

ENVIRONMENTAL ASSESSMENT REPORT (**VOLUME 1**)
CONCEPT PLAN (MP 10_0149) & PROJECT APPLICATION (MP 10_0150)

**Extension of Shore School onto the Graythwaite site at
20 Edward Street, North Sydney**



Submitted to
Department of Planning
On behalf of
Sydney Church of England Grammar School (Shore) North Sydney

DECEMBER 2010

STATEMENT OF VALIDITY

Prepared under the *Environmental Planning and Assessment Act, 1979*:

Environmental Assessment Report prepared by

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Project Application

Project Number MP 10_0149 and MP 10_0150

Proponent name Sydney Church of England Grammar School (Shore)

Proponent address PO Box 1221
NORTH SYDNEY NSW 2059

Land to which the Application applies Lot 2 DP 539853 and part of Lot 1 DP 120268
20 Edward Street (Graythwaite site) and William Street (Shore site), North Sydney

Project summary Extension of the existing Shore educational establishment onto the Graythwaite site (and Shore itself) including conservation and reuse of some existing buildings.

Environmental Assessment

Certificate I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge:

- It is in accordance with the *Environmental Planning and Assessment Act 1979* and *Regulation*
- It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Signature



Name Sandra Robinson, BTP (Hons), MPIA CPP

Date 6 December 2010

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Appendices

- A DGRs for MP 10_0149 and MP 010_150, issued on 27 October 2010 (including correspondence from North Sydney Council, Heritage Branch of the DoP, RTA, DECC, Transport NSW and Sydney Water)
- B Quantity Surveyors Statement, by Altus Page Kirkland
- C Development Impact Assessment, by Earthscape Horticultural Services
- D Flora and Fauna Report, by Cumberland Ecology
- E Transport and Accessibility Impact Assessment, by Halcrow
- F Soil Investigation, by WSP Environment & Energy; Supplementary Hazardous Materials Assessment Report; by WSP; Preliminary Environmental Assessment, by Hibbs & Associates and Hazardous Materials Survey, by Hibbs & Associates (the last two reports were prepared for the NSW Department of Health)
- G Integrated Water Management Plan – Existing Site Conditions and Infrastructure Management in relation to the Concept Application (Stage 1, 2 & 3), by ACOR
- H Concept Plan and Stage 1 Project Application Statement of Heritage Impact and Outline Schedule of Conservation Repair Works (Stage 1), both by Tanner Architects
- I Sustainability Report and Indicative Green Star Assessment, both by Heggies
- J Landscaped Area Plan, by Mayoh Architects
- K Concept Plan Disabled Access Report and Stage 1 Project Application Disabled Access Report, by Access Associates
- L Building Code of Australia 2010 Reports (comprising separate reports on Graythwaite House, Tom O’Neil Centre and Coach), by Davis Langdon
- M Acoustic Impact Assessment and Construction Noise Impact Statement, both by Heggies
- N Construction Management Plan (Stage 1 Project Application), by WSP

EXECUTIVE SUMMARY

OVERVIEW OF THE PROJECT

This Concept Plan and Project Application Environmental Assessment Report is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979*. It describes and assesses a proposal for expansion of the Sydney Church of England Grammar School (**Shore**) *educational establishment* onto the Graythwaite site at 20 Edward Street, North Sydney. The project also relates to part of the existing Shore Campus on William Street, North Sydney.

The Concept Plan seeks approval for the following:

1. Use of the Graythwaite site as an *educational establishment*, being an extension of the adjoining Shore campus
2. Conservation and adaptive reuse of Graythwaite House, the Coach House and other existing buildings on the site (and some demolition works)
3. Building envelopes (above and below ground) for new buildings on the Graythwaite and Shore sites with an additional gross floor area of 5,345.80m²
4. Pedestrian and vehicular access arrangements and 48 car parking spaces
5. Capacity or potential to accommodate up to about 500 additional students and 50 additional staff
6. Landscape concept including removal of 80 trees (being 53 weed species, 12 inconsistent, five minor vegetation, three garden escape, four colonisers, two poor quality and one unstable Port Jackson Fig)
7. Completion of the Concept Plan works in three stages (Stages may be separated into sub-stages and re-sequenced).

The concurrent Project Application for Stage 1 proposes the following project:

1. Conservation and refurbishment of Graythwaite House, the Coach House, Tom O'Neill Centre and associated garden area (the house will not be used for school classes but rather for administrative support and other activities, perhaps including the school archives)
2. Minor demolition works
3. Drainage and stormwater improvements, site levelling and landscaping (significantly on the middle and lower terraces) including removal of 80 trees and transplanting of seven trees
4. Use of the Graythwaite middle and lower terrace as a play and educational space
5. Transport, traffic, parking and access improvements to the Graythwaite and Shore sites
6. Miscellaneous works including site fencing and lighting (to Graythwaite House and the driveway)
7. No anticipated increase in student or staff population.

The EAR is accompanied by specialist consultant plans and reports analysing the site and its surrounds and addressing architecture, heritage, landscape design, existing trees, flora and fauna, transport and accessibility, soils and contamination, water management, sustainability, disabled access, BCA, acoustic impact, shadows and construction management. A new Conservation Management Plan (**CMP**) for the Graythwaite site has

also been prepared by Tanner Architects (submitted to the Heritage Office for endorsement in November 2010).

The *Capital Investment Value* is \$38,781,805 for the Concept Plan and \$10,871,948 for the Stage 1 Project Application. The Applications were declared Major Projects as a development for the purpose of teaching or research (including universities, TAFE or schools) that has a capital investment value of more than \$30 million.

SITE DESCRIPTION

The Graythwaite site has an area 2.678 ha. It is in the Special Use Zone (Hospital) under North Sydney Local Environmental Plan 2001 (**NSLEP 2001**). The Shore site is in the Special Use Zone (School)).

The principal buildings on the Graythwaite site, used as a convalescent home for Australian soldiers on their return from the World War I but now in a poor state of repair, include:

- The house complex—house, kitchen wing, former c1833 stables, former massage room/doctor's room, lavatory/bathroom block addition and associated enclosed links, courtyard and garden/yard walls
- The c1882 coach house
- The former Tom O'Neill Centre (1918)
- The ward building (c. 1918), recreation room and lavatory/bathroom block and link to the house

The Graythwaite site is listed as a heritage item on the State Heritage Register (**SHR**). Schedule 3 to NSLEP 2001 identifies the Graythwaite and Shore sites as heritage items. The Graythwaite site is also listed on the National Trust Register and the Register of the National Estate. There are numerous heritage items (and two conservation areas) in its vicinity, including the Kailoa at 44 Union Street (also listed on the SHR).

PERMISSIBILITY

Clause 28(2)(b) of the Infrastructure SEPP enables an expansion of Shore onto the Graythwaite site even though an *educational facility* is prohibited in the Special Use Zone (Hospital) under NSLEP 2001.

ENVIRONMENTAL ASSESSMENT CONCEPT PLAN

Consistency with strategic and statutory plans and policies

The Concept Plan is generally consistent with relevant strategic and statutory plans and policies. Variations proposed to North Sydney Council's controls/standards (for example height and parking) are reasonable and do not result in any adverse environmental effects.

Visual impact

The visual impact of the project (in particular the new building envelopes) will be minimal and reasonable.

Residential amenity

Overshadowing

- In March, September and December; the proposed West Building will not overshadow any adjoining properties

- In midwinter, there will be additional shadows cast on the rear yards of 7, 9, 11, 13, 15 and 25 Bank Street (as well as the North Shore Railway line). The impact is reasonable as it occurs for a short period before 9.40am and falls mostly upon shadows cast by existing trees.

Privacy

- The Concept Plan proposes the privacy protection measures to minimise the potential for overlooking from the new West Building to the adjoining Bank Street residences.

Noise

As detailed in the acoustic assessments:

- Classroom noise emissions are not anticipated to adversely impact upon neighbouring residential receivers
- Noise emissions from students engaged in outdoor recreational activities will occasionally exceed the noise emission criteria. As detailed in the acoustic reports *“occasional exceedances of established noise criteria should be tolerated due to the wider community benefit and absolute necessity of educational establishments such as schools”*
- Noise emissions from mechanical plant can be controlled so that the operation of such plant does not adversely impact nearby residential properties
- Noise impacts during Stage 1 construction are expected to be low. For Stages 2 and 3, demolition and construction activities are likely to exceed the construction noise goals. Accordingly, a noise and vibration management plan will be produced.

Transport and accessibility impacts

As detailed in Transport and Accessibility Impact Assessment:

- Stage 1 does include additional students or staffs effectively maintaining existing traffic conditions
- Stages 2 and 3 traffic and parking implications can be accommodated by the surrounding road network.

Ecologically sustainable development

The Concept Plan will incorporate passive and active energy saving measures. More detailed ESD assessments, including Green Star Assessments, will occur as part of each Project Application.

Site contamination

Benzo(a) pyrene, lead and zinc, asbestos and areas of lead based paint have been detected on the Graythwaite site. The contaminated areas will be remediated as part of the Stage 1 Project Application.

Heritage

A Statement of Heritage Impact has been prepared by Tanner Architects. It concludes that the Concept plan will have a very positive heritage outcome. Tanner Architects has also prepared a document titled *Graythwaite Planning Parameters* which provides detailed guidelines for new buildings and other work.

Drainage and stormwater

Stormwater and drainage works are proposed as part of an Integrated Water Management Plan (**IWMP**) to improve stormwater conditions on the site and those adjoining. An erosion and sediment control plan is included in the IWMP.

Flora and fauna

The Flora and Fauna Report concludes that vegetation present on the site is not representative of any native vegetation communities. Refurbishment or demolition of existing buildings on the site may affect a small number of Eastern Bentwing-bats that are likely to roost within the roofs. It is recommended that fauna protocols be established prior to and during construction or demolition operations. The Concept Plan will not result in the removal or significant impacts on any Grey-headed Flying-fox.

Vibration and noise impacts from railway

With windows open, internal noise levels within the West Building are predicted to exceed the relevant criteria by up to 4 dBA. It is recommended that alternative means of ventilation be provided to allow the closure of windows during noisier periods.

