place, it is necessary first to ascertain the significance of the subject site. The assessment is based upon criteria specified by the NSW Office of Environment and Heritage.¹⁴

Criterion	Assessment
<p>A. Historical Significance</p> <p><i>An item is important in the course, or pattern, of NSW’s (or the local area’s) cultural or natural history.</i></p>	<p>The dwelling on the subject site, constructed in 1995, does not meet the criteria for historical significance. However, the subject site’s allotment depicts the subdivision and subsequent development of the Birchgrove area during the 19th century.</p> <p>Furthermore, the remnants of the original dwelling consisting of the timber garage and palisade fence further demonstrate the historical development of the site and the Birchgrove area. As such the subject site does display historical significance at a local level.</p>

¹³ Former Stannard’s jetty, Office of Environment and Heritage, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1940621>.

¹⁴ NSW Office of Environment and Heritage, ‘Statements of Heritage Impact’ (Heritage Office and Department of Urban Affairs & Planning, 1996), NSW Heritage Manual, <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf>.

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Criterion	Assessment
<p>B. Associative Significance</p> <p><i>An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's (or the local area's) cultural or natural history.</i></p>	<p>The original dwelling on the subject site was first associated with the prominent local Deloitte family, and later the maritime industry through the Nicholson and Stannard families. However, there is no evidence that the current dwelling is related to any significant human occupation or any event, person, or group of importance. As such, the subject site as a whole does not meet the criteria for associative significance.</p>
<p>C. Aesthetic Significance</p> <p><i>An item is important in demonstrating aesthetic characteristics and/or high degree of creative or technical achievement in NSW (or the local area).</i></p>	<p>Heritage 21 does not believe that the dwelling on the subject site demonstrates aesthetic characteristics associated with contemporary architecture, nor does it demonstrate a high degree of creative or technical achievement in NSW or the local Birchgrove area.</p> <p>Otherwise, the remnants of the original dwelling including the timber garage and the iron palisade fence display characteristics of Victorian architecture. However, alterations to the interior of the garage have diminished its significance and furthermore the demolition of the original dwelling has impacted the relationship between the garage, the fence, and the site.</p> <p>As such, notwithstanding the aesthetic significance conveyed in the timber garage and the iron palisade fence, the subject site as a whole does not meet the criterion for aesthetic significance.</p>
<p>D. Social Significance</p> <p><i>An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i></p>	<p>To our knowledge, the subject site has no known association with an identifiable group in the area nor was it used by a particular community for social, cultural or spiritual purposes. Thus, it does not meet the criterion for social significance.</p>
<p>E. Technical/Research Significance</p> <p><i>An item has potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history.</i></p>	<p>There is no evidence to suggest that the building demonstrates construction techniques other than those commonly employed at the time. The subject site therefore does not meet the requirements of this criterion.</p>
<p>F. Rarity</p> <p><i>An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history.</i></p>	<p>Dwellings built in the style of the subject dwelling are not currently rare in Sydney and there are numerous examples in the Birchgrove and Inner West area. Accordingly, the subject item does not attain the requisite standard of significance under this criterion.</p>

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Criterion	Assessment
<p>G. Representativeness</p> <p><i>An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or cultural or natural environments.</i></p>	<p>There is no evidence that the subject building exhibits principal characteristics of 1990s architecture, nor is it considered a fine example of its type.</p> <p>However, the original garage and palisade fence convey characteristics of Victorian architecture. Despite alterations to the interior of the garage, the façade exhibiting the decorative bargeboard demonstrates features of the 19th century. Furthermore, the iron palisade fence represents fence types common to the period.</p> <p>Despite the original fabric on the site including the timber garage and the iron palisade fence, the primary dwelling on the subject site is not representative of principal characteristics of a period of architecture. As such, the subject site as a whole does not meet the criteria for representative significance.</p>

4.2.2 Statement of Cultural Significance

The subject site's allotment demonstrates the historical advancement of the Birchgrove Estate from subdivision to development during the 19th century. Furthermore, the site depicts the changing environment of Birchgrove from a maritime industrial area to primarily residential. However, the demolition of the original dwelling has altered the significance of the site. Remnants of the original dwelling, consisting of the original timber garage and the iron palisade fence, provide a depiction of the lost fabric of the site. As such, the subject site meets historical significance at a local level, and while the site as a whole does not exhibit aesthetic or representative significance, the original fabric on the site interprets the built history of the site. As a result, the original fabric individually demonstrate aesthetic and representative significance. Additionally, as it was the previous dwelling that had ties to the maritime industry through the Stannard and Nicholson families, the current building does not possess associative significance. The subject building does not demonstrate technical significance nor are buildings of its type rare in Birchgrove or greater Sydney. Finally, there is no evidence to suggest that the site is associated with a particular group and as such does not display social significance.

5.0 WORKS PROPOSED

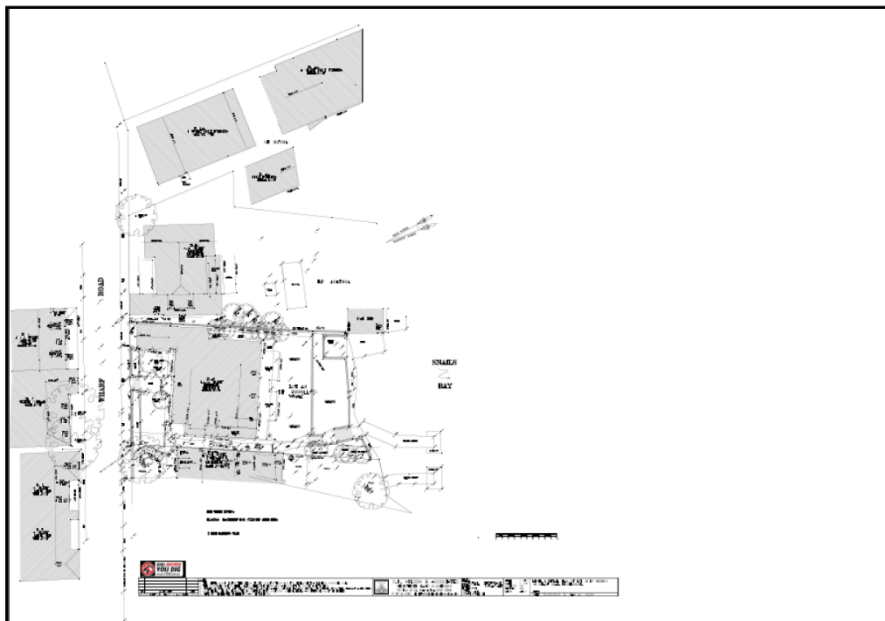
5.1 Proposal Description

The proposed works would include the demolition of the existing building, the subdivision of the site and the construction of two new dwellings. More specifically, the proposed development would include:

- Demolition of the existing 1995 dwelling;
- Subdivision of the site into two lots;
- The construction of two five-storey, four-bedroom dwellings fronting Wharf Road. The new dwellings would include two swimming pools to the rear of the properties and a double garage to the eastern lot;
- The relocation of the original 1870s garage closer to the western boundary of the site;
- The restoration and relocation of the original iron palisade fence with sandstone base to make way for new entry points; and
- The construction of a deck to the northern boundary of the site.

5.2 Drawings

Our assessment of the proposal is based on the following drawings by ESNH dated April 2020 and received by Heritage 21 on 20 April 2020. These are reproduced below for reference only; the full set of drawings accompanying the development application should be referred to for any details.



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Figure 28. Site survey.

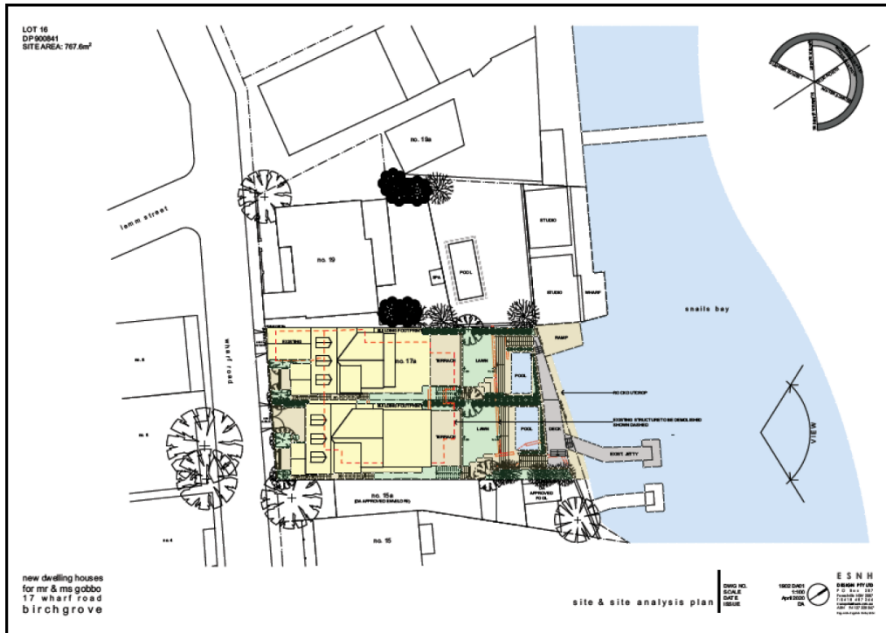


Figure 29. Proposed site plan.

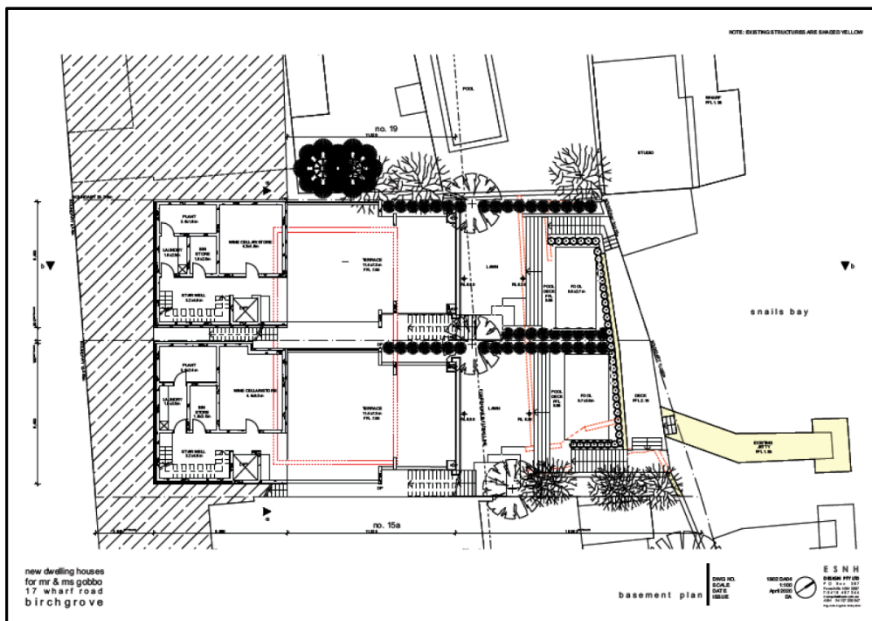


Figure 30. Proposed basement plan.

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Alexandria
www.heritage21.com.au



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reception@heritage21.com.au
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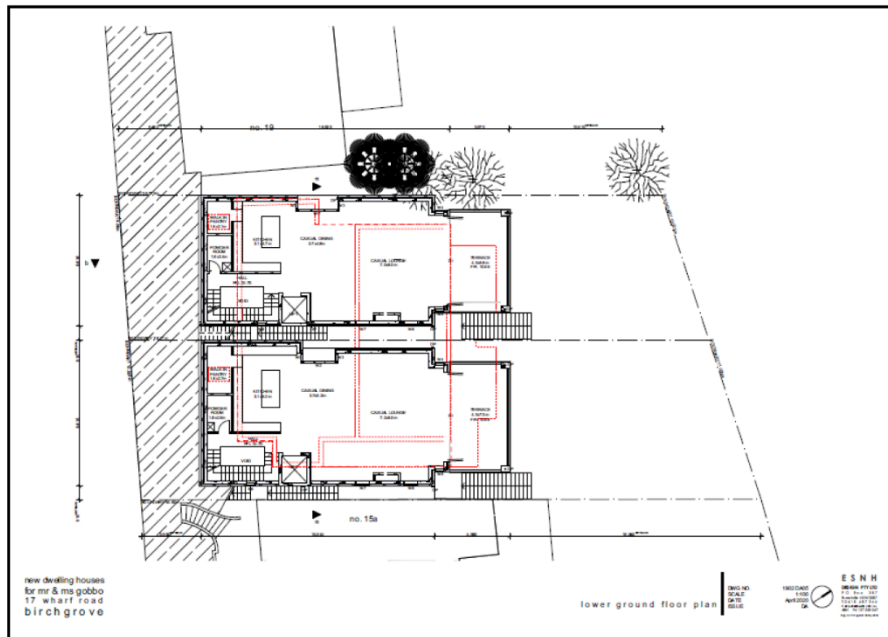


Figure 31. Proposed lower ground floor plan.

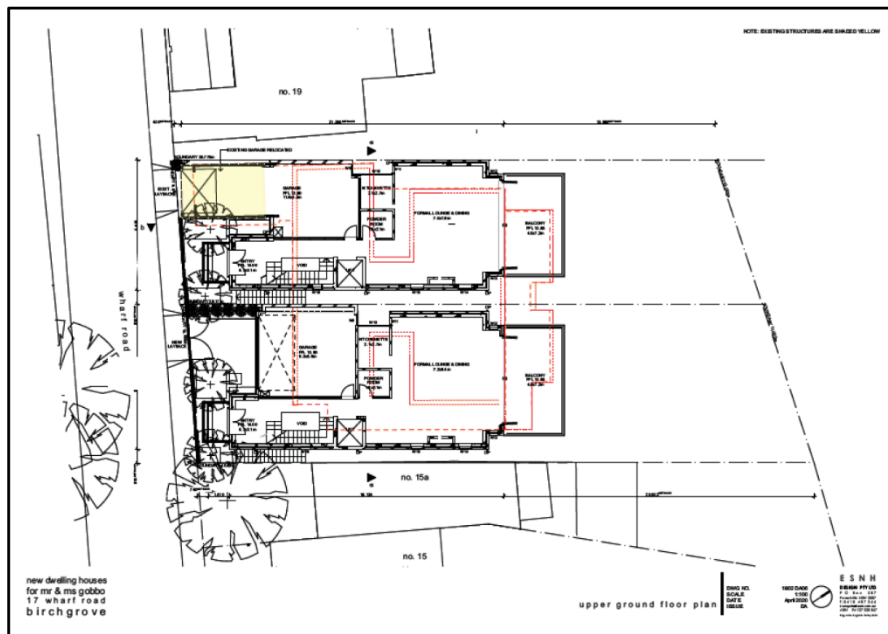


Figure 32. Proposed upper ground floor plan.

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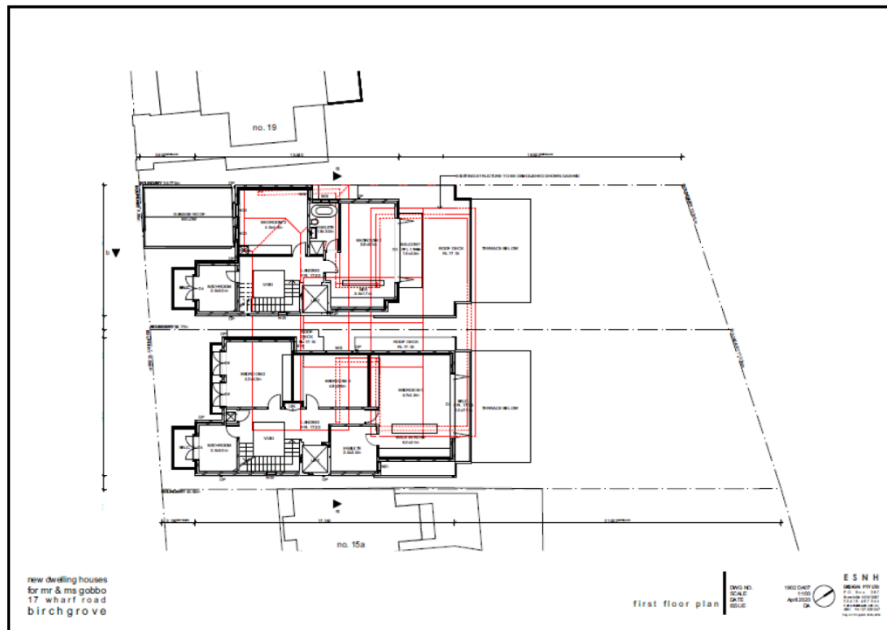


Figure 33. Proposed first floor plan.