Geotechnical

There is no excavation proposed at Stage 1. The Project Applications for Stages 2 and 3 will include Geotechnical Investigations. The Rail Corridor Management Group will be consulted in relation to excavation near the railway tunnel running beneath the site.

Impacts of construction

Construction Management Plans will be prepared to accompany each Project Application. The Transport Assessment addresses construction traffic.

Accessibility

An Access Capability Statement has been prepared which shows that the Concept Plan is capable of providing equitable and dignified access for all users of the Graythwaite site.

Safety and security

The Concept Plan has been designed to promote Crime Prevention through Environmental Design.

PROJECT APPLICATION ENVIRONMENTAL ASSESSMENT***Consistency with strategic and statutory plans and policies***

The Stage 1 Project Application is consistent with relevant strategic and statutory plans and policies.

Compliance with Planning Parameters

The Stage 1 Project Application is consistent with the relevant requirements of the Planning Parameters document, by Tanners Architects.

Visual impact

The visual impact of the Stage 1 works will be minor and very positive.

Impact on residential amenity

Shadow, view and privacy impacts for adjoining residential properties from the Stage 1 works will be minor, given that the project involves conservation of existing heritage buildings on the site (and no new buildings). Use of the Graythwaite grounds as a play area for students may have noise impacts on the neighbouring properties. This impact is explained and justified above. Stage 1 construction noise is likely to be minimal.

Transport and accessibility impacts

Stage 1 transport, traffic, parking and access impacts are likely to be minimal as there is no increase in student or staff numbers.

ESD

An Indicative Green Star Assessment has been prepared demonstrating that the Stage 1 project can achieve a Four Star Green Star Rating.

Heritage

The positive heritage impacts of the Stage 1 Project Application include:

- Conservation and adaptive reuse of Graythwaite House and outbuildings (a rare survivor of a late Victorian estate)
- Demolition of intrusive elements
- Retention of the park-like setting, of expansive lawns and large fig trees
- Use of Graythwaite House and the outbuildings for school administration and occasional gatherings (the proposed uses minimise the need to alter heritage significant fabric)
- Maintenance of the majority of the land as an open parkland
- Integration of Shore School and the Graythwaite site.

Drainage, stormwater and flooding

Drainage and stormwater works proposed as part of Stage 1 (including treatment of water logged areas) will improve water management on the site and those adjoining. An Erosion and Sediment Control Plan is included in the IWMP.

Utilities

Existing services to Graythwaite House, the Coach House and Tom O'Neill Centre will be upgraded (all works associated with services will be documented in conjunction with Tanner Architects, to ensure that upgrades do not affect heritage fabric).

Landscaping and tree removal

The Stage 1 works will enhance the Graythwaite site and the setting of Graythwaite House through the careful reinstatement of the immediate heritage curtilage to Graythwaite. The Stage 1 works include implementation of the Tree Removal Plan & Retention Plan which retains the majority of existing trees, supplemented with further planting, to protect the existing style and character of the property.

Community access

Community access to the Graythwaite site will be available at nominated times throughout the year (eg. Heritage Week by arrangement). Shore's duty of care to its students (including 198 boarders) and staff precludes unrestricted public access to the Graythwaite site.

Site contamination

Remediation works will be completed as part of the Stage 1 project. This will ensure that the site is suitable for use as an *educational establishment* prior to its first occupation.

Railway tunnel

The Stage 1 works do not include any excavation near the railway tunnel.

BCA compliance and fire engineering

The Stage 1 works include BCA upgrades to improve compliance, however a number of non-compliances are proposed on the basis that heritage significance should take precedence.

Accessibility

The Stage 1 project is capable of providing equitable and dignified access for all users of Graythwaite House, Tom O'Neill Building, the Coach House (but not the caretaker's residence) and landscaped external paths.

Impacts of construction

A Stage 1 Construction Management Plan has been prepared and a Construction Traffic Management Plan will be submitted to the DoP for approval, prior to the issue of a construction certificate for the Stage 1 works.

STATEMENTS OF COMMITMENT

Draft Concept Plan Statement of Commitments and Draft Project Application Statement of Commitments have been prepared setting out the measures proposed by the proponent to manage and minimise the potential impacts arising from the project.

CONCLUSION

The proposed extension of Shore onto the adjoining Graythwaite site has considerable merit and will have minimal environmental effects, all of which can be effectively managed. It is therefore requested that the Minister:

- Approve the Concept Plan under Section 75O of the EP&A Act
- Approve the Project Application under Section 75J of the EP&A Act
- Determine under Section 75P(1)(a) of the EP&A Act that future projects be the subject of Part 3A of the EP&A Act.

1.0 INTRODUCTION

1.1 Overview

This Concept Plan and Project Application Environmental Assessment Report (**EAR**) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. It fulfils the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment for expansion of the Sydney Church of England Grammar School (**Shore**) *educational establishment*¹ onto the Graythwaite site at 20 Edward Street, North Sydney (the **Graythwaite site**). The project also relates to part of the existing Shore Campus on William Street, North Sydney (the **Shore site**).

The Concept Plan seeks approval for the following:

1. Use of the Graythwaite site as an *educational establishment*, being an extension of the adjoining Shore campus
2. Conservation and adaptive reuse of Graythwaite House, the Coach House and other existing buildings on the site (and some demolition works)
3. Building envelopes (above and below ground) for new buildings on the Graythwaite and Shore sites with an additional gross floor area (**GFA**) of 5,345.80m²
4. Pedestrian and vehicular access arrangements and 48 car parking spaces
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6. Landscape concept including removal of 80 trees (being 53 weed species, 12 inconsistent, five minor vegetation, three garden escape, four colonisers, two poor quality and one unstable Port Jackson Fig)
7. Completion of the Concept Plan works in three stages (stages may be separated into sub-stages and re-sequenced).

¹ Pursuant to the Standard Instrument—Principal Local Environmental Plan:

educational establishment means a building or place used for education (including teaching), being:

(a) a school, or

(b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act.

school means a government school or non-government school within the meaning of the Education Act 1990.



Figure 1 Site Location Plan



Figure 2 Aerial photograph

The concurrent Project Application for Stage 1 proposes the following project:

1. Conservation and refurbishment of Graythwaite House, the Coach House, Tom O'Neill Centre and associated garden area (the house will not be used for school classes but rather for administrative support and other activities, perhaps including the school archives)
2. Minor demolition works
3. Drainage and stormwater improvements, site levelling and landscaping (significantly on the middle and lower terraces) including removal of 80 trees and transplanting of seven trees
4. Use of the Graythwaite middle and lower terrace as a play and educational space
5. Transport, traffic, parking and access improvements to the Graythwaite and Shore sites
6. Miscellaneous works including site fencing and lighting (to Graythwaite House and the driveway)
7. No anticipated increase in student or staff population.

Separate to this Part 3A application, it is planned to seek approval to undertake temporary works to prevent further deterioration of Graythwaite House. Some of the works under this category may form part of the proposed Stage 1 works.

This EAR has been prepared by Robinson Urban Planning Pty Ltd, for Shore (the proponent and landowner). **Volume 1** describes the site, its locality, the history of the Graythwaite site, the Concept Plan and Stage 1 Project Application. It includes an assessment in accordance with the Environmental Assessment Requirements issued by the Director-General of the Department of Planning (**DoP**) under Part 3A of the EP&A Act (**DGRs**). It includes the following information and reports:

- | | |
|-------------------|--|
| Appendix A | DGRs for MP 10_0149 and MP 010_150, issued on 27 October 2010 (including correspondence from North Sydney Council, Heritage Branch of the DoP, Roads and Traffic Authority (RTA), NSW Department of Environment, Climate Change and Water (DECCW), Transport NSW and Sydney Water) |
| Appendix B | Quantity Surveyors Statement, by Altus Page Kirkland |
| Appendix C | Development Impact Assessment Report, by Earthscape Horticultural Services |
| Appendix D | Flora and Fauna Report, by Cumberland Ecology |
| Appendix E | Transport and Accessibility Impact Assessment, by Halcrow |

Table 1 Concept Plan and Project Application Plans (Volume 2)

Plan/author	Drawing reference		Rev	Date
Survey Plans Rygate & Company	73949_SK_Rev D –1 to D –9		D	2/11/2010
Concept Plan	A.000	COVER PAGE & STAGING DIAGRAM	A	9/11/2010
Architectural Plans	A.001	LOCALITY/CONTEXT PLAN	A	9/11/2010
<i>Mayoh Architects in association with Tanner Architects</i>	A.002	EXISTING SITE PLAN	A	9/11/2010
	A.003	PROPOSED SITE PLAN	A	9/11/2010
	A.004	SITE SURVEY PLAN	A	9/11/2010
	A.005	SITE ANALYSIS PLAN (EXISTING)	A	9/11/2010
	A.006	VEHICULAR ACCESS PLAN (PROPOSED)	A	9/11/2010
	A.007	PEDESTRIAN ACCESS PLAN (PROPOSED)	A	9/11/2010
	A.100	LEVEL 1 PLAN	A	9/11/2010
	A.101	LEVEL 2 PLAN	A	9/11/2010
	A.102	LEVEL 3 PLAN	A	9/11/2010
	A.103	LEVEL 4 PLAN	A	9/11/2010
	A.104	LEVEL 5 PLAN	A	9/11/2010
	A.160	EAST WEST SECTION & NORTH ELEVATION	B	20/12/2010
	A.060	SHADOW DIAGRAMS MIDWINTER AND SPRING EQUINOX	A	9/11/2010
	A.061	SHADOW DIAGRAMS MIDSUMMER AND AUTUMN EQUINOX	A	9/11/2010
	A.062	SHADOW DIAGRAMS FURTHER ANALYSIS 2	A	9/11/2010
	A.063	SHADOW DIAGRAMS FURTHER ANALYSIS 2	A	9/11/2010
Stage 1 Project Application Architectural Plans	AR.DA.001	COVER SHEET/LOCATION PLAN	A	17/11/2010
<i>Tanner Architects</i>	AR.DA.002	SITE PLAN	A	17/11/2010
	AR.DA.1000	GRAYTHWAITE HOUSE- DEMOLITION PLANS	A	17/11/2010
	AR.DA.1001	GRAYTHWAITE HOUSE BASEMENT & GROUND FLOOR PLANS	A	17/11/2010
	AR.DA.1002	GRAYTHWAITE HOUSE FIRST FLOOR & ATTIC FLOOR PLANS	A	17/11/2010
	AR.DA.1003	GRAYTHWAITE HOUSE ROOF PLAN	A	17/11/2010
	AR.DA.2001	GRAYTHWAITE HOUSE ELEVATIONS	A	17/11/2010
	AR.DA.2002	GRAYTHWAITE HOUSE SECTIONS	A	17/11/2010
	AR.DA.2003	GRAYTHWAITE HOUSE SECTIONS	A	17/11/2010
	AR.DA.3001	COACH HOUSE FLOOR PLANS AND ELEVATIONS	A	17/11/2010
	AR.DA.4001	TOM O'NEIL CENTRE FLOOR PLAN AND ELEVATIONS	A	17/11/2010
	AR.DA.5001	GRAYTHWAITE FRONT FENCE	A	17/11/2010
Landscape Plans	LA.DA.001	CONCEPT PLAN	P3	24/11/2010
<i>Taylor Brammer</i>	LA.DA.002	LANDSCAPE TREE REMOVAL & RETENTION	P3	24/11/2010
	LA.DA.003	LANDSCAPE HARDWORKS	P3	24/11/2010
	LA.DA.004	LANDSCAPE PLANTING PLAN – GRAYTHWAITE HOUSE	P3	24/11/2010
	LA.DA.005	LANDSCAPE SITE LANDSCAPE PLAN – SITE GENERAL	P3	24/11/2010
	LA.DA.006	LANDSCAPE DETAILS	P3	24/11/2010
<i>Tanner Architects</i>	Graythwaite Planning Parameters		A	Nov 2010

Appendix F	Soil Investigation and Supplementary Hazardous Materials Assessment Report, by WSP and Preliminary Environmental Assessment and Hazardous Materials Survey, by Hibbs & Associates (the last two reports were prepared for the NSW Department of Health)
Appendix G	Integrated Water Management Plan - Existing Site Conditions and Infrastructure Management, in relation to the Concept Application (Stage 1, 2 & 3) (IWMP), by ACOR
Appendix H	Concept Plan and Stage 1 Project Application Statement of Heritage Impact (SOHI) and Outline Schedule of Conservation Works (Stage 1), both by Tanner Architects
Appendix I	Sustainability Report and Indicative Green Star Assessment, both by Heggies
Appendix J	Landscaped Area Plan, by Mayoh Architects
Appendix K	Concept Plan Disabled Access Report and Stage 1 Project Application Disabled Access Report, by Access Associates Sydney
Appendix L	Building Code of Australia 2010 Reports (comprising separate reports on Graythwaite House, Tom O'Neill Centre and Coach House), by Davis Langdon
Appendix M	Acoustic Impact Assessment and Construction Noise Impact Statement, both by Heggies
Appendix N	Construction Management Plan (Stage 1 Project Application), by WSP

Volume 2 of the EAR is an A3 document containing detailed Survey Plans, Site Analysis Plans, Concept Architectural Plans, Shadow Diagrams, Project Application Plans, Landscape Plans and a Planning Parameters document to guide development on the Graythwaite site (as listed in **Table 1**).

A physical model and new Conservation Management Plan (**CMP**) for the Graythwaite site by Tanner Architects, accompany the EAR. In November 2010, the CMP was submitted to the Heritage Office for endorsement.

1.2 Project objectives and need

Shore purchased the site in October 2009 with the objective of integrating it with the existing Shore School to create one educational campus for the present and future School community. (Incidentally this has resulted in the reunification of the entire land holdings and buildings originally held by Sir Thomas Dibbs).

The objectives of the project are:

- To retain and conserve the exceptional heritage significance of Graythwaite House as a large nineteenth century house within a parkland setting
- To recognise and interpret Graythwaite's use as a war veteran's hospital
- To retain and conserve those qualities, features and elements that make a significant contribution to the heritage significance of the site
- To facilitate the adaptive re-use of the significant buildings, including the house/stables/kitchen complex and coach house, to ensure their ongoing occupation by compatible new uses into the longer term
- To allow for sensitive new development in discrete areas which would not adversely impact on the heritage significance of Graythwaite or its key elements
- To protect the amenity of adjoining residential uses and heritage items and conservation areas in the vicinity
- To integrate the Graythwaite site as part of the school's grounds while protecting the unique heritage significance of the Graythwaite site

1.3 Alternatives

Preparation of the Concept Plan and Stage 1 Project Application follows a comprehensive site and design analysis of the Graythwaite site (and Shore site) by Tanner Architects (who completed a new CMP for the Graythwaite site) and Mayoh Architects. The Concept Plan and Project Application reflect the Conservation Policies set out in the Tanner CMP (123 policies in total).

Alternative design and expansion options include:

- **No school expansion:** This option is not feasible as Shore's existing and planned future student population cannot be accommodated on the existing Shore site. Additional buildings and grounds are required.
- **Expansion at a different location:** As well as the North Sydney site, Shore owns playing fields on Alpha Road at Northbridge. Distance from the main Shore campus and zoning constraints under Willoughby Draft Local Environmental Plan 2009 frustrate growth at Northbridge.

- **New buildings on the Lower Terrace adjoining Union Street:** The now lapsed CMP prepared by Graham Edds & Associates² identified the lower terrace on Union Street as an area for future townhouse development and associated car parking.

While this proposal extended the established housing pattern found in much of Union Street, development on this area is not recommended in the new CMP (and is not proposed by the Concept Plan) as it would block sight lines to and from Graythwaite House (and adjoining Kailoa).

- **New buildings on the Middle Terrace:** A large area of level land, once used for tennis courts and now generally referred to as the Middle Terrace, could readily accommodate new construction. However a building in this area would block the general connection between Union Street and Graythwaite House, and would obstruct the traditional panoramic outlook from Graythwaite House to Sydney Harbour and southern Sydney. Accordingly, it was resolved to leave this area as landscaped open space, suitable for informal recreation.
- **Additions to Graythwaite House:** Graythwaite House was designed to be viewed as a free-standing stone building and hence it has been determined that it should not be the subject of extensive modern additions. A new building for classrooms north of Graythwaite House, near Edward Street, was considered at one stage, but the impact was too great and it was not pursued further. Instead, a more modest small building is proposed (North Building).
- **Alternate school uses:** The SOHI by Tanner Architects (**Appendix H**, page 37-39) notes that more intensive school uses for Graythwaite House; such as classrooms, laboratories, student dining areas, etc; would damage the nineteenth century fabric of the house, which incorporates easily damaged plaster and cedar detailing. Accordingly, such intensive and potentially intrusive school uses were discounted.
- **Alternate other uses** - Appropriate uses identified in the lapsed CMP, included:
 - A grand residence on substantial grounds
 - A residence in conjunction with a commercial use (eg day care centre, preschool, kindergarten)
 - Convalescent hospital, nursing home etc
 - Extension of Shore school grounds
 - Wedding and function reception centre
 - Community use – neighbourhood centre in conjunction with open space

² The CMP prepared for the Graythwaite site by Graham Edds & Associates was prepared for the NSW Health Department (*Graythwaite Hospital CMP*, February 2000). The Heritage Office website notes that this CMP was endorsed by the Heritage Council on 15 August 2000 for a period of five years and that the CMP expired on 15 August 2005.

- Professional offices (eg medical centre) in associate with a hospital or other health care activity
- New housing (townhouses and associated car parking) along the Union Street frontage (as detailed above)

Given that the Graythwaite site is now owned by Shore, extension of Shore school represents the most realistic use. It also enables retention and conservation of Graythwaite House and its park-like setting. Schools are among the few enterprises which can use landscaped open areas as a resource for educational enhancement and informal forms of recreation. It is opportune that the contiguous location of Graythwaite with the School has enabled Shore to justify the purchase of the site for future enhancement of the school in a highly satisfactory way at its central North Sydney site, and as a result justify the considerable costs of conservation, restoration and maintenance of the site.

1.4 Capital Investment Value

The *Capital Investment Value*³ (CIV) is \$38,781,805 for the Concept Plan and \$10,871,948 for the Stage 1 Project Application, as detailed in the Quantity Surveyors Statement prepared by Altus Page Kirkland (**Appendix B**).

1.5 DGRs

Table 2 and **Table 3** provide a summary of the individual matters listed in the DGRs for the Concept Plan and Stage 1 Project Application (respectively). The tables show where each of these requirements have been addressed in the EAR and the accompanying technical studies.

A specific response to the traffic and transport issues raised in the DGRs and the RTA correspondence is set out in the Transport and Accessibility Impact Assessment, by Halcrow (**Appendix E**, Table 5.5).

³ Pursuant to clause 3(2)(a) of SEPP Major Projects:

the capital investment value of development includes all costs necessary to establish and operate the development, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment (but excluding GST, as defined by A New Tax System (Goods and Services Tax) Act 1999 of the Commonwealth, and land costs)

Table 2 Concept Plan Director General's Environmental Assessment Requirements (MP 10_0149)

DGR	Addressed in
General Requirements	
1. Executive summary	Page viii
2. Site analysis	Section 2.2 and Volume 2
3. Description of the proposed development	Section 6.0
4. Assessment of key issues	Sections 6.0 & 7.0
5. Assessment of potential impacts and draft Statement of Commitments	Sections 7.0 & 10.0
6. Plans and documents outlined in the DGRs	Volume 2 & Appendices
7. Statement of validity	Page ii
8. Quantity Surveyor's Certificate of Cost	Appendix B
9. Conclusion justifying the project, taking into consideration the environmental impacts	Section 12.0
Key Issues	
10. Relevant EPI's policies and Guidelines	Sections 4.1, 7.1 & 7.2
11. Built Form and Urban Design	
– Height, bulk and scale including envelope/height and contextual analysis	Section 7.0 & Volume 2
– Visual and view analysis to and from the site	Section 6.6 & Volume 2
– The permeability and connectivity	Section 6.8
– Detailed Landscape Masterplan	Section 6.7 & Volume 2
12. Environmental and Residential Amenity	Section 7.4
13. Transport and Accessibility Impacts	Section 7.5 & Appendix E
14. Ecologically Sustainable Development (ESD)	Section 7.6 & Appendix I
15. Contributions	Section 4.2.3
16. Contamination	Section 7.7 & Appendix F
17. Heritage	
– CMP endorsed by the Heritage Council	CMP (separate cover)
– Heritage impacts on existing heritage items	Section 7.8 & Appendix H
18. Aboriginal Heritage	Section 3.2 & Appendix H
19. Drainage and Stormwater	Section 7.9 & Appendix G
20. Flooding	Section 7.10
21. Utilities	Section 6.12
22. Staging	Section 6.16 & Volume 2
23. Flora and Fauna	Section 7.12 & Appendix D
24. Noise and Vibration	Section 7.4.3 & Appendix M
25. Consultation	Section 5.0