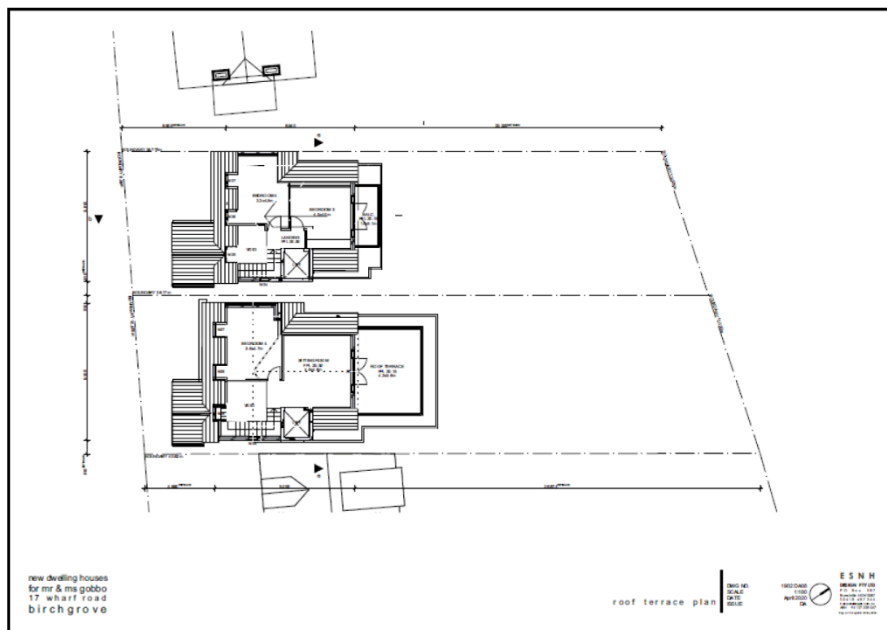


Figure 34. Proposed roof terrace plan.

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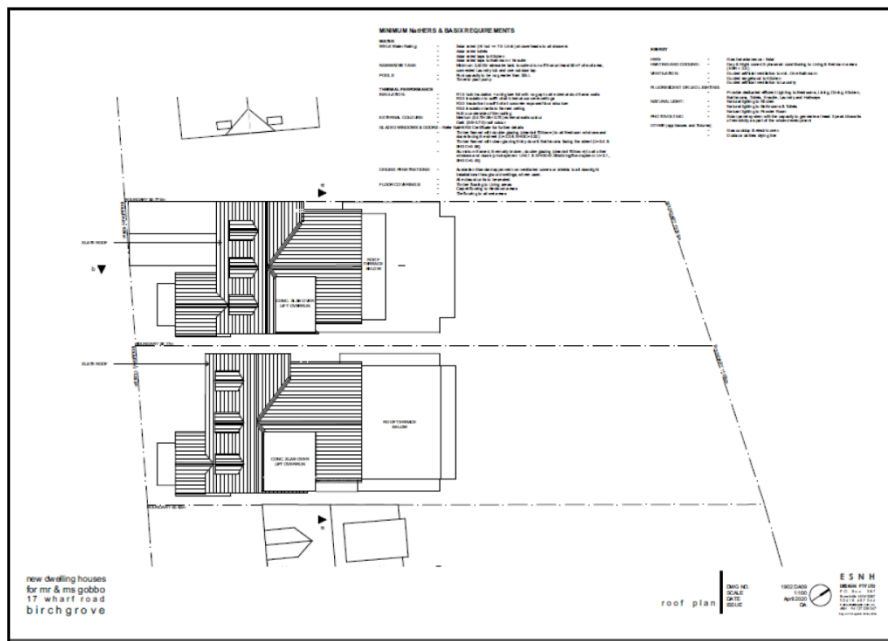


Figure 35. Proposed elevation roof plan.

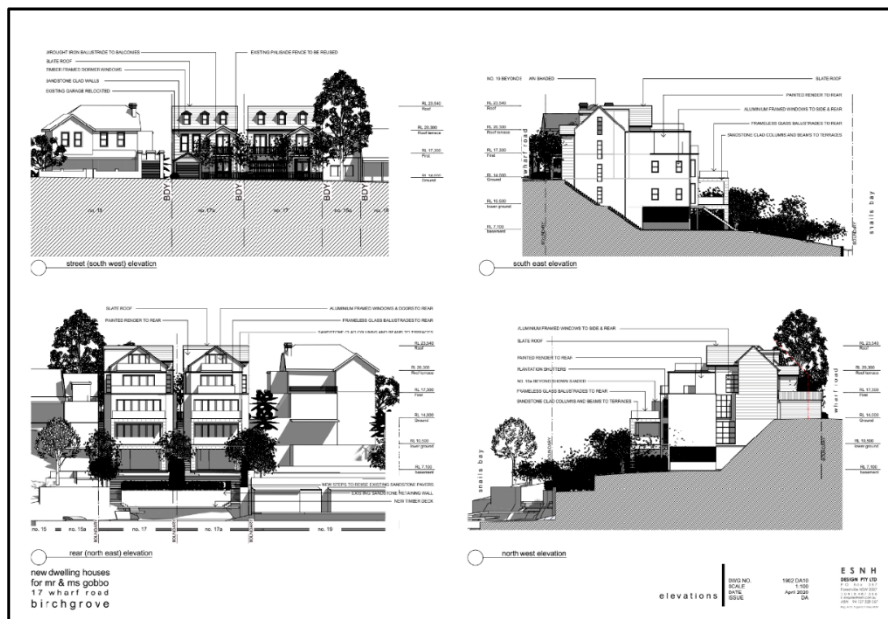


Figure 36. Proposed elevations.

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Figure 37. Proposed schedule of finishes.

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6.0 ASSESSMENT OF HERITAGE IMPACT

6.1 Heritage Management Framework

Below we outline the heritage-related statutory and non-statutory constraints applicable to the subject site including the objectives, controls and considerations which are relevant to the proposed development as described in Section 5.0 above. These constraints and requirements form the basis of this Heritage Impact Assessment.

6.1.1 Leichhardt Local Environmental Plan 2013

The statutory heritage conservation requirements contained in Section 5.10 of the Leichhardt LEP (LLEP) 2013 are pertinent to any heritage impact assessment for future development on the subject site. The relevant clauses for the site and proposal are outlined below:

- (1) Objectives
- (2) Requirement for consent
- (4) Effect of proposed development on heritage significance
- (5) Heritage assessment

6.1.2 Leichhardt Development Control Plan 2013

Our assessment of heritage impact also considers the heritage-related sections of the Leichhardt Development Control Plan (LDCP) 2013 that are pertinent to the subject site and proposed development. These include:

Part C – Place

Sections 1 – General Provisions

- C1.2 Demolition
- C1.4 Heritage Conservation Areas and Heritage Items
- C1.6 Subdivision
- C1.19 Rock Faces, rocky outcrops, cliff faces, steep slopes and rock walls
- C1.20 Foreshore Land

Section 2 – Urban Character

- C2.2 Distinctive Neighbourhoods

Section 3 – Residential Provisions

- C3.1 Residential General Provisions
- C3.2 Site Layout and Building Design
- C3.3 Elevation and Materials

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C3.4 Dormer Windows

C3.6 Fences

C3.10 Views

Part G – Site Specific Controls

Sections 5 – Wharf Road, Birchgrove

6.1.3 Sydney Harbour Foreshores & Waterways Area Development Control Plan 2005

5. Design Guidelines for Land-Based Development

5.3 Siting of Buildings and Structures

5.4 Built Form

5.6 Planting

5.13 Swimming Pools

6.1.4 NSW Office of Environment & Heritage guidelines

In its guidelines for the preparation of Statements of Heritage Impact, the NSW Office of Environment & Heritage provides a list of considerations in the form of questions aiming at directing and triggering heritage impact assessments.¹⁵ These are divided in sections to match the different types of proposal that may occur on a heritage item, item in a heritage conservation area or in the vicinity of heritage. Below are listed the considerations which are most relevant to the proposed development as outlined in Section 5.0 of this report.

Demolition of a building or structure

- *Have all options for retention and adaptive re-use been explored?*
- *Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?*
- *Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?*
- *Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?*

¹⁵ Ibid.

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New development adjacent to a heritage item (including additional buildings and dual occupancies)

- *How is the impact of the new development on the heritage significance of the item or area to be minimised?*
- *Why is the new development required to be adjacent to a heritage item?*
- *How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?*
- *How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?*
- *Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?*
- *Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?*
- *Will the additions visually dominate the heritage item? How has this been minimised?*
- *Will the public, and users of the item, still be able to view and appreciate its significance?*

Subdivision

- *How is the proposed curtilage allowed around the heritage item appropriate?*
- *Could future development that results from this subdivision compromise the significance of the heritage item? How has this been minimised?*
- *Could future development that results from this subdivision affect views to, and from, the heritage item? How are negative impacts to be minimised?*

New landscape works and features (including carparks and fences)

- *How has the impact of the new work on the heritage significance of the existing landscape been minimised?*
- *Has evidence (archival and physical) of previous landscape work been investigated? Are previous works being reinstated?*
- *Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented?*
- *Are any known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered?*
- *How does the work impact on views to, and from, adjacent heritage items?*

Statement of Heritage Impact - 17 Wharf Road, Birchgrove

6.2 Heritage Impact Assessment

Below we assess the impact that the proposed development would have upon the subject site, the Birchgrove and Ballast Point heritage conservation area in which it is located, and the heritage items in the vicinity. This assessment is based upon the Historical Context (refer to Section 2.0), the Physical Evidence (refer to Section 3.0), Heritage Significance (refer to Section 4.0) the Proposal (refer to Section 5.0), a review of the Heritage Management Framework (refer to Section 6.1) and the impact of the proposal on the relevant heritage items situated in the vicinity of the site (refer to Sections 1.3 and 3.4).

6.2.1 Summary

The proposed works include the demolition of the existing 1995 dwelling, the subdivision of the site and construction of two free standing dwellings. It is our opinion that the proposed development would complement the historic Wharf Road streetscape, the HCA and heritage items in the vicinity. This would be achieved through exhibiting a traditional design in a contemporary context and employing a combination of traditional and modern materials and finishes in order to complement the heritage significance of the area while being readily identifiable as new. The proposed works would retain significant fabric of the site including the timber garage and the iron palisade fence, and would reinstate the sites historic relationship with the streetscape by removing the hedge to the Wharf Road elevation. The proposed subdivision of the site would reflect the historic subdivision pattern of the surrounding area. Furthermore, the proposed demolition of the existing building, and development of the site would reinstate view lines between Wharf Road and Snails Bay that were lost during the construction of the existing building in 1995. The proposed development would not alter view lines from the public domain to heritage items in the vicinity of the site, and would more sympathetically respond to the streetscape than the existing dwelling.

6.2.2 Impact Assessment against the LLEP 2013

The statutory heritage conservation requirements contained in Section 5.10 of the Leichhardt LEP 2013 are pertinent to any heritage impact assessment for future development on the subject site. We assess the proposal against the relevant clauses below.

CLAUSE	ASSESSMENT
(1) Objectives	The proposal contains the development of a site located within a heritage conservation area listed under Schedule 5 of the Leichhardt LEP 2013. It is our general assessment that the subdivision of the subject site and the proposed height, scale, massing and materials proposed (as detailed in Section 5.0 above) would not engender a negative impact on the subject site, the HCA in which the site is located and heritage items located in the vicinity of the site, including their contributory fabric and general setting.
(2) Requirement for consent	This Development Application is lodged to Council to gain consent for the works proposed within a heritage conservation area and in the vicinity of heritage items listed under Schedule 5 of the Leichhardt LEP 2013.

Statement of Heritage Impact - 17 Wharf Road, Birchgrove

(4) Effect of proposed development on heritage significance	This Statement of Heritage Impact accompanies the Development Application in order to enable the Inner West Council, as the consent authority, to ascertain the extent to which the proposal would affect the heritage
(5) Heritage assessment	significance of the HCA and heritage items located in the vicinity of the site.

6.2.3 Impact Assessment Against the LDCP 2013

Part C - Place	
Section 1 – General Provisions	
C1.2 Demolition	
Controls	Assessment
<p><i>C1 Council will not approve a development application for the demolition of:</i></p> <p><i>a. a Heritage Item; or</i></p> <p><i>b. a building in a Heritage Conservation Area that contributes positively to the conservation area; or</i></p> <p><i>c. a building that makes a positive contribution to the desired future character of the area</i></p>	<p>As the existing dwelling on the subject site was constructed in 1995, it is not a contributory item within the Birchgrove and Ballast Point HCA. The proposal does not contain works to a heritage item, nor would it alter a building that contributes positively to the HCA. The proposed works would retain and restore significant fabric associated with the original dwelling – which has since been demolished – such as the late nineteenth century timber garage and the iron palisade fence with a sandstone base.</p>
C1.4 Heritage Conservation Areas and Heritage Items	
<p><i>C1 Development maintains the characteristics and is consistent with the objectives and controls for the relevant building type contained in Appendix B – Building Typologies of this Development Control Plan.</i></p> <p><i>C2 The fabric of an existing building is to be the subject of appropriate conservation practices including:</i></p> <p><i>a. retention of original detail and finishes such as:</i></p> <p><i>i. original face brick which should not be painted over or rendered;</i></p> <p><i>ii. original decorative joinery and iron work which is not to be removed;</i></p> <p><i>b. conservation of original elements;</i></p> <p><i>c. reconstruction or restoration of original elements where deemed appropriate;</i></p>	<p>C1) The subject building was constructed in the 1990s and as such does not contribute to the characteristics of the local area. However, the proposed development would more appropriately align with the existing design types expressed in Birchgrove and would interpret traditional features within a modern development.</p> <p>C2) The main dwelling on the subject was constructed in the 1990s and as such does not hold any significant fabric. However, the garage presenting to Wharf Road and the iron palisade fence are both original and served the original building on the site which was constructed in the late nineteenth century and has since been demolished. The proposed development would retain these features and incorporate them into the proposed design. The hedge that is currently obscuring the iron palisade fence would be removed in the proposal in order to ensure that the original fence would be visible from the streetscape. The fence would be altered to suit the new openings for the proposed dwellings. However, the proposal</p>