Table 3 Project Application Director General's Environmental Assessment Requirements (MP 10_0150)

DGR	Addressed in
General Requirements	
1. Executive summary	Page vii
2. Site analysis	Section 2.2 & Volume 2
3. Description of the proposed development	Section 7.18
4. Assessment of key issues	Section 9.0
5. Assessment of potential impacts and draft Statement of Commitments	Sections 9.0 & 11.0
6. Plans and documents outlined in the DGRs	Volume 2 & Appendices
7. Statement of validity	Page i
8. Quantity Surveyor's Certificate of Cost	Appendix B
9. Conclusion justifying the project, considering environmental impacts	Section 12.0
Key Issues	
1. Relevant EPI's policies and Guidelines	Sections 4.0, 7.1 & 7.2
2. Built Form and Urban Design	
– Conservation and refurbishment works including envelope/height and contextual analysis to ensure the works address existing heritage buildings, the surrounding environment and the desired future character of the locality	Section 8.2 & Appendix H
– The permeability and connectivity	Section 6.8
– Design quality with specific consideration of the scale, façade, massing, setbacks, building articulation, appropriate colours/materials/finishes, safety by design and public domain, including an assessment against the CPTED Principles	Sections 7.19, 8.2, 9.2, Appendix H & Volume 2
3. Erosion, sediment control and landscaping	Sections 9.12, 9.14, Appendix F & Volume 2
4. Environmental and Residential Amenity	Section 9.0
5. Transport and Accessibility Impacts	Sections 7.5.1 & 0
6. Ecologically Sustainable Development (ESD)	Section 9.6 & Appendix I
7. Contributions	Section 4.2.3
8. Contamination	Section 9.15 & Appendix F
9. Heritage	Section 9.7 & Appendix H
10. Aboriginal Heritage	Section 3.2 & Appendix H
11. Drainage and Stormwater	Section 9.8 & Appendix F
12. Flooding	Section 9.8
13. Utilities	Section 2.2.9
14. Staging	N/A
15. Noise and Vibration	Sections 0, 7.13 & Appendix M
16. Flora and Fauna	Section 9.10 & Appendix D
17. Waste	Section 9.11
18. Consultation	Section 5.0

2.0 SITE DESCRIPTION AND ANALYSIS

2.1 Overview

Location	Edward and Union Streets, North Sydney, 350m west of North Sydney Railway station (Figure 1 and Figure 2).
Real property description	Lot 2 DP 539853 (Graythwaite site) and part of Lot 1 DP 120268 (Shore site)
Site area	2.678 ha (not including the Shore site)
Zoning	North Sydney Local Environmental Plan 2001 (NSLEP 2001) (Figure 36) zones the sites as follows: <ul style="list-style-type: none"> – Graythwaite site - Special Use Zone (Hospital) – Shore site - Special Use Zone (School))
Frontages	Union Street and Edward Street
Existing buildings	<p>The principal buildings on the Graythwaite site are located on the upper terrace to the north-east, accessed via a curved driveway from the main gate in Union Street. Existing buildings and structures include:</p> <ul style="list-style-type: none"> – The house complex—house, kitchen wing, former c1833 stables, former massage room/doctor's room, lavatory/bathroom block addition, associated enclosed links, courtyard and garden/yard walls – The c1882 coach house – The former Tom O'Neill Centre (1918) – The ward building (c. 1918), recreation room and lavatory/bathroom block and link to the house. <p>These buildings, now in a poor state of repair, were used as a convalescent home for Australian soldiers on their return from the World War (Figures 3 to 11)</p>
Heritage listing	<p>The Graythwaite site is listed as a heritage item on the State Heritage Register (SHR). Schedule 3 to NSLEP 2001 identifies Graythwaite and Shore as heritage items. The Graythwaite site is listed on the National Trust Register and the Register of the National Estate. There are numerous heritage items (and two conservation areas) in its vicinity including the Kailoa at 44 Union Street (also listed on the SHR). Figure 37 is an extract from the Heritage Map to NSLEP 2001. More detail on heritage listings is set out in the CMP, Section 4.3.</p>

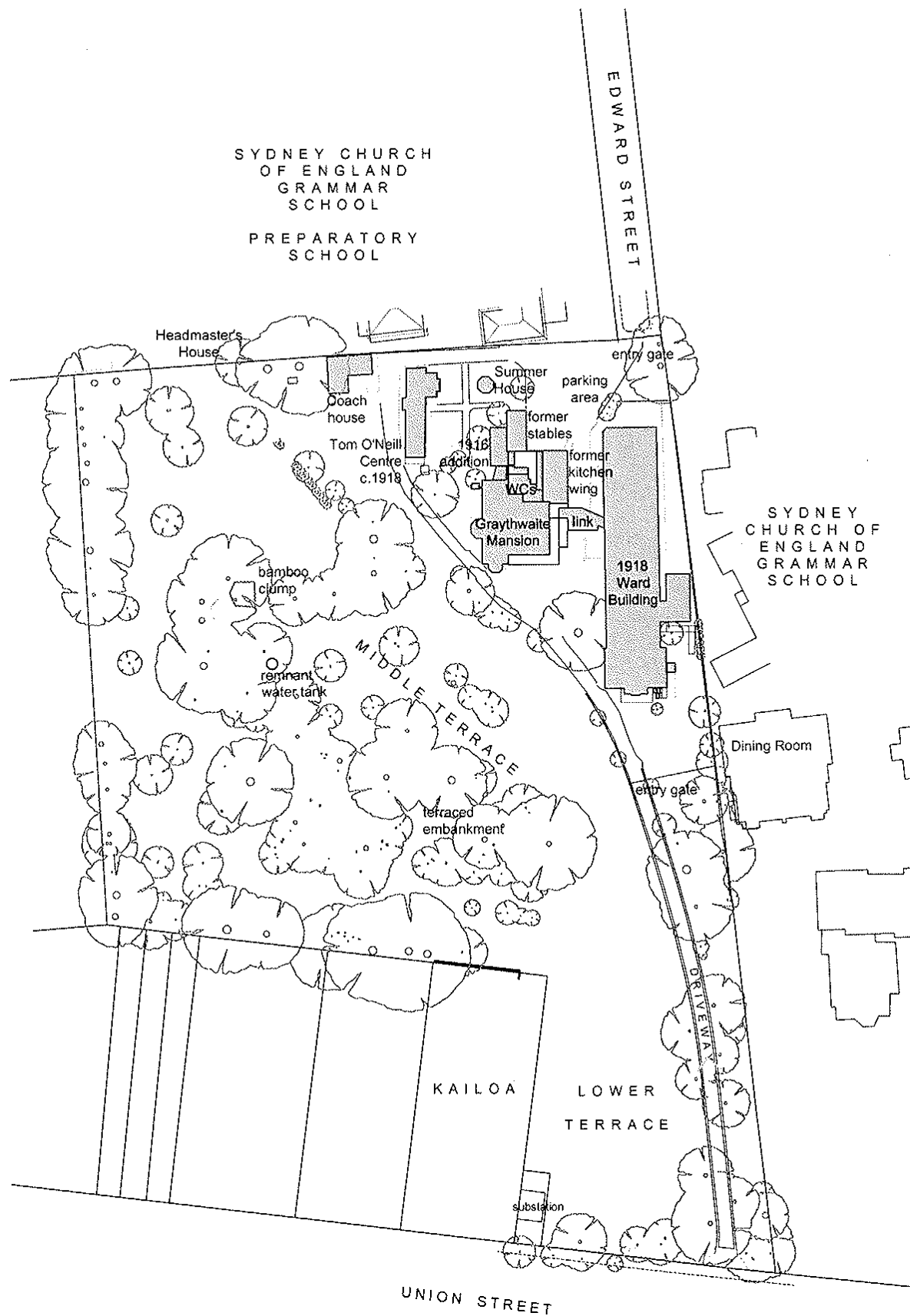


Figure 3 Graythwaite site plan

Railway	The North Shore Railway line passes beneath the Graythwaite site, emerging at its western boundary.
Vehicular access	The principal entry gate to Graythwaite site is at its south-east corner, fronting Union Street. Vehicular and pedestrian access is also provided from Edward Street.
Vegetation & topography	The Graythwaite site slopes steeply upwards to the north and east and features a number of open grassed areas and landscaped embankments (known as the lower, middle and upper terraces). The landscape includes an informal avenue of planting along the driveway; prominent stands of mature trees including large Moreton Bay figs along the terraced embankments, west and south boundaries and more recent tropical plantings. Areas to the south and north of the house are asphalted.
Adjoining uses	<p>North Land to the north of the site is occupied by Shore Preparatory School in the Special Use Zone (School). Further north are dwelling houses facing Lord Street (in the Residential A2 Zone).</p> <p>South Land to the south is occupied by a row of heritage listed dwellings in the Residential B Zone on Union Street. The group includes Kailoa, a large 19th century sandstone building at 44 Union Street which is heritage listed. An electrical substation is located adjacent the south-western corner of the site (near Union St and Kailoa). A small group of shops on the south side of Union Street is in the Residential/Neighbourhood Business D Zone. On the southern side of Union Street, land is in the Residential F Zone (McMahons Point) and is occupied by a mix of residential, commercial and light industrial uses.</p> <p>East Shore, which is in the Special Use Zone (School), occupies the entire eastern boundary of the Graythwaite site.</p> <p>West Land to the west is occupied by dwelling houses facing Bank Street and Bank Lane (in the Residential A2 Zone) and the North Shore Railway Line (17 to 23 Bank Street, in the Railway Zone). These adjoining dwelling houses are 2 to 3 metres lower than the western boundary of the Graythwaite site.</p>



Figure 4 Graythwaite House (south elevation)



Figure 5 Graythwaite House (North elevation) & stables



Figure 6 Graythwaite House (west elevation)



Figure 7 Tom O'Neill building (west elevation)



Figure 8 Ward Building (west elevation)



Figure 9 Ward building (south elevation)

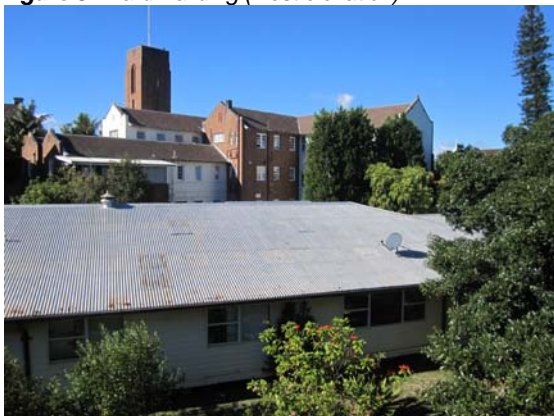


Figure 10 Ward Building (roof)



Figure 11 Union Street driveway

2.2 Site analysis

Tanner Architects and P D Mayoh Pty Ltd, with support from a team of specialist consultants, have completed extensive site analysis and master planning work for the site (contributing in part to a new CMP for the Graythwaite site). An overview of the site analysis and master planning findings follows.

2.2.1 Description and improvements

Key elements on the Graythwaite site (described in detail in the CMP) comprise:

- Buildings and structures including:
 - The house complex—house, kitchen wing, former c1833 stables, former massage room/doctor's room, lavatory/bathroom block addition and associated enclosed links, courtyard and garden/yard walls
 - The c1882 coach house
 - The former Tom O'Neill Centre (c. 1918)
 - The Ward Building (1918), recreation room and lavatory/bathroom block and link to the house
- Site features including:
 - Landscape areas
 - The potential historical archaeological resource
 - Potential moveable items and/or salvaged materials.

The principal entry gate to the Graythwaite site is at the south-eastern corner, fronting Union Street. The site slopes steeply upwards to the north-east and features a number of open grassed areas and landscaped embankments. The principal buildings on the site are located on the upper terrace to the north-east, accessed via a curved driveway from the main gate. The main buildings include the house complex including a two-storey kitchen wing and single storey stables at the rear (north), the former ward building to the north-east, the Tom O'Neill Centre to the west of the house, and the coach house abutting the north boundary.

The cultural landscape is also characterised by informal avenue planting along the driveway and prominent stands of mature trees including large Moreton Bay figs along the terraced embankments, west and south boundaries, interspersed with more recent tropical plantings. Areas to the front (south) and rear (north) of the house are asphalted.

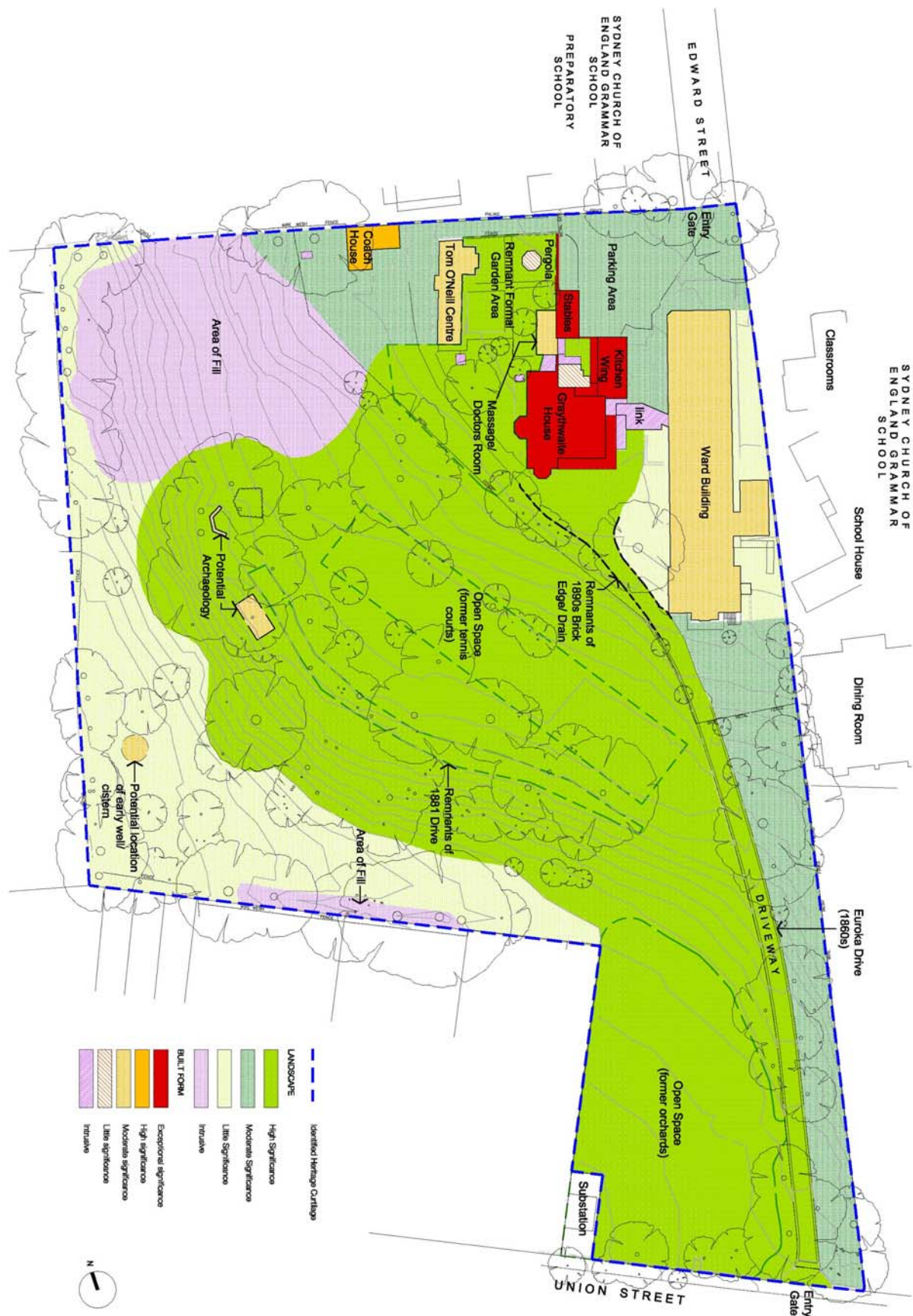


Figure 12 Site plan showing levels of heritage significance. Not to scale. (Source: Tanner CMP 2010, Figure 4.4)

2.2.2 Heritage

The heritage significance of Graythwaite is recognised by its inclusion on the SHR, which is maintained by the Heritage Council of NSW. As such, Graythwaite comes under the provisions of the *Heritage Act 1977*. It is also included on Schedule 3 of the NSLEP 2001 and forms part of the Graythwaite Character Area.

A new CMP has been prepared by Tanner Architects to guide the management of the heritage significance of the Graythwaite site and to provide policies for the maintenance and repair of significant buildings and landscape. The report builds on an earlier CMP, prepared by Graham Edds.

In November 2010, a copy of the new CMP was submitted to the Heritage Council for endorsement. Endorsement will establish an agreed approach to the appropriate management of the heritage significance of the site as well as assist with the establishment of site specific exemptions from approval requirements under the Heritage Act. A copy of the CMP will also be submitted to North Sydney Council.

The CMP (Section 4.5) sets out the following summary statement of significance:

Graythwaite is a place of outstanding cultural significance to the State for its historic associations with the Dibbs family and the regime of care undertaken by the Australian Red Cross Society of invalided soldiers of the First World War.

The House at Graythwaite and its garden setting demonstrates both the late nineteenth century aesthetic and lifestyle values of Sir Thomas and Sir George Dibbs and the outlook of society in the 1910s in regard to the appropriate setting for convalescence and medical care.

The gifting of Graythwaite to the State by Sir Thomas Dibbs in 1915, as a result of the high human cost of the Gallipoli campaign, undoubtedly reflects broader community concerns about the consequences of the nation's engagement in the First World War. Similarly, the drive of the local branches of the Australian Red Cross Society to fund and maintain over decades a property on the scale of Graythwaite demonstrates inter-war community concern about the long-term welfare of the returned invalided combatants.

Graythwaite is a place of outstanding cultural significance to the local community for its historic associations with an estate that was initially established by Deputy Commissary General Thomas Walker from 1833 as Euroka and developed into the form seen today by Edwin Sayers in the 1850s and George Dibbs in the 1870s. The layers of development of both the House and its garden setting provide the contemporary local community with a focus for understanding the history of the area.

Figure 14 identifies the key elements of the cultural landscape of Graythwaite.



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The CMP and SOHI provide the following assessment of the relative significance of the built and landscape components of the Graythwaite site:

- **Graythwaite House and the kitchen wing are of exceptional heritage significance** because of their architectural merit as a fine example of a substantial sandstone nineteenth century residence, its detached form and setting within an expansive landscaped property of largely intact plan form dating from the circa 1874 remodelling undertaken by George Dibbs. There is high probability that evidence for painted decorative wall and ceiling finishes can be recovered, providing historic associations with a succession of nineteenth century owners and historic association with occupation by the Red Cross between 1916 and 1980.
- **The stables building is of exceptional heritage significance** because of its rarity of type and age in the North Sydney area and its historic association with Thomas Walker, who originally constructed the building circa 1833 and with Edwin Sayers, the Dibbs family and the Australian Red Cross Society.
- **The Coach House is of high heritage significance** because of its historic association with T A Dibbs, who originally constructed it circa 1888 and then with the Australian Red Cross Society and the rarity of its type in the North Sydney area.
- **The former Tom O'Neill Centre is of moderate heritage significance** because of its contribution to the function of Graythwaite as a convalescent home and hostel for returned soldiers and then as an aged care facility from 1980 and its historic association with the Australian Red Cross Society.
- **The massage room/doctor's room is of moderate heritage significance** because of its contribution to the function of Graythwaite as a convalescent home and hostel and its historic association with the Australian Red Cross Society.
- **The Ward Building and associated recreation room and lavatory/bathroom block are of moderate heritage significance** because of their contribution to the long-term functioning of Graythwaite as a hostel for invalided former soldiers and then as an aged care facility and their direct and long-term historic association with the Australian Red Cross Society. Its fittings and finishes have been extensively reworked over time.
- **The 1916 lavatory addition to Graythwaite House is of little heritage significance** because of its contribution to the function of Graythwaite as a convalescent home and hostel for returned soldiers and its historic association with the Australian Red Cross Society. It represents the first major alteration to the house undertaken in relation to a change of use, and is a poorly resolved addition to the Dibbs era house.