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<p><i>d. retention of the original cladding material of original roofs where viable;</i></p> <p><i>e. consideration of suitable replacement materials should be based on original material, and where a property is part of a group or row, replacement materials should have regard to the integrity of the group.</i></p> <p><i>C3 Development of dwellings within Heritage Conservation Areas must:</i></p> <p><i>a. not include the demolition of the internal walls and roof form, including any existing chimneys, of the front two rooms of the dwelling;</i></p> <p><i>b. retain the major form, scale and materials of the existing structure as described in (a);</i></p> <p><i>c. be for a rear addition which does not dominate the existing building or substantially change the relationship of the building to the street when viewed from the street; and</i></p> <p><i>d. retain significant, established gardens and plantings including early fences.</i></p> <p><i>C4 Demolition of dwellings in Heritage Conservation Areas or Heritage Items is subject to the provisions of Part C Section 1.2 – Demolition within this Development Control Plan.</i></p> <p><i>Roof forms and materials</i></p> <p><i>C5 Consideration of roofing materials for additions should have regard for compatibility with the original roof, as well as for the context of the setting (such as if a dwelling is part of a group of similar dwellings).</i></p> <p><i>New buildings</i></p> <p><i>C8 New development need not seek to replicate period details of original buildings in proximity to the site, but rather, demonstrate respect for the form, scale and sitting of the immediate area.</i></p>	<p>would ensure that the fence is restored and reinstated. Furthermore, the original timber garage would be incorporated into the proposed development and would be carefully relocated closer to the western boundary to ensure that the significant fabric is retained.</p> <p>C3) As the subject building was constructed in 1995, it is not a contributory item with the HCA. As such, it's demolition would not negatively impact the heritage significance of the site or HCA. Further, the proposed new development would respond more sympathetically than the current dwelling to the characteristics of the local area through form, scale and materiality. The proposed development would retain and reinstate significant features outlined in Section 3.0 above including the original timber garage and the iron palisade fence.</p> <p>C4) As discussed above, the proposed works would not include the demolition of a heritage item or a contributory building in a HCA. The proposed works would retain contributory fabric and would involve the demolition of the non-contributing 1995 dwelling on the site.</p> <p>C5) The original dwelling on the site was demolished in the 1990s and replaced with a contemporary building. There is no evidence to suggest the exact materiality of the original dwelling. However, the proposed development would employ traditional materials, including timber, to respond to the heritage conservation area. The proposed development would employ a slate roof which would complement the character of the Wharf Road streetscape.</p> <p>C8) The proposed development would employ a modern design while incorporating traditional features and materials such as timber and sandstone in order to respond to the rhythm and character of the heritage conservation area and heritage items in the vicinity. The proposed design does not seek to replicate period details, but rather the proposed development would interpret broader features of the HCA within a modern design. The</p>
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Statement of Heritage Impact - 17 Wharf Road, Birchgrove

	proposed scale of the new dwellings would respond to the scale of houses in the vicinity. Furthermore, the proposed bulk and form would be more sympathetic to that of the surrounding area than the existing dwelling.
C1.6 Subdivision	
<p><i>C2 New allotments shall be consistent with the prevailing subdivision pattern in the neighbourhood.</i></p> <p><i>C3 Development shall reinforce the visual prominence of natural landscape features such as ridgelines and rock outcrops.</i></p>	<p>C2) The existing subdivision pattern of Wharf Road is irregular due to the development of Birchgrove from a Port to a residential area. However, the proposed lot size and shape would be consistent with the subdivision pattern in the immediate vicinity of the site and as such would respect the history of the significant Wharf Road streetscape.</p> <p>C3) The proposed development would ensure the prominence of the significant topography in the area. The proposed development is designed as to respond to the sloping topography of the site and ensure the prominence of landscape features to the Snails Bay elevation.</p>
C1.19 Rock faces, rocky outcrops, cliff faces, steep slopes and rock walls	
<p><i>C1 Development in proximity to rock faces, rocky outcrops, escarpments, cliff faces or steep slopes is to be sympathetic to those landscape elements and the setting in terms of colour, texture, materials, form and character and is to:</i></p> <p><i>a. minimise on-site disturbance;</i></p> <p><i>b. locate buildings where the rock features are not located;</i></p> <p><i>c. utilise construction methods which limit impacts on rock features;</i></p> <p><i>d. use materials that complement the sites' (or adjacent) rock features;</i></p> <p><i>e. implement a Soil and Water Management Plan to limit impacts;</i></p> <p><i>f. avoid filling the site in any way that would obscure the rock features; and</i></p>	<p>C1) The proposed development would employ materials and finishes that respond to the surrounding landscape. The proposed development would incorporate a sandstone façade and sandstone features that would complement the sandstone characteristic of Birchgrove and Snails Bay. The sandstone retaining wall to the rear elevation would be retained and existing sandstone paving would be incorporated in the new steps within the backyard. The rocky outcrop to the rear of the site would be maintained in the proposal. Furthermore, the proposed form of the development would respond to the topography of the site by presenting as two-storeys to the north at the primary façade and growing in height to the rear as the site slopes downwards.</p>

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<p><i>g. incorporate plant species that are endemic to the area to encourage fauna to utilise the rock features as habitat.</i></p>	
<p>C1.20 Foreshore Land</p>	
<p><i>C4 Buildings or structures must respect the topographical features of the site. Buildings are not cantilevering, but follow the topography.</i></p>	<p>C4) The proposed development would follow the sloping topography of the sit by presenting in lower scale to Wharf Road and increasing in height as the site slopes downwards.</p>
<p>Section 2 – Urban Character C2.2 Distinctive Neighbourhoods</p>	
<p>Controls</p>	<p>Assessment</p>
<p><i>C2.2.6 Birchgrove Distinctive Neighbourhood</i></p> <p><i>C1 Development should follow the topography of the area and maintain the single storey scale on the mid slopes and mixed one and two storey scales at the top and bottom of the slopes.</i></p> <p><i>C2 Conserve and promote the consistent rhythm within the streetscape created by regular lot sizes, subdivision pattern and the predominance of detached and semi-detached houses with a prevalence of hipped, pitched and gable roof forms. Preserve the established setbacks for each street.</i></p> <p><i>C3 Preserve and where practicable, enhance public and private views over Snails Bay and Parramatta River. Buildings on the waterfront should follow the slope and help preserve view lines by stepping down with the contours.</i></p> <p><i>C4 Promote a balance of landscape to built form in the view of the neighbourhood when viewed from the water.</i></p> <p><i>C5 Conserve the single and double storey, freestanding form, style and materials characteristic to each street.</i></p> <p><i>C6 Where a consistent pattern of architectural style and form exists, preserve this consistency on each street.</i></p> <p><i>C8 Maintain the diverse character of the area by ensuring new development is complementary in</i></p>	<p>C1) The proposed developments would present as a double-storey building to the street and would present as five-storeys to the rear as the land slopes downwards. The scale of the proposed development would respond to the scale of the surrounding streetscape and the double-storey presentation to Wharf Road would be consistent with the surrounding area.</p> <p>C2) The proposed development would be consistent with the scale of the Wharf Road streetscape. The proposed subdivision of the existing lot into two lots would respond to the subdivision pattern of Birchgrove. The proposed lot sizes would be of regular dimensions. Furthermore, the proposed pitched roof, set back, and siting of the proposal would ensure the proposed development would reflect the rhythm of Wharf Road.</p> <p>C3) The existing dwelling does not promote view lines from Wharf Road to Snails Bay. However, the proposed development would enhance view lines between the streetscape and Snails Bay either side of the proposed dwellings. Furthermore, the proposed development would follow the topography of the site in order to further encourage view lines. The proposed dwellings would present as double-storey to Wharf Road and would increase in scale to the rear of the site.</p> <p>C4) The proposed development would respond to the rhythm of buildings in the vicinity when viewed from Snails Bay. The proposed development would be of a complementary bulk and scale to the</p>

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<p><i>terms of its architectural style, built form and materials.</i></p> <p><i>C10 Fences should be low open picket style with iron or timber pickets and with metal timber or stone posts.</i></p> <p><i>C12 Conserve and complement the established streetscape with regard to setbacks, street trees and general lack of driveway crossings.</i></p> <p><i>C13 Maintain sandstone outcrops and remnant stone wall footings.</i></p> <p><i>C18 New development shall maintain the use of hipped, pitched or gabled roof forms and designs shall be complementary to the existing unadorned built form. Flat roofs may be appropriate where the style of architecture is contemporary and view lines may be affected.</i></p> <p><i>C19 Building materials used shall be consistent with the existing character of the streetscape, including rendered and painted surfaces and roof materials such as corrugated iron as well as timber windows.</i></p> <p><i>C21 Development visible from the water is to be designed to preserve the conservation values of the area. When viewed from the water a balance between built form and landscape is to be achieved/maintained through side setbacks and landscaping. Additionally the rear elevation must be designed so it does not detract from the form, character and scale of the conservation area. The amount of glazing to solid ratio on the rear elevation must be sympathetic to the immediately surrounding development.</i></p>	<p>surrounding heritage conservation area and as such would promote balance when viewed from the water. Furthermore, the proposed ratio of built form to landscaping would be consistent with the surrounding area by employing a similar setback and incorporating soft and hard landscaping to the rear of the new dwellings.</p> <p>C5) The proposed development would respond in bulk, scale and materiality to the Wharf Road streetscape. The proposed development would present double-storey to Wharf Road as to promote consistency with the surrounding streetscape and would respond to the topography, increasing in scale to the rear. The use of a combination of modern and traditional materials would ensure that the proposed development provides a contemporary response to the heritage streetscape. The Wharf Road façade would feature sandstone cladding as to reflect the sandstone cottages in the vicinity. Furthermore, the balconies to the primary elevation would employ iron balustrades as to reflect traditional features of the surrounding area. Further, the slate roof would reflect traditional materials used in historic houses in the vicinity. The proposed development would retain and incorporate the significant 1800s garage into the design of the dwellings to encourage a sympathetic relationship with the Wharf Road streetscape. The bulk of the proposed development would be reflective of traditional design and would harmonise with the prominent character of the surrounding area.</p> <p>C6) Wharf Road primarily consists of late nineteenth century dwellings. The proposed development would employ characteristics of nineteenth century architecture and reinterpret them in a modern context. Through bulk, scale, and materiality, the proposed development would ensure the prominence of Victorian and Federation architectural features are retained in the Wharf Road streetscape. However, the proposed development would incorporate modern design in order to ensure that the proposed development is easily identifiable as new.</p>
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	<p>C8) The proposed development would respond to the architectural characteristics of the surrounding streetscape through reinterpreting them in a modern context. The proposed development would employ traditional materials such as slate, timber, and sandstone and incorporate modern finishes and materials to ensure that the subject dwellings responds to the surrounding streetscape while being readily identifiable as a contemporary addition.</p> <p>C10) The proposed development would retain and reinstate the existing original iron palisade fence. The proposal would remove the hedge which currently obscures the palisade fence from view to ensure that is interpreted within the streetscape. The proposed development would require that portions of the existing palisade fence are carefully removed and relocated. However, this would ensure that significant fabric is retained and restored and incorporated into the proposed development. Additionally, the existing boundary fences to the east and west of the site would be retained in the proposal.</p> <p>C12) The setback within the Wharf Road streetscape varies greatly. However, the proposed development would ensure that the setback responds to the setback of sites in the vicinity including the adjacent 15a Wharf Road to complement the overall streetscape and maintain the character of the Birchgrove and Ballast Point HCA.</p> <p>C13) The proposed works would retain the existing sandstone retaining wall to the rear of the site and incorporate it into the proposed development.</p> <p>C18) The proposed development would employ a pitched slate roof that would complement the architectural characteristics of the surrounding streetscape and the HCA.</p> <p>C19) The proposed development would employ a combination of traditional and modern materials and finishes to ensure that the development complements the heritage significance of the</p>
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	<p>surrounding area. The use of timber, slate, and sandstone would respect the materials prominent in the surrounding area. The primary façade would employ sandstone cladding that would reflect the prevalent façade textures in the HCA. The windows to the primary façade would feature a timber frame incorporating traditional materiality and design. The balcony balustrades to the primary elevation would complement the original iron fencing on Wharf Road by incorporating a sympathetic design. Additionally, the proposed development would employ a pitched slate roof reflective of the character of the Wharf Road streetscape.</p> <p>C21) The proposed development would respond to the topography of the site to ensure that the presentation to the water is sympathetic to the heritage of the site and the HCA. The proposed set back would be consistent with the adjacent dwellings. The rear of the lot would contain landscaping and a pool, similar to properties in the vicinity which would ensure that there is a balance between the landscape and built form of the site. Furthermore, the solid to void ratio to the rear of the site would be sympathetic to properties on the northern side of Wharf Road which share a boundary with Snails Bay.</p>
<p>Section 3 – Residential Provisions C3.1 Residential General Provisions</p>	
<p>Controls</p>	<p>Assessment</p>
<p><i>C1 Residential development is not to have an adverse effect on:</i></p> <p><i>a. the amenity, setting or cultural significance of the place, including the portion of the existing building to be retained; and</i></p> <p><i>b. the relationship of any Heritage Item or Heritage Conservation Area to its place, setting and cultural significance.</i></p>	<p>C1) The current dwelling is not sympathetic to the historic Wharf Road streetscape and the Birchgrove and Ballast Point HCA. The proposed works would ensure that the site more sympathetically reflects the architectural characteristics of the surrounding area and HCA. The proposed works would adapt and restore the original 1890s timber garage and iron palisade fence as to ensure the heritage significance of the site is retained.</p>
<p>C3.2 Site Layout and Building Design</p>	
<p><i>C2 Development siting and design shall respect and enhance the natural landscape attributes that contribute to the character and distinct sense of</i></p>	<p>The proposed development would respond to the topography of the site and the environmental features of the area. The proposed development</p>

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<p><i>place of the streetscape, neighbourhood and Leichhardt, including:</i></p> <ul style="list-style-type: none"> <i>a. prominence of ridgelines;</i> <i>b. landmarks;</i> <i>c. topography;</i> <i>d. views, vistas and outlooks;</i> <i>e. waterways; and</i> <i>f. vegetation.</i> 	<p>would reinstate views between Wharf Road and Snails Bay that were lost due to the construction of the existing dwelling in the 1990s. The proposed development would employ sandstone, a feature common in the local area, to ensure that the development complements the landscape of the site and the surrounding area. Furthermore, the plantings located to the eastern boundary would be retained and incorporated in the proposed development. Furthermore, the proposed development would incorporate the addition of trees and soft landscaping to the rear and primary façade of the dwelling.</p>
<p>C3.3 Elevation and Materials</p>	
<p><i>C4 Residential development in a Heritage Conservation Area is compatible with the Building Typologies contained in Appendix B – Building Typologies of this Development Control Plan, and includes defining elements such as:</i></p> <ul style="list-style-type: none"> <i>a. roof pitch and form;</i> <i>b. roof ridgeline;</i> <i>c. gutter lines;</i> <i>d. verandah balustrades and floor under-beams;</i> <i>e. window patterns, proportions and details; and</i> <i>f. balconies.</i> <p><i>C9 Colour schemes are compatible with those prevailing in the street.</i></p> <p><i>C11 Materials and finishes are compatible with those prevailing in the streetscape and the period of construction of the dwelling.</i></p>	<p>C4) The proposed development would adapt characteristics ubiquitous in Victorian and Federation architecture in a contemporary design to ensure the new dwellings complement the heritage significance of the Wharf Road streetscape and the broader HCA. The proposed development would employ a pitched slate roof that is sympathetic to both the design and material prominent in the area. Furthermore, the proposed fenestration pattern would employ the golden section ratio to ensure the façade is consistent with the traditional presentation of the Wharf Road streetscape. The proposed balconies would incorporate an iron balustrade to complement the original iron palisade fence to the Wharf Road boundary.</p> <p>C9) The proposed finishes employ a muted, neutral colour scheme that would complement the Wharf Road streetscape and heritage conservation area while ensuring that heritage items and contributory buildings in the vicinity retain visual prominence.</p> <p>C11) The proposed development would employ a combination of traditional and contemporary materials and finishes to ensure that while the new dwellings would respond to the heritage significance of the area, they would be easily identifiable as new. Materials prominent in the surrounding are such as slate, timber and sandstone would be incorporated into the proposed development.</p>

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C3.4 Dormer Windows	
<i>C1 Dormer windows will not be supported where the height of the roof measured from the gutter to the ridge is less than 2.5m. Outside of Heritage Conservation Areas, consideration may be given to a flush skylight where it does not adversely impact the streetscape character of the existing dwelling or intactness of a group of dwellings.</i>	C1) The proposed development would employ three dormers to the roof form of the two proposed dwellings. The proposed dormers would feature timber framed windows and would be consistent with the common architectural features of the Wharf Road streetscape.
C3.6 Fences	
<i>C1 The architectural style, height and materials of front fencing are consistent with the style of the building and streetscape.</i>	C1) The proposed development would incorporate the existing, original iron palisade fence and sandstone base. The proposed development would employ characteristics of the original fabric on the site in the design to ensure that the new dwellings would complement the heritage significance of the site while ensuring that the contributory fabric retains visual prominence in the streetscape.
C3.10 Views	
<i>C3 Development shall be designed to promote view sharing via:</i> <i>a. appropriately addressing building height, bulk and massing;</i> <i>b. including building setbacks and gaps between buildings;</i> <i>c. minimise lengthy solid forms;</i> <i>d. minimise floor to ceiling heights and use raked ceilings in hipped / gabled roof forms where appropriate, especially in upper floors;</i> <i>e. splay corners; and</i> <i>f. use open materials for balustrades, balconies, desks, fences, car ports and the like.</i>	C3) The proposed development would reinstate lost view lines between Wharf Road and Snails Bay as a result of the proposed new scale and massing. The proposal would include the demolition of the existing dwelling which prohibits view lines between the streetscape and the bay. Additionally, the proposed new dwellings would allow view lines from Wharf Road to the bay from either side of the proposed buildings.
Part G – Site Specific Controls	
Section 5 – Wharf Road, Birchgrove	
G5.1 Heritage	
Controls	Assessment
<i>C6 In addition to the Heritage Items mentioned above, the following buildings, structures and fences should be conserved as contributory elements of the</i>	C6) The proposed development would include the retention of the 1890s garage and iron palisade fence with a sandstone base. The proposal includes the relocation of the garage closer to the western

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<p><i>streetscape and waterscape on Wharf Road: 17 Wharf Road – Garage and street fence</i></p>	<p>boundary. The garage would be carefully relocated as to ensure significant fabric is not damaged. Additionally, a portion of the iron palisade fence with sandstone base would be relocated to serve the new openings. However, the proposed works would allow for the restoration of the fence. Furthermore, as the original palisade fence is currently concealed from view by a hedge, the proposal would involve the removal of the hedge to ensure it is visible within the Wharf road streetscape.</p>
<p>G5.2 Landscaping</p>	
<p><i>C3 Contributory trees which are to be retained are:</i> <i>d. no.17 - Fig and Eucalypt on waterfront side;</i></p>	<p>C3) The contributory trees noted in the DCP are no longer present on the site. There is evidence to suggest that the trees were removed in the 1990s. As such, the trees would not be impacted by the proposed works.</p>
<p>G5.8 Front Fences/Walls</p>	
<p><i>C1 New or replacement fences should:</i> <i>a. conserve significant elements of existing fences and walls where possible;</i> <i>b. reinstate original fences where possible, based on documentary evidence (refer to Burra Charter);</i></p>	<p>C1) The proposed works would restore the existing iron palisade fence with a sandstone base. The proposed works would include the relocation of the fence. However, care would be taken to ensure that the contributory fabric associated with the fence is retained and restored. The reinstatement of the palisade fence would reinstate the historic presentation of the site to Wharf Road.</p>
<p>G5.9 Views</p>	
<p><i>C1 Existing side setbacks shall be preserved and reinstated to retain view corridors through to and from the water.</i></p>	<p>C1) The proposed works would ensure views from Wharf Road to Snails Bay are reinstated. Currently views through the site are limited and as such, the proposed development would encourage view lines either side of the proposed dwellings from Wharf Road.</p>

6.2.4 Impact Assessment against the Sydney Harbour Foreshores & Waterways Area DCP 2005

The proposed development is designed as to respect the heritage significance and the character of the Snails Bay Area. The proposed development would follow the topography of the site in order to minimise the impact on view lines from Snails Bay. The proposed development would also complement both heritage items and modern development in the vicinity by combining traditional and contemporary materiality and incorporating design features present in the surrounding area. The existing jetty and sandstone walling would be incorporated in the new development and as such would encourage the retention of the existing relationship between the subject site and the bay. The proposed finishes would be muted in order to respect the heritage and landscape of the surrounding area. The proposal includes the addition of two pools to the rear, however, they would follow the

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topography of the land and would be sited as to minimise impacts on Snails Bay. Furthermore, the proposed development would incorporate existing plantings and new plantings to ensure the impact of the development on view lines from the water is minimised.

6.2.5 Impact Assessment Against the NSW Office of Environment & Heritage guidelines

As acknowledged in Section 6.1, the NSW Office of Environment & Heritage has identified a list of considerations in the form of questions aiming at directing and triggering heritage impact assessment. Below, we assess the proposal against the most pertinent of these questions.

Question	Assessment
Demolition of a building or structure	
<i>Have all options for retention and adaptive re-use been explored?</i>	The subject dwelling was constructed in the 1990s and is not understood to possess heritage significance. As such, Heritage 21 does not deem it necessary for the dwelling to be retained. The proposed works would however retain the significant fabric outlined in Section 3.0 including the original garage and iron palisade fence.
<i>Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?</i>	The proposal would retain significant fabric on site and incorporate it into the new dwelling. The proposal would include the retention of the original garage. The garage would be carefully located closer to the western boundary to ensure its retention in the proposed development. Furthermore, a portion of the original iron palisade fence would be relocated in the proposal to allow for new openings. However, this would allow for the fence to regain its prominence in the streetscape and would allow for its restoration.
<i>Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?</i>	The proposed works would not involve the demolition of a heritage item or original structure. The retention of the primary dwelling on the subject site is not deemed necessary to conserve the heritage significance of the area as it was constructed in the 1990s. The demolition would allow for the erection of new dwellings that would respond more sympathetically to the subject site, heritage items in the vicinity, and the HCA.
<i>Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?</i>	Heritage 21 has been engaged to provide advice. Heritage 21 has provided advice regarding the retention of significant fabric, the proposed materiality and the design to the primary façade. This advice has been incorporated in the final plans. We are of the opinion that the proposal is sympathetic to the heritage significance of the site and HCA in which it is located.

Heritage21
Suite 48, 20-28 Maddox Street
Alexandria
www.heritage21.com.au



TEL: 9519-2521
reception@heritage21.com.au
Job No. 8701 – RI

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New development adjacent to a heritage item (including additional buildings and dual occupancies)	
<i>How is the impact of the new development on the heritage significance of the item or area to be minimised?</i>	The impact of the new development on heritage items in the vicinity and the heritage conservation area has been minimised through the proposed bulk, scale and materiality of the new development. The proposed development would employ a combination of traditional and modern design features to ensure that the development would not detract from the heritage significance of the surrounding area. The proposed development would employ traditional materials such as timber, sandstone and slate in order to complement heritage items in the vicinity, and the broader HCA. Furthermore, the proposed presentation to Wharf Road would employ a sympathetic bulk and scale which is consistent with the rhythm of the surrounding area.
<i>Why is the new development required to be adjacent to a heritage item?</i>	The proposed development would be located adjacent to a heritage item listed under Schedule 5 of the LLEP 2013 as well as within a heritage conservation area. The existing building is not sympathetic to the heritage significance of the site, the heritage items in the vicinity, and the historic streetscape. As such, the proposed works would allow for the re-development of the site in order to complement the surrounding area. The proposed development would adapt the site in order to more sympathetically respond to the adjacent heritage item.
<i>How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?</i>	The adjacent heritage item is setback from the shared boundary between the two sites. As such, the impact of the proposed development on the heritage significance of the item would be minimal. Furthermore, the proposed development would employ a similar setback to the northern boundary as the existing dwelling. As such, the new structure would not greatly alter the existing curtilage of the heritage item.
<i>How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?</i>	The proposed works would alter view lines between the subject site and the heritage item. However, the design of the proposed development has been carefully considered in order to minimise the impact on the adjacent heritage item and the heritage conservation area. View lines from the public domain to the adjacent heritage item would not be obscured by the proposed works, including view lines from Wharf Road and to the rear from Snails Bay. However, view lines from I595 and I592, located to the southern side of Wharf Road would be impacted by the proposal. The proposed development would be sited to ensure view corridors are re-established providing view lines either side of the proposed dwellings to Snails Bay. This would reinstate view lines lost when the site was developed in the 1990s.

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<p><i>Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?</i></p>	<p>An archaeological assessment is beyond the scope of this report.</p>
<p><i>Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?</i></p>	<p>The proposed dwellings have been designed to complement heritage items in the vicinity and the Birchgrove and Ballast Point HCA. The proposed bulk of the dwellings would be sympathetic to the traditional design features throughout Wharf Road. Furthermore, the use of both traditional and contemporary materials would ensure that while the proposed development reflects the surrounding streetscape, it is readily identifiable as new. The use of traditional details in the modern design such as the iron balustrades to the balconies of the primary elevation and a simple decorative timber bargeboard would reflect the heritage significance of the site and the surrounding area and translate it within the new development.</p>
<p><i>Will the additions visually dominate the heritage item? How has this been minimised?</i></p>	<p>The site and scale of the proposed development would ensure that it would not dominate the heritage item. The use of traditional materials and muted finishes would minimise the visual impact on the heritage item and would ensure that the heritage items in the vicinity retain their visual prominence within the Wharf Road streetscape.</p>
<p><i>Will the public, and users of the item, still be able to view and appreciate its significance?</i></p>	<p>The proposed development would not impact view lines from the streetscape to heritage items in the vicinity. View lines from Snails Bay to heritage items in the vicinity would not be impacted by the proposed development. As such, the public would still be able to appreciate the significance of heritage items in the vicinity and the HCA.</p>
<p>Subdivision</p>	
<p><i>How is the proposed curtilage allowed around the heritage item appropriate?</i></p>	<p>The subject site is not a heritage item, however it is located in the vicinity of heritage items and within the Birchgrove and Ballast Point Heritage Conservation Area. The subdivision pattern of the surrounding area is irregular. As such, the proposed subdivision would seek to respect the significance of the surrounding streetscape through ensuring that the proposed lot sizes are sympathetic to the Wharf Road streetscape. The subdivision would be confined to the subject site and would not alter the lot boundaries of heritage items in the vicinity. As such, the curtilage</p>

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	around heritage items in the vicinity of the site would be maintained in the proposed subdivision.
<i>Could future development that results from this subdivision compromise the significance of the heritage item? How has this been minimised?</i>	The proposed development has been designed as to respect the heritage significance of the Wharf Road streetscape, the HCA, and heritage items in the vicinity. The proposed materiality would employ a combination of traditional and contemporary materials in order to promote a contemporary response to the heritage significance of the surrounding area. Furthermore, the bulk and scale has been designed as to reflect the prominent features of the Wharf Road streetscape.
<i>Could future development that results from this subdivision affect views to, and from, the heritage item? How are negative impacts to be minimised?</i>	The proposed development would not alter views from the public domain to heritage items in the vicinity, from both Wharf Road and from Snails Bay. The proposed development would alter view lines within the HCA, however, the proposed development would reinstate view lines from the streetscape to Snails Bay that were lost in the development of the subject site in the 1990s. As such, the proposed development would re-establish views from heritage items on the southern side of Wharf Road to Snails Bay.
New landscape works and features (including carparks and fences)	
<i>How has the impact of the new work on the heritage significance of the existing landscape been minimised?</i>	The proposed landscape works would retain significant original features such as the original timber garage and the iron palisade fence to the primary elevation. The proposed new garage to the primary elevation would reflect the original garage in design and materiality, while being readily identifiable as a new addition. However, the majority of the landscape works would be located to the rear of the site, including the addition of two pools, decks, and new plantings. The proposed landscape works would retain the significant topography of the site. Such measures would ensure that the significance of the site would be retained.
<i>Has evidence (archival and physical) of previous landscape work been investigated? Are previous works being reinstated?</i>	The physical evidence on the site of the original dwelling is expressed through the original timber garage and the iron palisade fence with a sandstone base. These features would be retained through the proposed works. The palisade fence would be altered to serve the new openings for the proposed development, however the works would remove the hedge that obscures it from view and would undertake restoration works in order to ensure the significance of the site is retained. The original garage would be relocated closer to the western

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	<p>boundary, however this would be undertaken with the regard to the significance of the garage and would allow the fabric to be incorporated into the new development.</p>
<p><i>Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented?</i></p>	<p>Heritage 21 has been engaged to provide advice regarding the proposed development. Heritage 21 provided advice pertaining to the retention and restoration of the significant fabric on the site including the palisade fence and the timber garage. This advice has been incorporated in the final plans.</p>
<p><i>Are any known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered?</i></p>	<p>An archaeological assessment is beyond the scope of this report.</p>
<p><i>How does the work impact on views to, and from, adjacent heritage items?</i></p>	<p>The proposed landscape works would respond to the topography of the site and would ensure that view lines from adjacent heritage items are maintained. The majority of the landscape works would be located to the rear of the site, and as such would not impact views within the HCA, nor would it impact views to and from heritage items within the vicinity of the site. The proposed landscaping to the primary elevation would ensure that the relationship between the Birchgrove and Ballast Point HCA and the subject site is retained. The proposed development would retain the iron palisade fence and the original garage which are significant features of the Wharf Road streetscape.</p>

7.0 CONCLUSION & RECOMMENDATIONS

7.1 Impact Summary

The NSW Office of Environment & Heritage's guidelines require the following aspects of the proposal to be summarised.¹⁶

7.1.1 Aspects of the proposal which respect or enhance heritage significance

In our view, the following aspects of the proposal would respect the heritage significance of the subject site, the Birchgrove and Ballast Point heritage conservation area and heritage items in the vicinity:

- The proposal would not involve the removal of any significant fabric;
- The proposed works would continue the historic residential use of the site;
- The proposal would reinstate significant view lines between Wharf Road and Snails Bay that were impacted by the construction of the current 1995 dwelling;
- The proposed development would incorporate traditional materials ubiquitous in the HCA such as timber, slate and sandstone;
- The proposed development would incorporate a bulk and scale that would provide a contemporary interpretation of traditional design features;
- The proposal would reinstate the original palisade iron fence to the Wharf Road boundary; and
- The proposed development would result in dwellings that would be more sympathetic to the heritage significance of the Wharf Road streetscape compared to the existing 1995 structure.

7.1.2 Aspects of the proposal which could have detrimental impact on heritage significance

In our view, there are no aspects of the proposal which could be detrimental to the significance of the subject site, the Ballast and Birchgrove heritage conservation area and heritage items in the vicinity. The positive impacts of the proposal have been addressed above in Section 7.1.1. Recommendations are provided in Section 7.2 below as further mitigation measures.

7.1.3 Sympathetic alternative solutions which have been considered

Heritage 21 provided heritage advice to the applicant which has been incorporated in the final proposal as described in Section 5.0 and which includes:

- The retention of the original garage;
- The retention and restoration of the original palisade fence; and
- The proposed materiality of the development in order to respond to the significance of the surrounding area.

¹⁶ NSW Office of Environment and Heritage, 'Statements of Heritage Impact' (Heritage Office and Department of Urban Affairs & Planning, 1996), <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf>.

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No solutions of greater sympathy with the significance of the subject site, heritage conservation area or heritage items in the vicinity have been discounted to our knowledge.

Mitigation measures are provided for consideration in Section 7.2 of this report which are based on our initial recommendations.

7.2 Recommendations

7.2.1 Temporary Protection Plan

A Temporary Protection Plan should be prepared by a qualified specialist for the garage and iron palisade fence with a sandstone base. Prior to the commencement of any work, consideration shall be given to the development of temporary protection measures that would identify potential risks and outline methodologies to negate any physical impact on significant fabric located in the vicinity of the area of works on the subject site. This is to be prepared by a suitably qualified contractor and implemented prior to the works to be monitored by the architect and followed by all tradespeople involved.

7.3 General Conclusion

The design, materiality, bulk, and scale of the proposed development would be sympathetic with heritage items in the vicinity, the Birchgrove and Ballast Point Heritage Conservation Area (in which it is located), and the historic Wharf Road streetscape. Heritage 21 is therefore confident that the proposed development complies with pertinent heritage controls and would engender a minimal impact on the heritage significance of the subject site, the Birchgrove and Ballast Point heritage conservation area and heritage items in the vicinity. We therefore recommend that Inner West Council view the application favourably on heritage grounds.

8.0 SOURCES

- Apperley, Richard, Robert Irving, and Peter Reynolds. *A Pictorial Guide to Identifying Australian Architecture Styles and Terms from 1788 to the Present*. Sydney: Angus & Robertson, 1994.
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Attachment D – Structural And Geotechnical Report



Our Ref: 80822149:LO:01:CF
Contact: Cosmo Farinola

21 February 2022

Mr. John Gobbo
c/-ESNH Design
PO Box 387
FORESTVILLE NSW 2087

Attention: Eugenia Hartley

Cardno (NSW/ACT) Pty Ltd
ABN 95 001 145 035

Level 9 - The Forum
203 Pacific Highway
St Leonards NSW 2065
Australia

Phone +61 2 9496 7700
Fax +61 2 9439 5170

www.cardno.com

Dear Eugenia,

**PROPOSED RESIDENTIAL DEVELOPMENT AT
17 WHARF ROAD, BIRCHGROVE
(STRUCTURAL AND GEOTECHNICAL REPORT – MOD/2021/0451)**

1. INTRODUCTION

In accordance with the proposed modification to the above project and Inner West Council's request for additional information, letter dated 1 February 2022, the following comprises an integrated structural and geotechnical response to the points outlined in the above letter.

a. The basement must be fully tanked to prevent the ingress of subsurface flows

The Geotechnical Investigation prepared by Martens Consulting Engineers (Reference P1907572JR02V01 dated April 2020 – Refer Appendix A) states that groundwater inflow, if encountered during excavation is to be managed by sump and pump methods and may require monitoring wells during the early phase of excavation if higher than expected flows are encountered.

The basement walls around the perimeter of the site will be provided with surface and sub-surface drainage to divert overland flows and potential perched and permanent groundwater, away from excavations, foundations and behind all retaining walls and limit ponding of water in excavations and near footings where space is available. Subfloor walls constructed adjacent to side boundaries will be waterproofed and fully tanked.

All Basement slabs on ground will be founded on sandstone bedrock and a 100mm drainage layer will be installed between the rock and the underside of the slab with subfloor drainage.

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- b. Retaining walls must be entirely self-supporting in the event that excavation is undertaken within the road reserve adjacent to the property boundary to the depth of the proposed structure.**

All proposed retaining walls are well away from the road reserve and adjacent front boundary and will be laterally supported by the building suspended floor slabs and therefore entirely supported from within the property boundary.

The proposed basement walls will be constructed from 190mm core filled and reinforced blockwork spanning from levelling strips to the suspended floors above. A preliminary set of structural drawings is enclosed - refer – Appendix B).