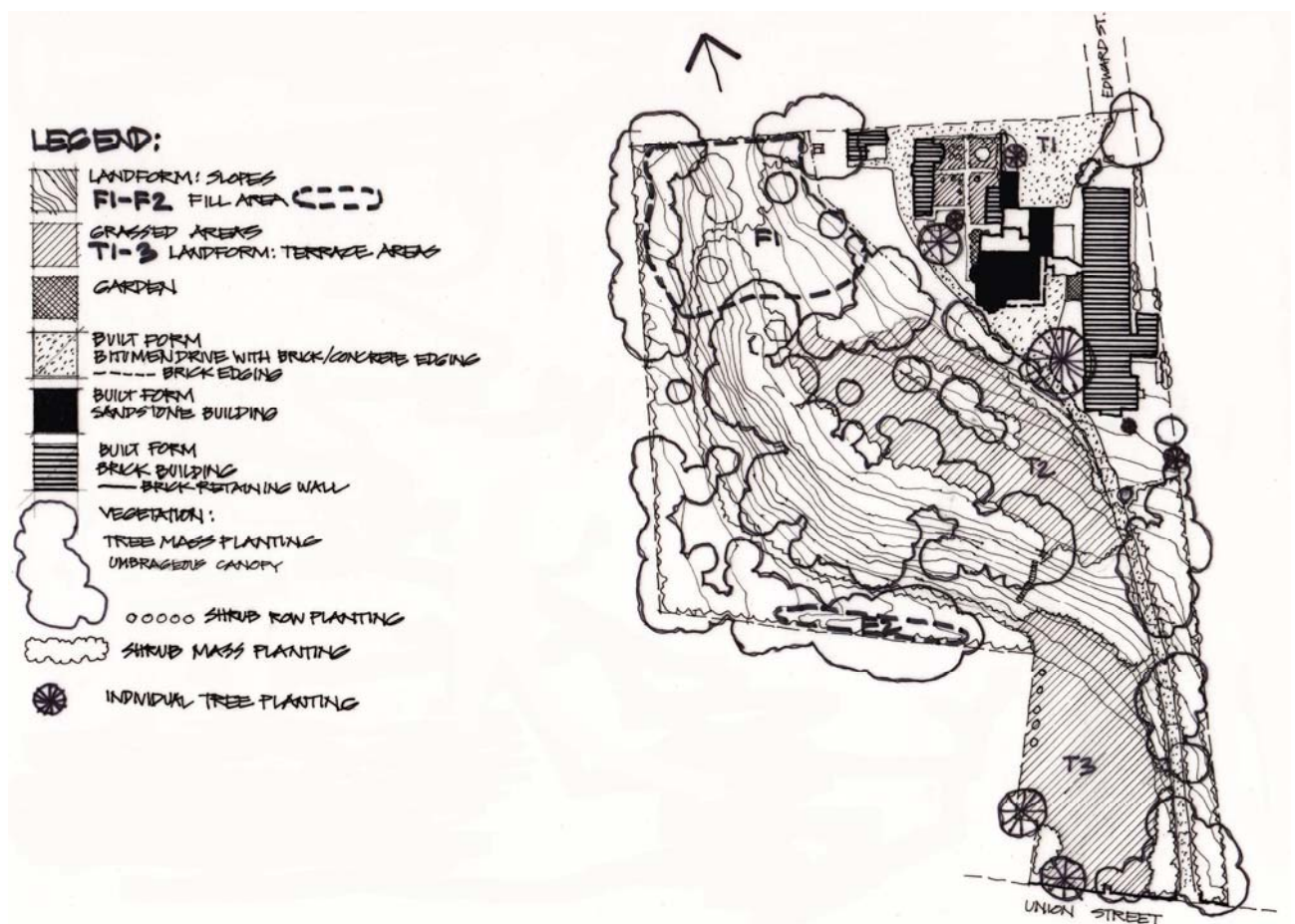


Figure 14 Key elements of the cultural landscape of Graythwaite (Source: Tanner CMP 2010, Figure 3.5)

- **The link structures between the House and Ward Building and between the House and former massage room/doctor's room are intrusive** because although they may have improved the functionality of the place as an aged care facility from the 1980s they have resulted in damage to the fabric of the House through the formation of new openings and through physical connections. They have also adversely impacted on the setting of the House.

Figure 12 (extracted from the CMP) shows levels of heritage significance for existing buildings on the Graythwaite site. **Figure 13** illustrates heritage opportunities and constraints.

2.2.3 Built form

As detailed in the CMP (Section 3.3.3), the built form at Graythwaite comprises:

Buildings	Buildings are of sandstone representing the nineteenth century whilst the brick buildings generally represent the twentieth century. The Ward Building and its associated recreation room and lavatory is constructed of timber framing and weatherboards.
Fences	Fences are a combination of timber paling, chain wire, timber rail, painted timber picket and metal palisade types.
Gates	The entrance gates at Union Street and at Edward Street are tubular steel metal framed structures
Walls	Walls are dwarf wall height brick acting as a retaining wall along the Union Street boundary and integrated with brick gate piers at the main entrance drive.
Driveways	The driveways are paved in bitumen with concrete kerbing generally associated with the twentieth century whilst sections of brick drain edges are remnants of the Federation period during the Dibbs family occupation.
Paved areas	Paving around the House complex is generally bitumen with concrete or brick edging.

Figures 15 to 26 show photographs of existing building and landscapes on the Graythwaite site and to **Figures 27 to 34** show views of the nearby buildings and infrastructure.



Figure 15 Coach House (south elevation)



Figure 16 Coach House (east elevation)



Figure 17 Graythwaite site (lower terrace, near Union St)



Figure 18 Graythwaite site (middle terrace)



Figure 19 Graythwaite site (Edward Street entry)



Figure 20 Graythwaite site (Union Street fencing)

2.2.4 Landscape and landform

As detailed in the CMP (Section 3.3.3), the landscape of the Graythwaite site comprises the terraced landform, buildings, structures, fences, garden areas, driveways, paved areas, grassed open space and mass plantings dominated by treed canopy of figs of various species.

Its main landscape character is that of an institutional parkland despite its natural origin and evolution as a residential estate largely in the nineteenth century. This has been influenced by its most recent use as a hospital with the complex of additional buildings built of brick, concrete kerbs and bitumen paving. A contrast to the sandstone fabric of the late Victorian Period residential building complex and the blond face brickwork of the Federation Period.

The presence of Inter-War Period plantings such as palms and poplars also contrast with the more sombre fig and pine plantings of the Victorian period and the Federation period (Figs and Brush Box).

The mid to late Twentieth century is represented by Jacaranda and a range of Australian plants normally associated with rainforest habitats together with mass planting of grasses such as the *Lomandra* species. Much of the extent of mass planted areas, particularly in shaded areas and aided by a southerly aspect have become invaded by weed species such as Privet and Camphor Laurel.

The plateau nature of the upper slopes contains the building complexes where much of the spaces between buildings has been paved except for the more formal garden treatment of the courtyard space to the northwest of the House complex. This garden appears to have continued the presence of formal garden layouts on this site from the mid-nineteenth century despite its change in content from period to period.

The mid slopes to the west of the house complex, contains disturbed ground through apparent land filling. The fill in the vicinity of the existing Moreton Bay Fig trees on the west and south-west boundaries threaten their long term existence and provides a habitat for extensive weed invasion.

The extent of growth of most of trees has reduced the opportunity to maintain views from the site and the house as well as views to the house complex from Union Street and beyond.



Figure 21 Shore Senior Playing Field and West Wing in the background (to the north-east of the Graythwaite Site)



Figure 22 Western edge of Shore West Wing with Shore House behind



Figure 23 Shore Preparatory School (to the north of the Graythwaite Site) (Heritage item)



Figure 24 Shore Preparatory School (to the north of the Graythwaite Site)



Figure 25 Kailoa (eastern side elevation), adjoining the site at 44 Union Street (Heritage item)



Figure 26 Kailoa (screened by planting), adjoining the site at 44 Union Street (Heritage item)

The landform on the Graythwaite site comprises:

Terraces	The landform has been terraced and filled to create level areas for buildings, grassed areas for recreation (tennis courts) and horticulture (the orchard and gardens).
Slopes	The slopes have been generally mass planted whilst containing evidence of former driveways and paths/tracks. The lower southern slope was the site of a vineyard established on narrow stone wall retained terraces. Evidence of this formation may be subject to further archaeological investigation.
Fill areas	An area to the west of the House complex that was once part of a cow paddock appears to have been subject to fill.