- c. Any existing or proposed retaining walls that provide support to the road reserve must be adequate to withstand the loadings that could be reasonably expected from within the constructed road and footpath area, including normal traffic and heavy construction and earth moving equipment, based on a design life of not less than 50 years.**

As for point b above, all proposed retaining walls are well away from the road reserve and front boundary and therefore the above is not applicable.

- d. All components of the basement, including footings, must be located entirely within the property boundary.**

Refer to the preliminary structural engineering drawings in Appendix B that confirm that all retaining and footing elements are located within the property boundary.

- e. No adverse impact on surrounding properties including Council's footpath and road.**

Council's footpath and road is well outside the zone of influence and similarly adjacent buildings are founded at similar levels to the proposed development and also founded on rock resulting in no adverse impact.

- f. The existing subsurface flow regime in the vicinity of the development must not be significantly altered as a result of the development.**

The footprint of the proposed residence is similar to the existing that will be demolished and all subsurface flows will be managed by new subfloor drainage across the front of the building and behind the new retaining walls and discharged at the rear of the property similar to existing.

- g. Recommendations regarding the method of excavation and construction, vibration emissions and identifying risks to existing structures or those on adjoining or nearby property.**

Section 1 to 5 of the Geotechnical report outlines the recommendations for excavatability and support, excavation support, rock support and retaining structures. In summary all new footings will be founded in sound rock, excavations will be through fill and then sandstone, temporary batters of the fill material can be installed where space allows otherwise temporary shoring will be required. The exposed rock faces are to be progressively inspected and mapped by a geotechnical engineer to ensure their soundness is being maintained and that any rectification requirements are carried out. Vibration management will be required in accordance with AS2187.2 (2006).

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h. Provide relevant geotechnical/subsurface conditions of the site, as determined by a full geotechnical investigation.

Refer to the geotechnical report in Appendix A.

Trusting that the above is to your satisfaction and please contact the undersigned if you have any queries.

Yours sincerely,

A handwritten signature in black ink, appearing to read "C. Farinola", written over a light grey rectangular background.

Cosmo Farinola BE(Hons)MEngSc MIE NER (50438)
Senior Principal
for Cardno

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21 February 2022

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APPENDIX A (Geotechnical Report)

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John Gobbo

Preliminary Geotechnical Assessment:
17 Wharf Road, Birchgrove, NSW

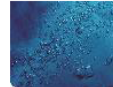


P1907572JR02V01
April 2020

ENVIRONMENTAL



WATER



WASTEWATER



GEOTECHNICAL



CIVIL



PROJECT
MANAGEMENT



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The sole purpose of this report and the associated services performed by Martens & Associates Pty Ltd is to complete a preliminary geotechnical assessment in accordance with the scope of services set out in the contract / quotation between Martens & Associates Pty Ltd and John Gobbo (hereafter known as the Client). That scope of works and services were defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Martens & Associates Pty Ltd derived the data in this report primarily from a number of sources which may include for example site inspections, correspondence regarding the proposal, examination of records in the public domain, and field explorations conducted on the dates indicated. The passage of time, manifestation of latent conditions or impacts of future events may require further examination / exploration of the site and subsequent data analyses, together with a re-evaluation of the findings, observations and conclusions expressed in this report.

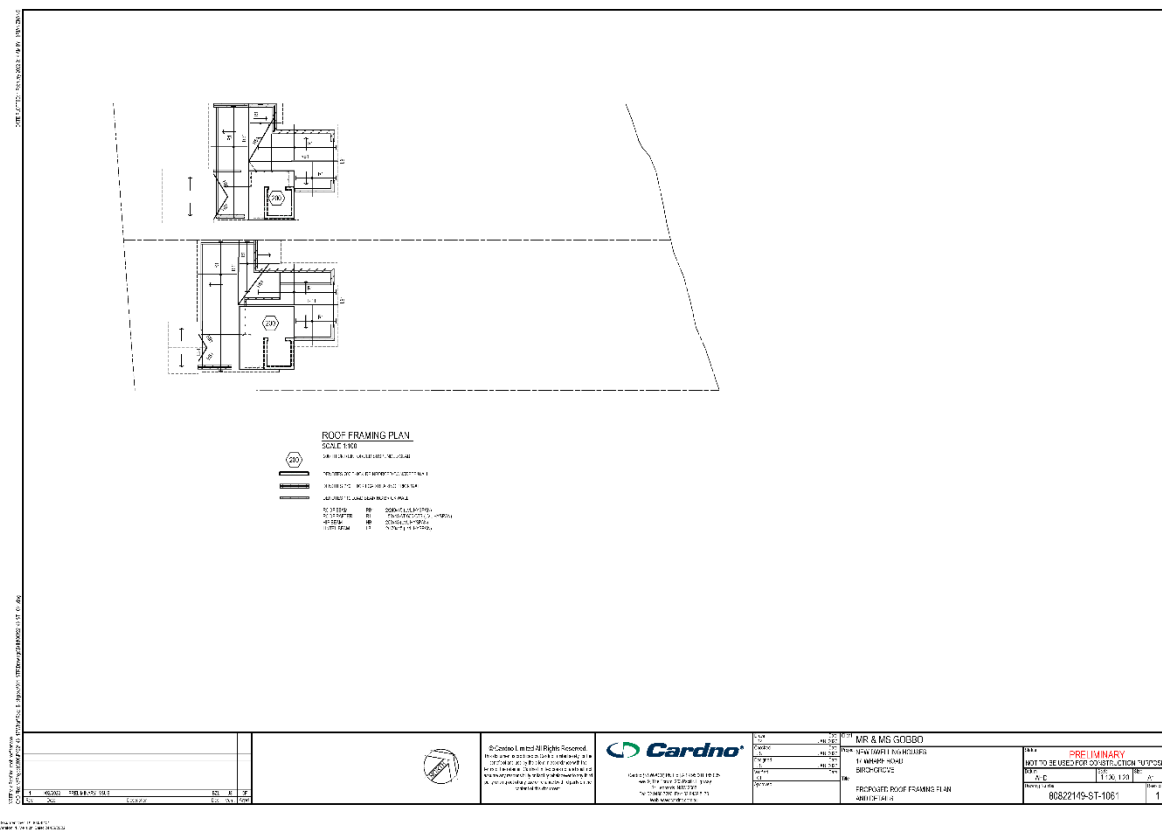
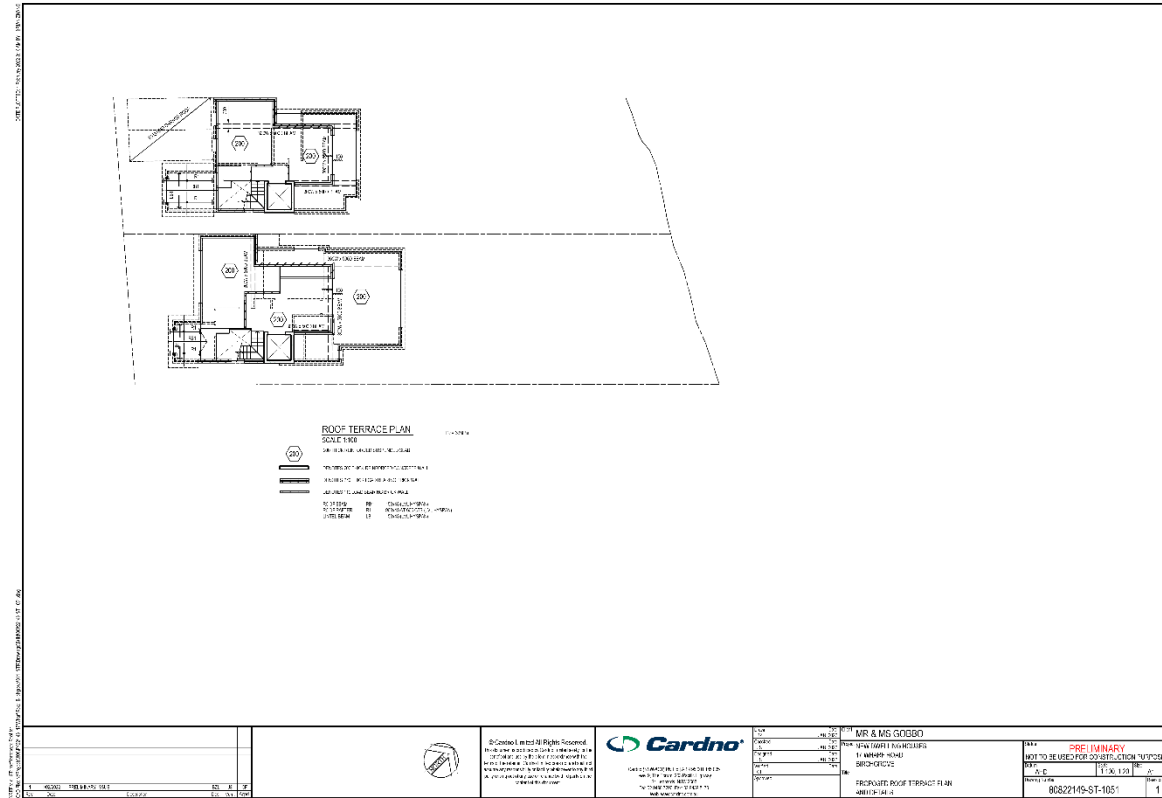
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Head Office
 Suite 201, 20 George St
 Hornsby, NSW 2077, Australia
 ACN 070 240 890 ABN 85 070 240 890
Phone: +61-2-9476-9999
 Fax : +61-2-9476-8767
 Email : mail@martens.com.au
 Web: www.martens.com.au

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All enquiries regarding this project are to be directed to the Project Manager.



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1 Development and Investigation Scope

The proposed development details and investigation scope are summarised in Table 1.

Table 1: Summary of the proposed development and investigation scope.

Item	Details
Property Address	17 Wharf Road, Birchgrove, NSW ('the site')
Legal identifier	Lot 16 DP 900841
Site Area	767.6 m ² (G.K. Wilson & Associates, 2019)
LGA	Inner West Council ('Council')
Proposed Development	<p>The proposal plans (ESNH, 2019) indicate that the development will include:</p> <ul style="list-style-type: none"> o Demolition of existing dwelling on site. o Subdivision of the site into two residential lots. o Construction of two-storey dwelling including a single level basement with finished floor level of RL 7 mAHD, on each lot. The maximum bulk excavation depth for the basement is approximately 5.5 meters below ground level (mbgl). o Construction of swimming pools on the north-western and south-eastern subdivided lots. <p>The proposed excavation is along the northwest boundary and offset approximately 1 m from the southeast boundary. Therefore, proposed excavations will extend into the zone of influence of neighbouring properties and existing infrastructure.</p>
Assessment Purpose	The purpose of this assessment is to support a DA submission to Council for the proposed residential development.
Investigation Scope of Work	<ul style="list-style-type: none"> o Review of DBYD survey plans; o Walkover inspection of the site to review local geology, rock face exposures, surface hydrology, topography and drainage; o Subsurface investigation comprising hand augered boreholes (BH101 to BH105); o Collection of soil samples for future reference; o Five Dynamic Cone Penetrometer (DCP) tests (DCP101 to DCP105) up to 1.17 mbgl (refer DCP 'N' counts in Attachment C). <p>The investigation locations are shown in Figure 1, Attachment A.</p>



2 Site Details and Investigation Findings

Table 2 summarises general site details and investigation findings

Table 2: Summary of site details and findings.

Element	Description/Detail
Topography	The site forms part of the Hawkesbury soil landscape (eSPADE), characterized by rolling to very steep hills on Hawkesbury Sandstone with slopes greater than 25 %.
Typical Slopes, Aspect, Elevation	The site generally has a north easterly aspect with overall grade of 20 %. Site elevation ranges between approximately 4 mAHD and 13 mAHD from the northeast to southwest boundaries of the site (G.K. Wilson & Associates, 2019).
Expected Geology	Hawkesbury Sandstone Formation, containing medium to coarse grained quartz sandstone with very minor shale and laminite lenses (Sydney 1:100,000 Geological Sheet 9130, 1st edition, 1983).
Existing Development	The site was occupied by a 1, 2 and 3 storey rendered residence with metal roof. Retaining walls found on sandstones separate garden terraces at the north-eastern end of the property. Existing sewer line near the north-eastern boundary was identified on the DBYD survey plan.
Site Drainage	Via overland flow towards the northeast into Snail Bay.
Vegetation	Grass, shrubs, and trees.
Surrounding Land Uses	The site is bounded by Snail Bay to the northeast, by Wharf Road to the southwest, a 2 and 3 storey rendered residence and 1, 2, 3 & 4 storey wattle board brick and stone residence closely to the northwest and the southeast of the site, respectively.
Subsurface Conditions	<p><u>Unit A:</u> Fill comprising poorly compacted sand / clayey sand. Considering the variation in material strength, fill is inferred to have been placed under uncontrolled conditions for previous site development, landscaping and / or levelling purposes.</p> <p><u>Unit B:</u> Residual soil comprising medium dense sand. It was only encountered in BH 103 at 0.7 mbgl.</p> <p><u>Unit D1:</u> Inferred moderately weathered, low strength, iron indurated sandstone was encountered between 0.43 mbgl and 1.2 mbgl.</p> <p><u>Unit D2:</u> Inferred moderately to slightly weathered medium to high strength sandstone exposure was observed during the site walkover within the property. Rock strength below investigation termination depth is expected to increase with depth.</p> <p>Encountered conditions are described in more detail on the borehole logs in Attachment B and associated explanatory notes in Attachment E. For DCP test results refer to Attachment C.</p>
Groundwater	Groundwater was observed in all five boreholes across the site. The groundwater level varies between 0.38 mbgl and 0.7 mbgl. The groundwater is inferred to be ephemeral perch water due to the heavy rainfalls prior to the investigation.



3 Geotechnical Assessment

3.1 Preliminary Material Properties

Preliminary material properties inferred from observations during borehole drilling, such as DCP test results and engineering judgement are summarised in Table 3.

Table 3: Preliminary material properties.

Layer	$\gamma_{in-situ}^1$ (kN/m ³)	c'^2 (kPa)	ϕ'^3 (deg)	E'^4 (MPa)	K_0^5	K_a^6	K_p^7
<u>Fill</u> : SAND / clayey SAND (poorly compacted, moist)	15	NA ⁸	NA ⁸	NA ⁸	0.55	0.38	2.66
<u>Residual</u> : SAND / clayey SAND (medium dense, Wet)	20	0	32	20	0.47	0.31	3.26
<u>Bedrock</u> : Moderately weathered, low strength SANDSTONE	23	70	28	500	NA ⁸	NA ⁸	NA ⁸

Notes:

1. Material in-situ unit weight, based on visual assessment ($\pm 10\%$).
2. Drained cohesion.
3. Effective internal friction angle ($\pm 2^\circ$) estimate, assuming drained conditions.
4. Effective elastic modulus ($\pm 10\%$) estimate.
5. Earth pressure coefficient at rest.
6. Active earth pressure coefficient.
7. Passive earth pressure coefficient.
8. Not applicable.

3.2 Risk of Slope Instability

No evidence of former land instability was observed within the site and surrounding land during the site walkover survey. The risk of potential slope instability, such as landslide or soil creep, is considered to be very low subject to the recommendations in this report and the adoption of relevant engineering standards and guidelines. A detailed slope risk assessment was not undertaken.

The proposed excavations are likely to extend into the zone of influence of neighbouring properties / structures to the northwest and southeast. The zone of influence is defined as an area of soil / rock, above a nominal angle of 45° for soils and very low to low strength rock, extending up and away from the base of the excavation to the features in question (e.g. property boundary). Recommendations presented in this report are provided to mitigate risks associated with potential excavation instability during construction.



4 Geotechnical Recommendations

Preliminary geotechnical recommendations for the proposed development are provided below. Further general geotechnical recommendations are provided in Attachment D.

1. Excavatability and Vibration: Soils should be readily excavated using conventional earthmoving equipment. Low strength rock may require a 'toothed' bucket or a ripping tyne (or similar) although progress may be slower when containing medium or higher strength iron indurated bands. The moderately weathered to slightly weathered, medium and higher strength sandstone will require the use of hydraulic earthmoving equipment with rock hammer attachment or rock cutting saws.

If medium or higher strength rock is to be excavated using a rock hammer, vibration management will be required in accordance with AS2187.2 (2006).

2. Excavation Support: Excavations must be temporarily and permanently battered back / supported / retained to maintain excavation stability and limit potential adverse impacts on surrounding structures / neighbouring properties. Unsupported excavations deeper than 1.0 m should be assessed by a geotechnical engineer for slope instability risk. Appropriate support methodologies should be adopted by the excavation contractor and design engineer and approved by a geotechnical engineer.

If there is sufficient room to remain outside the zone of influence of surrounding structures / neighbouring properties, excavations in soils and weathered rock may be temporarily battered back at:

- o 1V:2H in soil.
- o 3V:1H in moderately weathered low strength sandstone.
- o Vertical in moderately to slightly weathered, medium to high strength sandstone.

It is assumed that the temporary excavation batters will remain unsupported for no more than two months. Recommended batters are subject to inspection and approval by an experienced geotechnical engineer on site and should be followed by construction of permanent retaining structures.



Temporary shoring may include cantilevered I - beams with timber panels where there are no nearby structures within the zone of influence. The zone of influence is defined as an area of soil / rock, above a nominal angle of 45° for soils and very low strength rock, extending up and away from the base of the excavation to the features in question (e.g. property boundary). Continuous pile wall should be adopted for areas within the zone of influence. For excavations inside the zone of influence of neighbouring structures, inspection pits are recommended to determine foundation conditions and whether underpinning is necessary to maintain stability during excavation.

3. Rock Support: Unstable rock wedges as a result of presence of clay seams, weakly cemented (extremely weathered) seams, steeply dipping joints and other rock defects may have an adverse effect on unsupported rock face stability and construction safety. Geotechnical mapping of the excavation should be conducted in 1.5 m height increments to identify such features and allow early mitigation of risks of rock movement, such as by installation of rock bolts and / or sprayed shotcrete surfacing over fractured zones. Rock bolts and sprayed shotcrete support should be specified in terms of performance requirements and installed / placed by experience contractors and supervised by an experience geotechnical engineer. Rock support should not extend beyond property boundaries unless approval has been granted by relevant property owners or stakeholders. The actual amount of stabilisation which will be required cannot be quantified at this stage and can only be determined at the time of construction. MA can complete the necessary mapping and provide advice on support requirements of the foundation.
4. Retaining Structures: Retaining wall design should consider additional surcharge loading from live loads, new and existing structures, construction equipment, backfill compaction, sloping ground and hydrostatic pressures behind retaining walls unless subsurface drainage behind retaining walls are provided. The retaining walls can be designed using the preliminary material properties provided in Table 3.

The existing retaining walls founded on moderately weathered, low strength sandstone appear to be in good condition.

5. Footings and Foundations: It is expected that shallow footings, such as a slab or pad or strip footings founding in low to medium strength rock are likely to be adopted as support for the new structures. An allowable bearing capacity of 500 kPa can be adopted for slab / shallow footings founding on moderately



weathered, low to medium strength sandstone. Different foundation material will likely be exposed in the northeast (e.g. fill) and southwest portion (e.g. rock) of the site due to the slope in the rock profile. We recommend that all footings within building footprints should not span the interface between different foundation materials. Piers may be installed under northeast side of the structures to extend all footings into rock to limit differential movements between foundations.

All foundation excavations should be inspected by an experienced geotechnical engineer to confirm encountered conditions satisfy design assumptions.

6. Dilapidation Surveys: Dilapidation surveys of adjacent structures / infrastructure / properties should be carried out prior to excavation and following completion of the development to clearly identify damage caused by the construction process.
7. Groundwater Management: Groundwater inflow, if encountered during excavation, is expected to be managed by sump and pump methods. If higher than expected inflow rates are encountered, we recommend installation of groundwater monitoring wells and pump testing is undertaken in conjunction with monitoring of inflow during the early phases of excavation.
8. Drainage Requirement: Appropriate surface and sub-surface drainage should be provided to divert overland flows and potential perched and permanent groundwater, away from excavations, foundations and behind all retaining walls, and limit ponding of water in excavations and near footings. Alternatively, the excavation may be designed as a tanked structure.

All site discharges should be passed through a filter material prior to release. Diverted flows should be directed (where possible) to a suitable stormwater system so as to prevent water accumulating in areas surrounding retaining structures and footings.

9. Earthworks: In the event that floor slabs are to be raised above existing ground levels, it is recommended that unsuitable material such as the existing fill material are stripped from the site. However, residual soil and weathered sandstone excavated from site may be used as engineered fill. Each layer should be compacted to minimum 300 mm loose thickness to achieve a maximum Dry Density of 98 % or 70 % Density Index, for granular materials. Earthworks should be carried out in accordance with AS 3798 - 2007.



10. Site Classification: The site is classified as a Class 'P' site in accordance with AS 2870 (2011). A reclassification to Class 'A' may be considered, subject to all shallow footings founding on weathered sandstone.



5 Proposed Additional Works

5.1 Works Prior to Construction Certificate

We recommend the following additional geotechnical works are carried out to develop the final design and prior to construction:

1. Further assessment, including additional boreholes (up to 1 m below basement level) within the footprint of the existing building to better quantify soil / rock conditions at the site and / or to assist in developing construction methodologies and retention structure design.
2. Allocation of the sewer pipe line prior to the construction of the swimming pools.
3. Review of the final design by a senior geotechnical engineer to confirm adequate consideration of the geotechnical risks and adoption of the recommendations provided in this report.



5.2 Construction Monitoring and Inspections

We recommend the following is inspected and monitored during construction of the project (Table 4).

Table 4: Recommended inspection / monitoring requirements during site works.

Scope of Works	Frequency/Duration	Who to Complete
Inspect excavation retention (shoring and retaining wall) installations and batters and monitor associated performance to assess need for additional support requirements.	Daily / As required ²	Builder / MA ¹
Inspect unsupported rock excavation faces to assess stability and additional support requirements.	Every 1.5 m lift	MA ¹
Monitor groundwater seepage from excavation faces, if encountered, to assess stability of exposed materials and need for additional drainage requirements.	When encountered	Builder / MA ¹
Monitor excavation-induced vibrations if excavation of medium or higher strength rock by rock hammer is required.	Daily at on-set of excavation and as agreed thereafter ²	MA ¹
Inspect exposed material at foundation / subgrade level to verify suitability as foundation / lateral support / subgrade.	Prior to reinforcement set-up and concrete placement, or fill placement	MA ¹
Monitor sedimentation downslope of excavated areas.	During and after rainfall events	Builder
Monitor sediment and erosion control structures to assess adequacy and for removal of built up spoil.	After rainfall events	Builder

Notes:

1. MA = Martens and Associates engineer.
2. MA inspection frequency to be determined based on initial inspection findings in line with construction program.



6 References

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7 Attachment A – Geotechnical Investigation Plan



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8 Attachment B – Test Borehole Logs



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CLIENT		John Gobbo		COMMENCED	13/02/2020	COMPLETED	13/02/2020	REF BH105				
PROJECT		Geotechnical Investigation		LOGGED	YL	CHECKED	SK	Sheet 1 OF 1				
SITE		17 Wharf Road, Birchgrove		GEOLOGY	Hawkesbury Sandstone	VEGETATION	Grass	PROJECT NO. P1907572				
EQUIPMENT		Hand Auger		EASTING	151.186	RL SURFACE	6 m	DATUM	AHD			
EXCAVATION DIMENSIONS		Ø75 mm x 1.17 m depth		NORTHING	-33.851	ASPECT	North East	SLOPE	0%			
Drilling			Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	L	13/02/2020	6.00	0.05				GP	FILL: GRAVEL: white quartz; well rounded (with dark plastic membrane).			FILL
			5.95					SP	FILL: SAND: fine to medium grained; grey-brown; with clay; trace silt; trace subangular gravel; trace root; poorly graded; poorly compacted.			
			0.2									
			0.4									
			0.6									
			0.70	5.30				SP	SAND: fine to medium grained; trace silt and clay; dark grey.			
			0.8									
			1.0									
			1.17									
			1.2						Hole Terminated at 1.17 m Refusal			
			1.4									
			1.6									
			1.8									
EXCAVATION LOG TO BE READ IN CONJUNCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS												
		MARTENS & ASSOCIATES PTY LTD Suite 201, 20 George St. Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 mail@martens.com.au WEB: http://www.martens.com.au					Engineering Log - BOREHOLE					

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9 Attachment C – DCP 'N' Counts



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10 Attachment D – General Geotechnical Recommendations



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Geotechnical Recommendations

Important Recommendations About Your Site (1 of 2)

These general geotechnical recommendations have been prepared by Martens to help you deliver a safe work site, to comply with your obligations, and to deliver your project. Not all are necessarily relevant to this report but are included as general reference. Any specific recommendations made in the report will override these recommendations.



Batter Slopes

Excavations in soil and extremely low to very low strength rock exceeding 0.75 m depth should be battered back at grades of no greater than 1 Vertical (V) : 2 Horizontal (H) for temporary slopes (unsupported for less than 1 month) and 1 V : 3 H for longer term unsupported slopes.

Vertical excavation may be carried out in medium or higher strength rock, where encountered, subject to inspection and confirmation by a geotechnical engineer. Long term and short term unsupported batters should be protected against erosion and rock weathering due to, for example, stormwater run-off.

Batter angles may need to be revised depending on the presence of bedding partings or adversely oriented joints in the exposed rock, and are subject to on-site inspection and confirmation by a geotechnical engineer. Unsupported excavations deeper than 1.0 m should be assessed by a geotechnical engineer for slope instability risk.

Any excavated rock faces should be inspected during construction by a geotechnical engineer to determine whether any additional support, such as rock bolts or shotcrete, is required.

Earthworks

Earthworks should be carried out following removal of any unsuitable materials and in accordance with AS3798 (2007). A qualified geotechnical engineer should inspect the condition of prepared surfaces to assess suitability as foundation for future fill placement or load application.

Earthworks inspections and compliance testing should be carried out in accordance with Sections 5 and 8 of AS3798 (2007), with testing to be carried out by a National Association of Testing Authorities (NATA) accredited testing laboratory.

Excavations

All excavation work should be completed with reference to the *Work Health and Safety (Excavation Work) Code of Practice (2015)*, by Safe Work Australia. Excavations into rock may be undertaken as follows:

1. Extremely low to low strength rock - conventional hydraulic earthmoving equipment.
2. Medium strength or stronger rock - hydraulic earthmoving equipment with rock hammer or ripping tyre attachment.

Exposed rock faces and loose boulders should be monitored to assess risk of block / boulder movement, particularly as a result of excavation vibrations.

Fill

Subject to any specific recommendations provided in this report, any fill imported to site is to comprise approved material with maximum particle size of two thirds the final layer thickness. Fill should be placed in horizontal layers of not more than 300 mm loose thickness, however, the layer thickness should be appropriate for the adopted compaction plant.

Foundations

All exposed foundations should be inspected by a geotechnical engineer prior to footing construction to confirm encountered conditions satisfy design assumptions and that the base of all excavations is free from loose or softened material and water. Water that has ponded in the base of excavations and any resultant softened material is to be removed prior to footing construction.

Footings should be constructed with minimal delay following excavation. If a delay in construction is anticipated, we recommend placing a concrete blinding layer of at least 50 mm thickness in shallow footings or mass concrete in piers / piles to protect exposed foundations.

A geotechnical engineer should confirm any design bearing capacity values, by further assessment during construction, as necessary.

Shoring - Anchors

Where there is a requirement for either soil or rock anchors, or soil nailing, and these structures penetrate past a property boundary, appropriate permission from the adjoining land owner must be obtained prior to the installation of these structures.

Shoring - Permanent

Permanent shoring techniques may be used as an alternative to temporary shoring. The design of such structures should be in accordance with the findings of this report and any further testing recommended by this report. Permanent shoring may include [but not be limited to] reinforced block work walls, contiguous and semi contiguous pile walls, secant pile walls and soldier pile walls with or without reinforced shotcrete infill panels. The choice of shoring system will depend on the type of structure, project budget and site specific geotechnical conditions.

Permanent shoring systems are to be engineer designed and backfilled with suitable granular

Important Recommendations About Your Site (2 of 2)

material and free-draining drainage material. Backfill should be placed in maximum 100 mm thick layers compacted using a hand operated compactor. Care should be taken to ensure excessive compaction stresses are not transferred to retaining walls.

Shoring design should consider any surcharge loading from sloping / raised ground behind shoring structures, live loads, new structures, construction equipment, backfill compaction and static water pressures. All shoring systems shall be provided with adequate foundation designs.

Suitable drainage measures, such as geotextile enclosed 100 mm agricultural pipes embedded in free-draining gravel, should be included to redirect water that may collect behind the shoring structure to a suitable discharge point.

Shoring - Temporary

In the absence of providing acceptable excavation batters, excavations should be supported by suitably designed and installed temporary shoring / retaining structures to limit lateral deflection of excavation faces and associated ground surface settlements.

Soil Erosion Control

Removal of any soil overburden should be performed in a manner that reduces the risk of sedimentation occurring in any formal stormwater drainage system, on neighbouring land and in receiving waters. Where possible, this may be achieved by one or more of the following means:

1. Maintain vegetation where possible
2. Disturb minimal areas during excavation
3. Revegetate disturbed areas if possible

All spoil on site should be properly controlled by erosion control measures to prevent transportation of sediments off-site. Appropriate soil erosion control methods in accordance with Landcom (2004) shall be required.

Trafficability and Access

Consideration should be given to the impact of the proposed works and site subsurface conditions on trafficability within the site e.g. wet clay soils will lead to poor trafficability by tyred plant or vehicles.

Where site access is likely to be affected by any site works, construction staging should be organised such that any impacts on adequate access are minimised as best as possible.

Vibration Management

Where excavation is to be extended into medium or higher strength rock, care will be required when using a rock hammer to limit potential structural distress from excavation-induced vibrations where nearby structures may be affected by the works.

To limit vibrations, we recommend limiting rock hammer size and set frequency, and setting the hammer parallel to bedding planes and along defect planes, where possible, or as advised by a geotechnical engineer. We recommend limiting vibration peak particle velocities (PPV) caused by construction equipment or resulting from excavation at the site to 5 mm/s (AS 2187.2, 2006, Appendix J).

Waste – Spoil and Water

Soil to be disposed off-site should be classified in accordance with the relevant State Authority guidelines and requirements.

Any collected waste stormwater or groundwater should also be tested prior to discharge to ensure contaminant levels (where applicable) are appropriate for the nominated discharge location.

MA can complete the necessary classification and testing if required. Time allowance should be made for such testing in the construction program.

Water Management - Groundwater

If the proposed works are likely to intersect ephemeral or permanent groundwater levels, the management of any potential acid soil drainage should be considered. If groundwater tables are likely to be lowered, this should be further discussed with the relevant State Government Agency.

Water Management – Surface Water

All surface runoff should be diverted away from excavation areas during construction works and prevented from accumulating in areas surrounding any retaining structures, footings or the base of excavations.

Any collected surface water should be discharged into a suitable Council approved drainage system and not adversely impact downslope surface and subsurface conditions.

All site discharges should be passed through a filter material prior to release. Sump and pump methods will generally be suitable for collection and removal of accumulated surface water within any excavations.

Contingency Plan

In the event that proposed development works cause an adverse impact on geotechnical hazards, overall site stability or adjacent properties, the following actions are to be undertaken:

1. Works shall cease immediately.
2. The nature of the impact shall be documented and the reason(s) for the adverse impact investigated.
3. A qualified geotechnical engineer should be consulted to provide further advice in relation to the issue.

11 Attachment E – Notes Relating to This Report



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Information

Important Information About Your Report (1 of 2)

These notes have been prepared by Martens to help you interpret and understand the limitations of your report. Not all are necessarily relevant to all reports but are included as general reference.



Engineering Reports - Limitations

The recommendations presented in this report are based on limited investigations and include specific issues to be addressed during various phases of the project. If the recommendations presented in this report are not implemented in full, the general recommendations may become inapplicable and Martens & Associates accept no responsibility whatsoever for the performance of the works undertaken.

Occasionally, sub-surface conditions between and below the completed boreholes or other tests may be found to be different (or may be interpreted to be different) from those expected. Variation can also occur with groundwater conditions, especially after climatic changes. If such differences appear to exist, we recommend that you immediately contact Martens & Associates.

Relative ground surface levels at borehole locations may not be accurate and should be verified by on-site survey.

Engineering Reports – Project Specific Criteria

Engineering reports are prepared by qualified personnel. They are based on information obtained, on current engineering standards of interpretation and analysis, and on the basis of your unique project specific requirements as understood by Martens. Project criteria typically include the general nature of the project; its size and configuration; the location of any structures on the site; other site improvements; the presence of underground utilities; and the additional risk imposed by scope-of-service limitations imposed by the Client.