2.2.5 Vegetation

As detailed in the CMP (Section 3.3.3), vegetation on Graythwaite comprises:

Grasslands	The grassland areas are confined to the terraced landforms and particularly the remnant areas of the former site of the orchard (lower terrace) and tennis courts (central terrace) as well as within the more formal courtyard garden adjacent to the House complex.
Shrub mass planting	The shrub mass plantings are located along the margins of the driveways and to the site of the former terraced vineyard. These are associated with the use of Graythwaite as a hospital.
Shrub row planting	The shrub row planting is a row of <i>Prunus</i> shrubs running parallel to the eastern boundary of Kailoa.
Mass tree plantings	<p>Tree mass planting areas are associated with the slopes landform and the margin of the terrace and are dominated by a mix of <i>Ficus</i> species and Brush Box with a proportion of self seeded species such as Privet and Camphor Laurel. The mature umbrageous tree canopy is associated with the range of plantings undertaken during the Dibbs' Family occupation of Graythwaite.</p> <p>White poplars and a bamboo thicket on the upper slope, former tennis court terrace margins and along the main entrance drive appear to date from the Inter- War years of the hospital period.</p> <p>A diversity of younger Australian plant species has been added in the late-Twentieth century within areas of mass planting. The conspicuous individual trees on the upper terrace area are; <i>Ficus rubiginosa</i>, <i>Jacaranda mimosifolia</i> and</p>

	<i>Washingtonia robusta</i> and on the Union Street frontage and within the former orchard paddock are: <i>Ulmus parvifolia</i> , <i>Eucalyptus nicholii</i> and <i>Lophostemon confertus</i> .
Individual tree Plantings	Individual tree planting is evidenced on the upper terrace adjacent to the house complex, the Union Street frontage and the landmark <i>Araucaria columnaris</i> tree located just within the eastern boundary on the upper slopes. This tree may date from the 1860s and may have originally been located within Millers property.
Garden areas	Garden areas are located within courtyards to the east and west of the House complex

A Development Impact Assessment has been prepared by Earthscape Horticultural Services (**Appendix C**). The report identifies trees within the site, provides information on their current health and condition, determines their remaining life expectancy and assesses their suitability for retention/preservation. The report also provides recommended tree protection measures and setback distances. The Assessment concludes that:

*A total of two hundred and thirty (230) trees stand within the [Graythwaite] site and in close proximity to the boundaries on adjoining properties. These are a mix of native and exotic species in fair to good health and condition. A number of the trees, mostly Figs, are remnant of the original gardens laid out by Thomas Dibbs in 1875. The older plantings are typical of the Victorian era and are considered to be significant. Plantings of Camphor Laurels, Brushbox and Lombardy Poplars are more likely to have occurred in the Inter-war period. Whilst not as significant as the older plantings they are still of heritage importance given the use of the site. The grounds have undergone a long period of neglect, possibly dating back to the 1960's. During this time perennial weeds species and Pittosporums have colonised large areas of the site forming dense thickets. Whilst some attempt has been made to eradicate weeds by the local community there are still densely wooded areas within the site particularly over the steep embankments in the central portion of the site. Some of these include species such as *Erythrina x sykesii*, *Populus alba* and *Robinia pseudoacacia* that may be progeny of original plantings (or inter-war period plantings) of the same species.*

Proposals for tree removal and retention are addressed at Section 6.7.2.

2.2.6 Flora and fauna

A detailed Flora and Fauna Assessment of the Graythwaite site has been completed by Cumberland Ecology (**Appendix D**). The assessment shows that two threatened fauna species were found to occur within the subject site. These were the Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*) (listed as vulnerable under the *Threatened Species Conservation Act 1995 (TSC Act)* and the Grey-headed Flying-fox (*Pteropus poliocephalus*), (listed as vulnerable under

both the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* and the TSC Act). Recommended management protocols are set out in Section 7.12.

2.2.7 Traffic and transport

A Transport Assessment has been completed by Halcrow (**Appendix E**). In relation to existing conditions, the assessment notes that:

- Vehicle access to Graythwaite is provided via the main driveway at Union Street. This driveway is approximately 5 metres wide along its length between Union Street and Graythwaite House. The driveway is lined with trees and is understood to be an important historical feature of the site
- A secondary vehicle access to the site is available from Edward Street
- A number of separate hardstand (asphalt) areas are located adjacent to Graythwaite House and the associated site buildings. These hard stand areas have been used in the past to accommodate on site parking in an informal parking arrangement
- Some seven marked parking spaces are provided at the rear of Graythwaite House with space for 16 to 20 spaces within the hard stand areas around the House. In total it is estimated that the Graythwaite site has the potential to accommodate in the order of 25 parked vehicles under existing conditions and that this capacity has existed for some time
- The Shore site currently provides a total of 151 formal car parking spaces comprising:
 - Centenary Building Car Park 50 spaces (accessed via William Street)
 - Bishops Gate Car Park 68 spaces (accessed via Union Street)
 - Adjacent to Hodges Hall 23 spaces (accessed via Union Street)
 - Other at grade spaces spread throughout the school campus
- A formal vehicle drop off / pick up facility is provided on the Preparatory School site. This facility is accessed via separate entry and exit driveways at Edward Street.

Existing traffic, transport, parking and pedestrian surveys were completed by Halcrow (the findings of which are included in Section 7.5 where they are compared with proposed conditions).



Figure 27 Headmaster's House (to the north)



Figure 28 Substation, adjoining the site on Union St



Figure 29 Adjoining terrace houses in Union Street (to the south) (heritage items)



Figure 30 Adjoining terrace houses in Union Street (to the south) (heritage items)



Figure 31 Adjoining houses in Bank St (to the west)



Figure 32 Adjoining houses in Bank St (to the west)



Figure 33 Adjoining houses in Bank Lane (to the south)



Figure 34 Adjoining railway cutting (Heritage item)

2.2.8 Contamination and hazardous materials

A Soil Investigation has been completed by WSP (**Appendix F**). The objective of the soil investigation was to assess the potential for contamination of soils in the vicinity of the Coach House, the above ground oil storage tank and to provide a general site assessment including the area formerly occupied by an orchard. As detailed later at Section 7.7, the investigation detected Benzo(a) pyrene, Lead and Zinc.

A Hazardous Materials Survey, by Hibbs & Associates (prepared for the NSW Department of Health) and Supplementary Hazardous Materials Assessment Report, by WSP also accompany the EAR (**Appendix F**). The WSP report identifies a small area that may contain asbestos and areas that contain lead based paint. The survey did not identify any evidence of Synthetic Mineral Fibre, Polychlorinated Biphenyls (**PCBs**).

2.2.9 Services

The following existing site services are shown on the site survey plans (**Volume 2**).

Electricity

Underground electricity cables owned by Energy Australia run along Union Street. An electricity substation is located on Union Street, adjoining the south-western corner of the Graythwaite site. There are no underground cables owned by Energy Australia on the Graythwaite or Shore sites.

Gas

Gas mains are located along Union and Edward Streets. There are no gas underground gas mains on the site.

Water

A 150mm cast iron cement lined potable water main runs along Union Street. A 100mm cast iron cement line main runs along Edward Street, terminating close to the Graythwaite site entry.

Sewer

A sewer main ends within the Graythwaite site's northern boundary, traversing the Shore site and connecting with another sewer pipe in Bank Street. Another sewer main crosses the Shore site, connecting to another pipe in Union Street.

Telecommunications

Underground telecommunications cables enter the Graythwaite site from Edward Street and connect with the existing buildings on the site.

2.2.10 Stormwater

An IWMP has been prepared by ACOR (**Appendix F**). The report notes that the existing stormwater drainage system for Graythwaite House, Tom O'Neill Centre, Coach House and Ward Building consists of roof downpipes discharging into an underground drainage system with a number of stormwater drainage pits and dish drains along the access driveway and parking area. The existing underground stormwater drainage system extends only across the access driveway and discharges into the vegetated area on the southern side of the driveway. Currently, no existing site stormwater drainage drawings have been found.

The Graythwaite site can be divided into three distinct stormwater drainage catchments. Approximately 1/3 of the site, located in the north-western corner, currently drains to the west and the majority of the stormwater runoff continues into the Railway Corridor.

The central portion of the site currently drains into the south-western corner of the site and stormwater runoff continues into residential allotments located along the southern and western site boundaries (in Union and Bank Streets).

The remaining area along the eastern boundary, including the access driveway, drains towards Union Street.

ACOR has identified a number of waterlogged areas and underground springs. It is expected that the waterlogged areas and underground springs are the result of the rainwater infiltrating into the soil at the upper portion of the site and finding its way downhill as a groundwater and upwelling in the lower areas.

Since the north-eastern corner of the site is located at the top of the hill, it is expected that it would be substantially unaffected by groundwater from any adjacent sites on the Shore site. However, the basement of the Graythwaite House is affected by ground water which is causing damage to sandstone footings via rising damp.

3.0 SITE HISTORY

A new CMP for the Graythwaite Site has been prepared by Tanner Architects (submitted under separate cover). It notes that the site has undergone continuous, albeit sporadic, development since the establishment of 'Euroka Cottage' in 1832 to the present day. This section provides an overview of the detailed historical research contained in the CMP (a chronology of events for each stage is set out in the CMP including historic plans and photographs) and SOHI also by Tanner Architects (**Appendix H**).

3.1 The natural environment

Very little indigenous flora is represented on the Graythwaite site but it once supported varying extents of heath, woodland and forest vegetation formations associated with the Hawkesbury Sandstone. The dominant woodland trees may have been *Eucalyptus pilularis* (Blackbutt) associated with shale and sandstone; *Angophora costata* (Sydney Red Gum) and *Corymbia gummifera* (Red Bloodwood) trees together with a great diversity of shrubby plants interspersed with sandstone outcrops creating slopes of informal terraces. The upper slopes were also exposed to the south and west. (More detail on flora and fauna is set out at Section 7.12 and in the Flora and Fauna Assessment, **Appendix D**).

3.2 Aboriginal occupation

The Graythwaite site forms part of the traditional lands of the Darug Nation and more specifically the Gamaragal clan group who occupied the north side of Port Jackson and to the northwest opposite Sydney Cove. Very little is known about the use of the area by Aboriginal people however it is known that Aboriginal occupation was often focused on prominent landforms such as ridges, on which Graythwaite stands, which were favourable locations for camping and travelling and from which surrounding plant and animal resources could be viewed. Conversely, the steep slopes within the Graythwaite site would have been less favourable. Physical evidence of the occupation of the Graythwaite site has not been identified.

3.3 Phases of development

Historical development of the Graythwaite site

Graythwaite has undergone continuous, albeit sporadic, development from the establishment of 'Euroka Cottage' in 1832 to the present day. The CMP broadly divides the phases of development on the Graythwaite site as follows:

- Euroka Cottage (1832-1853)—Thomas Walker
- Euroka Villa (1853-1873)—Edwin Sayers
- Euroka (1873-1882)—George Dibbs
- Graythwaite (1883-1915)—Thomas Dibbs

- Convalescent Home for Returned Soldiers (1916-1918)—Australian Red Cross Society
- Anzac Hostel (1918-1980)—Australian Red Cross Society

A description of each phase summarised from Section 2.0 of the CMP follows (information on site history is also included in the SOHI, by Tanner Architects, **Appendix H**).