Where the report has been prepared for a specific design proposal (e.g. a three storey building), the information and interpretation may not be relevant if the design proposal is changed (e.g. to a twenty storey building). Your report should not be relied upon, if there are changes to the project, without first asking Martens to assess how factors, which changed subsequent to the date of the report, affect the report's recommendations. Martens will not accept responsibility for problems that may occur due to design changes, if not consulted.

Engineering Reports – Recommendations

Your report is based on the assumption that site conditions, as may be revealed through selective point sampling, are indicative of actual conditions throughout an area. This assumption often cannot be substantiated until project implementation has commenced. Therefore your site investigation report recommendations should only be regarded as preliminary.

Only Martens, who prepared the report, are fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered as the project develops. If another party undertakes the implementation of the recommendations of this report, there is a risk that the report will be misinterpreted and Martens cannot be held responsible for such misinterpretation.

Engineering Reports – Use for Tendering Purposes

Where information obtained from investigations is provided for tendering purposes, Martens recommend that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document.

Martens would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Engineering Reports – Data

The report as a whole presents the findings of a site assessment and should not be copied in part or altered in any way.

Logs, figures, drawings etc are customarily included in a Martens report and are developed by scientists, engineers or geologists based on their interpretation of field logs (assembled by field personnel), desktop studies and laboratory evaluation of field samples. These data should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

Engineering Reports – Other Projects

To avoid misuse of the information contained in your report it is recommended that you confer with Martens before passing your report on to another party who may not be familiar with the background and purpose of the report. Your report should not be applied to any project other than that originally specified at the time the report was issued.

Subsurface Conditions - General

Every care is taken with the report in relation to interpretation of subsurface conditions, discussion of geotechnical aspects, relevant standards and recommendations or suggestions for design and construction. However, the Company cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions - the potential will depend partly on test point

Information

Important Information About Your Report (2 of 2)

(eg. excavation or borehole) spacing and sampling frequency, which are often limited by project imposed budgetary constraints.

- Changes in guidelines, standards and policy or interpretation of guidelines, standards and policy by statutory authorities.
- The actions of contractors responding to commercial pressures.
- Actual conditions differing somewhat from those inferred to exist, because no professional, no matter how qualified, can reveal precisely what is hidden by earth, rock and time.

The actual interface between logged materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

If these conditions occur, Martens will be pleased to assist with investigation or providing advice to resolve the matter.

Subsurface Conditions - Changes

Natural processes and the activity of man create subsurface conditions. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. Reports are based on conditions which existed at the time of the subsurface exploration / assessment.

Decisions should not be based on a report whose adequacy may have been affected by time. If an extended period of time has elapsed since the report was prepared, consult Martens to be advised how time may have impacted on the project.

Subsurface Conditions - Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those that were expected from the information contained in the report, Martens requests that it immediately be notified. Most problems are much more readily resolved at the time when conditions are exposed, rather than at some later stage well after the event.

Report Use by Other Design Professionals

To avoid potentially costly misinterpretations when other design professionals develop their plans based on a Martens report, retain Martens to work with other project professionals affected by the report. This may involve Martens explaining the report design implications and then reviewing plans and specifications produced to see how they have incorporated the report findings.

Subsurface Conditions – Geo-environmental Issues

Your report generally does not relate to any findings, conclusions, or recommendations about the potential for hazardous or contaminated materials existing at the site unless specifically required to do so as part of Martens' proposal for works.

Specific sampling guidelines and specialist equipment, techniques and personnel are typically used to perform geo-environmental or site contamination assessments. Contamination can create major health, safety and environmental risks. If you have no information about the potential for your site to be contaminated or create an environmental hazard, you are advised to contact Martens for information relating to such matters.

Responsibility

Geo-environmental reporting relies on interpretation of factual information based on professional judgment and opinion and has an inherent level of uncertainty attached to it and is typically far less exact than the design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded.

To help prevent this problem, a number of clauses have been developed for use in contracts, reports and other documents. Responsibility clauses do not transfer appropriate liabilities from Martens to other parties but are included to identify where Martens' responsibilities begin and end. Their use is intended to help all parties involved to recognise their individual responsibilities. Read all documents from Martens closely and do not hesitate to ask any questions you may have.

Site Inspections

Martens will always be pleased to provide engineering inspection services for aspects of work to which this report relates. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site. Martens is familiar with a variety of techniques and approaches that can be used to help reduce risks for all parties to a project, from design to construction.



Soil Data

Explanation of Terms (1 of 3)



Definitions

In engineering terms, soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material does not exhibit any visible rock properties and can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

The methods of description and classification of soils and rocks used in this report are typically based on Australian Standard 1726 and the Unified Soil Classification System (USCS) – refer Soil Data Explanation of Terms (2 of 3). In general, descriptions cover the following properties - strength or density, colour, structure, soil or rock type and inclusions.

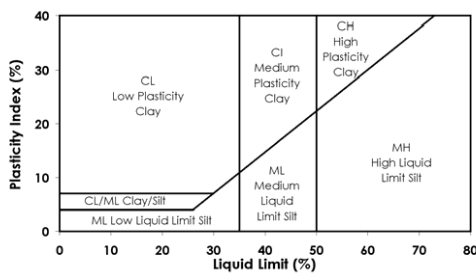
Particle Size

Soil types are described according to the predominating particle size, qualified by the grading of other particles present (e.g. sandy CLAY). Unless otherwise stated, particle size is described in accordance with the following table.

Division	Subdivision	Size (mm)
BOULDERS		>200
COBBLES		63 to 200
GRAVEL	Coarse	20 to 63
	Medium	6 to 20
	Fine	2.36 to 6
SAND	Coarse	0.6 to 2.36
	Medium	0.2 to 0.6
	Fine	0.075 to 0.2
SILT		0.002 to 0.075
CLAY		< 0.002

Plasticity Properties

Plasticity properties of cohesive soils can be assessed in the field by tactile properties or by laboratory procedures.



Moisture Condition

Dry	Looks and feels dry. Cohesive and cemented soils are hard, friable or powdery. Uncemented granular soils run freely through hands.
Moist	Soil feels cool and damp and is darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.
Wet	As for moist but with free water forming on hands when handled.

Consistency of Cohesive Soils

Cohesive soils refer to predominantly clay materials.

Term	C _u (kPa)	Approx. SPT "N"	Field Guide
Very Soft	<12	2	A finger can be pushed well into the soil with little effort. Sample extrudes between fingers when squeezed in fist.
Soft	12 - 25	2 - 4	A finger can be pushed into the soil to about 25mm depth. Easily moulded in fingers.
Firm	25 - 50	4 - 8	The soil can be indented about 5mm with the thumb, but not penetrated. Can be moulded by strong pressure in the fingers.
Stiff	50 - 100	8 - 15	The surface of the soil can be indented with the thumb, but not penetrated. Cannot be moulded by fingers.
Very Stiff	100 - 200	15 - 30	The surface of the soil can be marked, but not indented with thumb pressure. Difficult to cut with a knife. Thumb nail can readily indent.
Hard	> 200	> 30	The surface of the soil can be marked only with the thumb nail. Brittle. Tends to break into fragments.
Friable	-	-	Crumbles or powders when scraped by thumb nail.

Density of Granular Soils

Non-cohesive soils are classified on the basis of relative density, generally from standard penetration test (SPT) or Dutch cone penetrometer test (CPT) results as below:

Relative Density	%	SPT 'N' Value* (blows/300mm)	CPT Cone Value (q, MPa)
Very loose	< 15	< 5	< 2
Loose	15 - 35	5 - 10	2 - 5
Medium dense	35 - 65	10 - 30	5 - 15
Dense	65 - 85	30 - 50	15 - 25
Very dense	> 85	> 50	> 25

* Values may be subject to corrections for overburden pressures and equipment type.

Minor Components

Minor components in soils may be present and readily detectable, but have little bearing on general geotechnical classification. Terms include:

Term	Assessment	Proportion of Minor component In:
Trace of	Presence just detectable by feel or eye. Soil properties little or no different to general properties of primary component.	Coarse grained soils: < 5 %
		Fine grained soils: < 15 %
With some	Presence easily detectable by feel or eye. Soil properties little different to general properties of primary component.	Coarse grained soils: 5 - 12 %
		Fine grained soils: 15 - 30 %

Soil Data

Explanation of Terms (2 of 3)



Symbols for Soils and Other

SOILS

	COBBLES/BOULDERS
	GRAVEL (GP OR GW)
	SILTY GRAVEL (GM)
	CLAYEY GRAVEL (GC)
	SAND (SP OR SW)
	SILTY SAND (SM)
	CLAYEY SAND (SC)

	SILT (ML OR MH)
	ORGANIC SILT (OH)
	CLAY (CL, CI OR CH)
	SILTY CLAY
	SANDY CLAY
	PEAT
	TOPSOIL

OTHER

	FILL
	TALUS
	ASPHALT
	CONCRETE

Unified Soil Classification Scheme (USCS)

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)					USCS	Primary Name	
COARSE GRAINED SOILS More than 50 % of material less than 63 mm is larger than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to the naked eye)	GRAVELS More than half of coarse fraction is larger than 2.0 mm.	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes.	GW	Gravel	
			GRAVELS WITH FINES (Appreciable amount of fines)	Predominantly one size or a range of sizes with more intermediate sizes missing	GP	Gravel	
		SANDS More than half of coarse fraction is smaller than 2.0 mm	CLEAN SANDS (Little or no fines)	Non-plastic fines (for identification procedures see ML below)	GM	Silty Gravel	
				Plastic fines (for identification procedures see CL below)	GC	Clayey Gravel	
			SANDS WITH FINES (Appreciable amount of fines)	Wide range in grain sizes and substantial amounts of intermediate sizes missing.	SW	Sand	
				Predominantly one size or a range of sizes with some intermediate sizes missing	SP	Sand	
FINE GRAINED SOILS More than 50 % of material less than 63 mm is smaller than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to the naked eye)	IDENTIFICATION PROCEDURES ON FRACTIONS < 0.2 MM				USCS	Primary Name
		DRY STRENGTH (Crushing Characteristics)	DILATANCY	TOUGHNESS	DESCRIPTION	USCS	Primary Name
		None to Low	Quick to Slow	None	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with slight plasticity	ML	Silt
		Medium to High	None	Medium	Inorganic clays of low to medium plasticity ¹ , gravelly clays, sandy clays, silty clays, lean clays	CL ²	Clay
		Low to Medium	Slow to Very Slow	Low	Organic silts and organic silty clays of low plasticity	OL	Organic Silt
		Low to Medium	Slow to Very Slow	Low to Medium	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	MH	Silt
High	None	High	Inorganic clays of high plasticity, fat clays	CH	Clay		
Medium to High	None	Low to Medium	Organic clays of medium to high plasticity	OH	Organic Clay		
HIGHLY ORGANIC SOILS	Readily identified by colour, odour, spongy feel and frequently by fibrous texture				Pt	Peat	
Notes: 1. Low Plasticity – Liquid Limit W _L < 35 % Medium Plasticity – Liquid Limit W _L 35 to 60 % High Plasticity - Liquid limit W _L > 60 % 2. CL may be adopted for clay of medium plasticity to distinguish from clay of low plasticity.							

Soil Data

Explanation of Terms (3 of 3)

Soil Agricultural Classification Scheme

In some situations, such as where soils are to be used for effluent disposal purposes, soils are often more appropriately classified in terms of traditional agricultural classification schemes. Where a Martens report provides agricultural classifications, these are undertaken in accordance with descriptions by Northcote, K.H. (1979) *The factual key for the recognition of Australian Soils*, Rellim Technical Publications, NSW, p 26 - 28.



Symbol	Field Texture Grade	Behaviour of moist bolus	Ribbon length	Clay content (%)
S	Sand	Coherence nil to very slight; cannot be moulded; single grains adhere to fingers	0 mm	< 5
LS	Loamy sand	Slight coherence; discolours fingers with dark organic stain	6.35 mm	5
CLS	Clayey sand	Slight coherence; sticky when wet; many sand grains stick to fingers; discolours fingers with clay stain	6.35mm - 1.3cm	5 - 10
SL	Sandy loam	Bolus just coherent but very sandy to touch; dominant sand grains are of medium size and are readily visible	1.3 - 2.5	10 - 15
FSL	Fine sandy loam	Bolus coherent; fine sand can be felt and heard	1.3 - 2.5	10 - 20
SCL	Light sandy clay loam	Bolus strongly coherent but sandy to touch, sand grains dominantly medium size and easily visible	2.0	15 - 20
L	Loam	Bolus coherent and rather spongy; smooth feel when manipulated but no obvious sandiness or silkiness; may be somewhat greasy to the touch if much organic matter present	2.5	25
Lfsy	Loam, fine sandy	Bolus coherent and slightly spongy; fine sand can be felt and heard when manipulated	2.5	25
SL	Silt loam	Coherent bolus, very smooth to silky when manipulated	2.5	25 + > 25 silt
SCL	Sandy clay loam	Strongly coherent bolus sandy to touch; medium size sand grains visible in a finer matrix	2.5 - 3.8	20 - 30
CL	Clay loam	Coherent plastic bolus; smooth to manipulate	3.8 - 5.0	30 - 35
SiCL	Silty clay loam	Coherent smooth bolus; plastic and silky to touch	3.8 - 5.0	30- 35 + > 25 silt
FSCl	Fine sandy clay loam	Coherent bolus; fine sand can be felt and heard	3.8 - 5.0	30 - 35
SC	Sandy clay	Plastic bolus; fine to medium sized sands can be seen, felt or heard in a clayey matrix	5.0 - 7.5	35 - 40
SiC	Silty clay	Plastic bolus; smooth and silky	5.0 - 7.5	35 - 40 + > 25 silt
LC	Light clay	Plastic bolus; smooth to touch; slight resistance to shearing	5.0 - 7.5	35 - 40
LMC	Light medium clay	Plastic bolus; smooth to touch, slightly greater resistance to shearing than LC	7.5	40 - 45
MC	Medium clay	Smooth plastic bolus, handles like plasticine and can be moulded into rods without fracture, some resistance to shearing	> 7.5	45 - 55
HC	Heavy clay	Smooth plastic bolus; handles like stiff plasticine; can be moulded into rods without fracture; firm resistance to shearing	> 7.5	> 50

Rock Data

Explanation of Terms (1 of 2)



Symbols for Rock

SEDIMENTARY ROCK



BRECCIA



CONGLOMERATE



CONGLOMERATIC SANDSTONE



SANDSTONE/QUARTZITE



SILTSTONE



MUDSTONE/CLAYSTONE



SHALE



COAL



LIMESTONE



LITHIC TUFF

IGNEOUS ROCK



GRANITE



DOLERITE/BASALT

METAMORPHIC ROCK



SLATE, PHYLLITE, SCHIST



GNEISS



METASANDSTONE



METASILTSTONE



METAMUDSTONE

Definitions

Descriptive terms used for Rock by Martens are based on AS1726 and encompass rock substance, defects and mass.

Rock Substance In geotechnical engineering terms, rock substance is any naturally occurring aggregate of minerals and organic matter which cannot be disintegrated or remoulded by hand in air or water. Other material is described using soil descriptive terms. Rock substance is effectively homogeneous and may be isotropic or anisotropic.

Rock Defect Discontinuity or break in the continuity of a substance or substances.

Rock Mass Any body of material which is not effectively homogeneous. It can consist of two or more substances without defects, or one or more substances with one or more defects.

Degree of Weathering

Rock weathering is defined as the degree of decline in rock structure and grain property and can be determined in the field.

Term	Symbol	Definition
Residual soil ¹	Rs	Soil derived from the weathering of rock. The mass structure and substance fabric are no longer evident. There is a large change in volume but the soil has not been significantly transported.
Extremely weathered ²	EW	Rock substance affected by weathering to the extent that the rock exhibits soil properties - i.e. it can be remoulded and can be classified according to the Unified Classification System, but the texture of the original rock is still evident.
Highly weathered ²	HW	Rock substance affected by weathering to the extent that limonite staining or bleaching affects the whole of the rock substance and other signs of chemical or physical decomposition are evident. Porosity and strength may be increased or decrease compared to the fresh rock usually as a result of iron leaching or deposition. The colour and strength of the original rock substance is no longer recognisable.
Moderately weathered ²	MW	Rock substance affected by weathering to the extent that staining extends throughout the whole of the rock substance and the original colour of the fresh rock is no longer recognisable.
Slightly weathered	SW	Rock substance affected by weathering to the extent that partial staining or discolouration of the rock substance usually by limonite has taken place. The colour and texture of the fresh rock is recognisable.
Fresh	FR	Rock substance unaffected by weathering

Notes:

¹ The term "Distinctly Weathered" (DW) may be used to cover the range of substance weathering between EW and SW.

² Rs and EW material is described using soil descriptive terms.

Rock Strength

Rock strength is defined by the Point Load Strength Index (Is 50) and refers to the strength of the rock substance in the direction normal to the loading. The test procedure is described by the International Society of Rock Mechanics.

Term	Is (50) MPa	Field Guide	Symbol
Very low	>0.03 ≤0.1	May be crumbled in the hand. Sandstone is 'sugary' and friable.	VL
Low	>0.1 ≤0.3	A piece of core 150mm long x 50mm diameter may be broken by hand and easily scored with a knife. Sharp edges of core may be friable and break during handling.	L
Medium	>0.3 ≤1.0	A piece of core 150mm long x 50mm diameter can be broken by hand with considerable difficulty. Readily scored with a knife.	M
High	>1 ≤3	A piece of core 150mm long x 50mm diameter cannot be broken by unaided hands, can be slightly scratched or scored with a knife.	H
Very high	>3 ≤10	A piece of core 150mm long x 50mm diameter may be broken readily with hand held hammer. Cannot be scratched with pen knife.	VH
Extremely high	>10	A piece of core 150mm long x 50mm diameter is difficult to break with hand held hammer. Rings when struck with a hammer.	EH

Rock Data

Explanation of Terms (2 of 2)



Degree of Fracturing

This classification applies to diamond drill cores and refers to the spacing of all types of natural fractures along which the core is discontinuous. These include bedding plane partings, joints and other rock defects, but exclude fractures such as drilling breaks (DB) or handling breaks (HB).

Term	Description
Fragmented	The core is comprised primarily of fragments of length less than 20 mm, and mostly of width less than core diameter.
Highly fractured	Core lengths are generally less than 20 mm to 40 mm with occasional fragments.
Fractured	Core lengths are mainly 30 mm to 100 mm with occasional shorter and longer sections.
Slightly fractured	Core lengths are generally 300 mm to 1000 mm, with occasional longer sections and sections of 100 mm to 300 mm.
Unbroken	The core does not contain any fractures.

Rock Core Recovery

TCR = Total Core Recovery

SCR = Solid Core Recovery

RQD = Rock Quality Designation

$$= \frac{\text{Length of core recovered}}{\text{Length of core run}} \times 100\%$$

$$= \frac{\sum \text{Length of cylindrical core recovered}}{\text{Length of core run}} \times 100\%$$

$$= \frac{\sum \text{Axial lengths of core > 100 mm long}}{\text{Length of core run}} \times 100\%$$

Rock Strength Tests

- ▼ Point load strength Index (Is50) - axial test (MPa)
- ▶ Point load strength Index (Is50) - diametral test (MPa)
- Unconfined compressive strength (UCS) (MPa)

Defect Type Abbreviations and Descriptions

Defect Type (with inclination given)	Planarity	Roughness
BP Bedding plane parting	Pl Planar	Pol Polished
FL Foliation	Cu Curved	Sl Slickensided
CL Cleavage	Un Undulating	Sm Smooth
JT Joint	St Stepped	Ro Rough
FC Fracture	Ir Irregular	VR Very rough
SZ/SS Sheared zone/ seam (Fault)	Dis Discontinuous	
CZ/CS Crushed zone/ seam		
DZ/DS Decomposed zone/ seam	Thickness	Coating or Filling
FZ Fractured Zone	Zone > 100 mm	Cn Clean
IS Infilled seam	Seam > 2 mm < 100 mm	Sn Stain
VN Vein	Plane < 2 mm	Ct Coating
CO Contact		Vnr Veneer
HB Handling break		Fe Iron Oxide
DB Drilling break		X Carbonaceous
		Qz Quartzite
		MU Unidentified mineral
	Inclination	
	Inclination of defect is measured from perpendicular to and down the core axis. Direction of defect is measured clockwise (looking down core) from magnetic north.	

Test, Drill and Excavation Methods

Explanation of Terms (1 of 3)



Sampling

Sampling is carried out during drilling or excavation to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling or excavation provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples may be taken by pushing a thin-walled sampling tube, e.g. U₅₀ (50 mm internal diameter thin walled tube), into soils and withdrawing a soil sample in a relatively undisturbed state. Such samples yield information on structure and strength and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils. Other sampling methods may be used. Details of the type and method of sampling are given in the report.

Drilling / Excavation Methods

The following is a brief summary of drilling and excavation methods currently adopted by the Company and some comments on their use and application.

Hand Excavation - in some situations, excavation using hand tools, such as mattock and spade, may be required due to limited site access or shallow soil profiles.

Hand Auger - the hole is advanced by pushing and rotating either a sand or clay auger, generally 75-100 mm in diameter, into the ground. The penetration depth is usually limited to the length of the auger pole; however extender pieces can be added to lengthen this.

Test Pits - these are excavated with a backhoe or a tracked excavator, allowing close examination of the in-situ soils and, if it is safe to descend into the pit, collection of bulk disturbed samples. The depth of penetration is limited to about 3 m for a backhoe and up to 6 m for an excavator. A potential disadvantage is the disturbance caused by the excavation.

Large Diameter Auger (e.g. Penqo) - the hole is advanced by a rotating plate or short spiral auger, generally 300 mm or larger in diameter. The cuttings are returned to the surface at intervals (generally of not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube sampling.

Continuous Sample Drilling (Push Tube) - the hole is advanced by pushing a 50 - 100 mm diameter socket into the ground and withdrawing it at intervals to extrude the sample. This is the most reliable method of drilling in soils, since moisture content is unchanged and soil structure, strength etc. is only marginally affected.

Continuous Spiral Flight Augers - the hole is advanced using 90 - 115 mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface or, or may be collected after withdrawal of the auger flights, but they are very disturbed and may be contaminated. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively lower reliability, due to remoulding, contamination or softening of samples by ground water.

Non-core Rotary Drilling - the hole is advanced by a rotary bit, with water being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from 'feel' and rate of penetration.

Rotary Mud Drilling - similar to rotary drilling, but using drilling mud as a circulating fluid. The mud tends to mask the cuttings and reliable identification is again only possible from separate intact sampling (eg. from SPT).

Continuous Core Drilling - a continuous core sample is obtained using a diamond tipped core barrel of usually 50 mm internal diameter. Provided full core recovery is achieved (not always possible in very weak or fractured rocks and granular soils), this technique provides a very reliable (but relatively expensive) method of investigation.

In-situ Testing and Interpretation

Cone Penetrometer Testing (CPT)

Cone penetrometer testing (sometimes referred to as Dutch Cone) described in this report has been carried out using an electrical friction cone penetrometer.

The test is described in AS 1289.6.5.1-1999 (R2013). In the test, a 35 mm diameter rod with a cone tipped end is pushed continuously into the soil, the reaction being provided by a specially designed truck or rig which is fitted with an hydraulic ram system.

Measurements are made of the end bearing resistance on the cone and the friction resistance on a separate 130 mm long sleeve, immediately behind the cone. Transducers in the tip of the assembly are connected by electrical wires passing through the push rod centre to an amplifier and recorder unit mounted on the control truck. As penetration occurs (at a rate of approximately 20 mm per second) the information is output on continuous chart recorders. The plotted results given in this report have been traced from the original records. The information provided on the charts comprises:

- (i) Cone resistance (q_c) - the actual end bearing force divided by the cross sectional area of the cone, expressed in MPa.
- (ii) Sleeve friction (q_f) - the frictional force of the sleeve divided by the surface area, expressed in kPa.
- (iii) Friction ratio - the ratio of sleeve friction to cone resistance, expressed in percent.

There are two scales available for measurement of cone resistance. The lower (A) scale (0 - 5 MPa) is used in very soft soils where increased sensitivity is required and is shown in the graphs as a dotted line. The main (B) scale (0 - 50 MPa) is less sensitive and is shown as a full line.

The ratios of the sleeve resistance to cone resistance will vary with the type of soil encountered, with higher relative friction in clays than in sands. Friction ratios of 1 % - 2 % are commonly encountered in sands and very soft clays rising to 4 % - 10 % in stiff clays.

In sands, the relationship between cone resistance and SPT value is commonly in the range:

$$q_c \text{ (MPa)} = (0.4 \text{ to } 0.6) N \text{ (blows/300 mm)}$$

In clays, the relationship between undrained shear strength and cone resistance is commonly in the range:

$$q_c = (12 \text{ to } 18) C_u$$

Test, Drill and Excavation Methods

Explanation of Terms (2 of 3)



Interpretation of CPT values can also be made to allow estimation of modulus or compressibility values to allow calculation of foundation settlements.

Inferred stratification as shown on the attached reports is assessed from the cone and friction traces and from experience and information from nearby boreholes *etc.* This information is presented for general guidance, but must be regarded as being to some extent interpretive. The test method provides a continuous profile of engineering properties, and where precise information on soil classification is required, direct drilling and sampling may be preferable.

Standard Penetration Testing (SPT)

Standard penetration tests are used mainly in non-cohesive soils, but occasionally also in cohesive soils as a means of determining density or strength and also of obtaining a relatively undisturbed sample.

The test procedure is described in AS 1289.6.3.1-2004. The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm penetration depth increments and the 'N' value is taken as the number of blows for the last two 150 mm depth increments (300 mm total penetration). In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued. The test results are reported in the following form:

- (i) Where full 450 mm penetration is obtained with successive blow counts for each 150 mm of say 4, 6 and 7 blows:
- as 4, 6, 7
N = 13
- (ii) Where the test is discontinued, short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm
- as 15, 30/40 mm.

The results of the tests can be related empirically to the engineering properties of the soil. Occasionally, the test method is used to obtain samples in 50 mm diameter thin walled sample tubes in clays. In such circumstances, the test results are shown on the borehole logs in brackets.

Dynamic Cone (Hand) Penetrometers

Hand penetrometer tests are carried out by driving a rod into the ground with a falling weight hammer and measuring the blows for successive 150mm increments of penetration. Normally, there is a depth limitation of 1.2m but this may be extended in certain conditions by the use of extension rods. Two relatively similar tests are used.

Perth sand penetrometer (PSP) - a 16 mm diameter flat ended rod is driven with a 9 kg hammer, dropping 600 mm. The test, described in AS 1289.6.3.3-1997 (R2013), was developed for testing the density of sands (originating in Perth) and is mainly used in granular soils and filling.

Cone penetrometer (DCP) - sometimes known as the Scala Penetrometer, a 16 mm rod with a 20 mm diameter cone end is driven with a 9 kg hammer dropping 510 mm. The test, described in AS 1289.6.3.2-1997 (R2013), was developed initially for pavement sub-grade investigations, with correlations of the test results with California Bearing Ratio published by various Road Authorities.

Pocket Penetrometers

The pocket (hand) penetrometer (PP) is typically a light weight spring hand operated device with a stainless steel

loading piston, used to estimate unconfined compressive strength, q_u , (UCS in kPa) of a fine grained soil in field conditions. In use, the free end of the piston is pressed into the soil at a uniform penetration rate until a line, engraved near the piston tip, reaches the soil surface level. The reading is taken from a gradation scale, which is attached to the piston via a built-in spring mechanism and calibrated to kilograms per square centimetre (kPa) UCS. The UCS measurements are used to evaluate consistency of the soil in the field moisture condition. The results may be used to assess the undrained shear strength, C_u , of fine grained soil using the approximate relationship:

$$q_u = 2 \times C_u$$

It should be noted that accuracy of the results may be influenced by condition variations at selected test surfaces. Also, the readings obtained from the PP test are based on a small area of penetration and could give misleading results. They should not replace laboratory test results. The use of the results from this test is typically limited to an assessment of consistency of the soil in the field and not used directly for design of foundations.

Test Pit / Borehole Logs

Test pit / borehole log(s) presented herein are an engineering and / or geological interpretation of the subsurface conditions. Their reliability will depend to some extent on frequency of sampling and methods of excavation / drilling. Ideally, continuous undisturbed sampling or excavation / core drilling will provide the most reliable assessment but this is not always practicable, or possible to justify on economic grounds. In any case, the test pit / borehole logs represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of test pits / boreholes, the frequency of sampling and the possibility of other than 'straight line' variation between the test pits / boreholes.

Laboratory Testing

Laboratory testing is carried out in accordance with AS 1289 Methods of Testing Soil for Engineering Purposes. Details of the test procedure used are given on the individual report forms.

Ground Water

Where ground water levels are measured in boreholes, there are several potential problems:

- In low permeability soils, ground water although present, may enter the hole slowly, or perhaps not at all during the time it is left open.
- A localised perched water table may lead to an erroneous indication of the true water table.
- Water table levels will vary from time to time with seasons or recent prior weather changes. They may not be the same at the time of construction as are indicated in the report.
- The use of water or mud as a drilling fluid will mask any ground water inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water observations are to be made.

More reliable measurements can be made by installing standpipes, which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Test, Drill and Excavation Methods

Explanation of Terms (3 of 3)



DRILLING / EXCAVATION METHOD

HA	Hand Auger	RD	Rotary Blade or Drag Bit	NQ	Diamond Core - 47 mm
AD/V	Auger Drilling with V-bit	RT	Rotary Tricone bit	NMLC	Diamond Core - 51.9 mm
AD/T	Auger Drilling with TC-Bit	RAB	Rotary Air Blast	HQ	Diamond Core - 63.5 mm
AS	Auger Screwing	RC	Reverse Circulation	HMLC	Diamond Core - 63.5 mm
HSA	Hollow Stem Auger	CT	Cable Tool Rig	DT	Diatube Coring
S	Excavated by Hand Spade	PT	Push Tube	NDD	Non-destructive digging
BH	Tractor Mounted Backhoe	PC	Percussion	PQ	Diamond Core - 83 mm
JET	Jetting	E	Tracked Hydraulic Excavator	X	Existing Excavation

SUPPORT

Nil	No support	S	Shotcrete	RB	Rock Bolt
C	Casing	Sh	Shoring	SN	Soil Nail
WB	Wash bore with Blade or Bailer	WR	Wash bore with Roller	T	Timbering

WATER

∇	Water level at date shown	◁	Partial water loss
▷	Water inflow	◀	Complete water loss
GROUNDWATER NOT OBSERVED (NO)	The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.		
GROUNDWATER NOT ENCOUNTERED (NX)	The borehole/test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit been left open for a longer period.		

PENETRATION / EXCAVATION RESISTANCE

- L Low resistance: Rapid penetration possible with little effort from the equipment used.
- M Medium resistance: Excavation possible at an acceptable rate with moderate effort from the equipment used.
- H High resistance: Further penetration possible at slow rate & requires significant effort equipment.
- R Refusal/ Practical Refusal. No further progress possible without risk of damage/ unacceptable wear to digging implement/ machine.

These assessments are subjective and dependent on many factors, including equipment power, weight, condition of excavation or drilling tools, and operator experience.

SAMPLING

D	Small disturbed sample	W	Water Sample	C	Core sample
B	Bulk disturbed sample	G	Gas Sample	CONC	Concrete Core
U63	Thin walled tube sample - number indicates nominal undisturbed sample diameter in millimetres				

TESTING

SPT	Standard Penetration Test to ASI 289.6.3.1-2004	CPT	Static cone penetration test
4,7,11	4,7,11 = Blows per 150mm.	CPTu	CPT with pore pressure (u) measurement
N=18	'N' = Recorded blows per 300mm penetration following 150mm seating	PP	Pocket penetrometer test expressed as instrument reading (kPa)
DCP	Dynamic Cone Penetration test to ASI 289.6.3.2-1997.	FP	Field permeability test over section noted
	'n' = Recorded blows per 150mm penetration	VS	Field vane shear test expressed as uncorrected shear strength (sv = peak value, sr = residual value)
Notes:		PM	Pressuremeter test over section noted
RW	Penetration occurred under the rod weight only	PID	Photoionisation Detector reading in ppm
HW	Penetration occurred under the hammer and rod weight only	WPT	Water pressure tests
HB 30/80mm	Hammer double bouncing on anvil after 80 mm penetration		
N=18	Where practical refusal occurs, report blows and penetration for that interval		

SOIL DESCRIPTION

Density	Consistency	Moisture
VL Very loose	VS Very soft	D Dry
L Loose	S Soft	M Moist
MD Medium dense	F Firm	W Wet
D Dense	St Stiff	Wp Plastic limit
VD Very dense	VS† Very stiff	WL Liquid limit
	H Hard	

ROCK DESCRIPTION

Strength	Weathering
VL Very low	EW Extremely weathered
L Low	HW Highly weathered
M Medium	MW Moderately weathered
H High	SW Slightly weathered
VH Very high	FR Fresh
EH Extremely high	

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APPENDIX B (Preliminary Structural Drawings)

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