Euroka Cottage (1832-1853)—Thomas Walker

This phase saw the creation of the first land grant in the area in 1832 (39 acres) to Thomas Walker who sold most of it leaving him with 13 acres that became the Euroka Estate. A track extended from what is now known as Blues Point Road along up the east side of Euroka Estate to join a government road that was to become Edward Street. The alignment of this track became the first entrance driveway for Graythwaite during this phase.

This phase also saw the establishment of Euroka Cottage by Walker from c1833 on the upper terrace of the site to capture views over Sydney and its harbour setting. The sandstone building was single storey with a range of out buildings to its rear, including a kitchen, laundry, store room and stables.

By 1847, the site had been terraced with the lower terrace featuring an orchard. A vineyard had also been established on the slope between the lower and central terraces. Stone terracing had been used elsewhere in Sydney for the purpose of growing grapes in the 1830s such as at Regentville, Penrith and Mount Adelaide, Darling Point. Mount Adelaide is associated with the landscape gardener Thomas Shepherd of The Darling Nursery, Darlington. Shepherd had lectured on and published three articles 'On the Cultivation of the Vine' in the Sydney Gazette. The vineyard may have been sited so as to take advantage of natural springs and ensure permanent watering of such intensive horticulture.

The only standing building thought to belong to this stage is the original stables, although the house may also retain some evidence in the basement walls and west wall of the entrance hall.

Thomas Walker resided in the cottage until around the time of his marriage in 1845 when the property was leased out.

Evidence from this phase retained at Graythwaite includes:

- The Union Street boundary, which is the last remaining evidence of the extent of the original land grant purchased by Walker in 1832
- The northern site boundary, which provides the last remaining evidence of the early subdivision of the original land grant and sale of 13 acres to Thomas Miller in 1833

- The underlying landform including the lower, middle and upper terraces and slopes in between
- The original fabric of the c1830s stables, (in particular the external walls, loft and roof). The section of wall on the north side of the courtyard appears to be contiguous with the southern wall of the stables and so may also date from this phase
- A section of the west wall of the entrance hall of the existing house (and supporting basement wall) may be the original west wall of Euroka Cottage.

Some of the basement walls of the existing house may have been re-used from those constructed for Euroka Cottage. Alternatively, the sandstone blocks of the basement of the original house may have been re-used in the basement walls of the existing house.

Potential archaeological relics:

- Remains of c1833 Euroka Cottage immediately east of the existing house
- Remains of c1830s outbuildings within the courtyard, under the kitchen wing or to the east of the kitchen wing
- Remains of the animal outbuildings (ie cow shed and fowl house) to the west of the courtyard and c1830s stables
- Remains of cesspits and rubbish dumps, which may contain artefacts from the phase.

Euroka Villa (1853-1873)—Edwin Sayers

In 1853, some three years after Thomas Walker's death, Euroka was sold to mercer George Tuting. This was a speculative property investment as Tuting sold the property on to the merchant Edwin Mawney Sayers in the same year (who resided there from 1853 to 1868).

In 1859 Sayers added a large two storey stone wing to the west of Euroka Cottage and also developed the garden. Additional sandstone buildings were erected along the Union Street frontage to the west of the fenced orchard. Much of the landscape setting was open cleared land with areas of grass and detail gardens created addressing the east west and south elevations of the house complex. All were enclosed by picket fencing whilst the earlier use of paling fences to define the property boundaries was continued. So too the terraced vineyard was conserved and a new fenced road created on a terrace landform above the vineyard which terminated in a paddock to the west of the house. The exact function of this road is unclear however it appears to have connected a water reserve and another structure within the northern paddock. This structure may have been a water tank and the road giving access to haulage of water with the three rail fencing erected to keep the stock out of the water reserve.

A panoramic view of Sydney and Port Jackson dated 1871 indicates a very open landscape with a hedge row between Miller's old property (known as the Holtermann Estate in this phase) and that of Euroka. Most of the planting appears to have been around the house and in the yards to the north as *Pinus* species are evident in contemporary photographs of the property.

Sayers was sent plants from the Sydney Botanic Gardens on 3 June 1866 but the species are not identified. Fashionable plant species in this period were *Pinus insignis* and *Agave* species both of which are evident in the photographs of Euroka during this phase although any plants received in 1866 would still be of a small size by the time Sayers vacated the property in 1867.

Evidence from this phase retained at Graythwaite includes:

- The original fabric of the two storey west wing of the existing house constructed in 1859
- The ground floor stonework of the kitchen wing
- The landmark *Araucaria cookii* (Cook Pine) tree which may have been planted by Sayers in the 1860s.

Euroka (1873-1882)—George Dibbs

Euroka was purchased by Thomas Allwright Dibbs in 1873, the manager of the Commercial Banking Company of Sydney. Dibbs quickly subdivided the property, but retained a holding of 2.3ha comprising the house, garden and outbuildings. The remaining land was subdivided and sold as the Euroka Estate (in 1874) and Euroka Heights Estate (in 1882).

The house was initially occupied by his brother, the merchant and politician George Richard Dibbs. George Dibbs redeveloped the house c1874 into the form seen today. This included demolition of the original c1883 Euroka Cottage to construct a new two-storey stone building with attic rooms and widow's walk and the remodelling of Sayer's 1859 west wing addition. The kitchen wing was also modified to become a two-storey structure. The garden was remodelled into the form seen today. The house and grounds were redeveloped in the context of the newly established suburban housing blocks along Union Street and Bank Street. The progress of this redevelopment was recorded in the photographic panoramas of Sydney taken from the neighbouring Holtermann property.

An 1879 panoramic view of Sydney from the site of Euroka suggests a slightly different entrance drive curving away above the site of the former vineyard which may reflect the location of the present drive which arrived at the southern side of the house and then divided around the east and western sides modifying the former eastern flower garden. The mid-1870s photographs indicate a row of deciduous trees running adjacent to the wall between the northern yard and the Flower garden. These may have been *Robinia pseudoacacia* or *Melia azedarach* trees planted by Sayers.

Also the mid-1870s panoramic photographic view indicates evidence of change in the composition of fences and buildings to the northern yard area.

Tree planting was also implemented above the top terrace of the vineyard and ran along the contour of what appears to be a natural terrace yet cleared of indigenous vegetation and grassed. The former orchard area was fenced in by a timber paling fence and used for grazing of cattle. By the mid-1870s only a few remnant fruit trees of the former orchard remained.

The new tree planting was regularly spaced along the edge of the terrace and appears to have been a mixture of *Ficus rubiginosa* (Port Jackson Fig) and *Pinus radiata* (Monterey Pine). Tree planting also took place on the slope between the terrace and the house and just below the new drive alignment.

These appeared to be mostly *Pinus* species. The plantings were located to the south west of the house complex and appeared to keep the vista towards Sydney city.

Planting was undertaken on either side of the main entrance drive from the Union Street boundary to the vineyard however it is not known if these were trees or shrubs.

Miller's property was now occupied by Bernard Otto Holtermann and it had, by 1871, a large clump of bamboo and a Norfolk Island pine planted adjacent to the boundary. The mid-1870s photographic panorama from Holtermann's house indicate the presence of another *Araucaria* species which appears by its growth to have been possibly planted in 1866 (Sayers) and may well be the existing *Araucaria cookii* tree which is now a local landmark.

Evidence from this phase retained at Graythwaite includes:

- The west boundary and southwest boundary (to the rear of the properties on Union Street), which provide evidence of the subdivision of Euroka by Thomas Dibbs in 1874 for residential development along Bank Street and Union Street (incorporating the already constructed houses at 30-36 Union Street)
- The main part of the existing two-storey house, including the attic and basement levels, which was constructed c1874
- The upper level of the kitchen wing
- Most of the internal fixtures and finishes within the west wing (constructed by Sayers c1859)
- Specimens of *Ficus rubiginosa* (Port Jackson Fig) and *Pinus radiata* (Monterey Pine) along the edge of the central terrace and *Pinus* species on the upper slope.



Figure 35 *The Dibbs family standing in front of Euroka Villa c1874 (Source Tanner CMP, Figure 2.6).*

Graythwaite (1883-1915)—Thomas Dibbs

Thomas Dibbs occupied Euroka in 1882 and renamed it Graythwaite after the ancestral home of his wife, Tryphena, Graythwaite Hall in Cumbria.

Thomas Dibbs made one major addition to the house prior to 1891 with a new room to the rear of the c1859 west wing. The interior of the house appeared to undergo little change. The coach house was constructed c1883 and around the same time as Dibbs built Kailoa on Union Street. The new and more spacious coach house allowed the original stables building to be modified for other uses.

In 1886 the eastern site boundary was relocated as a result of the purchase of the adjoining land by Dibbs. The main drive was also reconfigured with brick edge drains between by 1890.

The plantation around the periphery of the new western boundary was a mixture of Pine species and *Ficus macrophylla* (Moreton Bay Fig). The pines have died out and only the Figs remain in sections.

Photographic evidence suggests that a Norfolk Island Pine (*Araucaria heterophylla*) was planted next to the drive on the eastern side and adjacent to the tennis court. A clump of bamboo was located to the southwest of the house with a white painted picket fence delineating the western gardens. A rose garden set in a plot of grass to the east of the kitchen wing with a painted trellis fence further defining the northern yard. Trees were planted adjacent to the eastern boundary north of the fern house and appear to be *Ficus rubignosa* (Port Jackson Fig) and *Pinus radiata* (Monterey Pine). Two of these trees survive at present. Images of the house in 1897 indicate extensive covering of walls by what appears to be *Parthenocissus tricuspidata* (Virginia Creeper).

Australian troops first saw action when they landed at Gallipoli in April 1915 and in June, Dibbs donated Graythwaite to the State as a convalescent home for soldiers and sailors. The gift was accepted by the NSW Government and on 1st October 1915, the property was formally transferred to the Crown.

Evidence from this phase retained at Graythwaite includes:

- The existing eastern site boundary, which was formed in 1886 as a result of the purchase of the adjoining property by Thomas Dibbs and the modifications to the c1833 site boundary
- The room to the north of the original west wing, constructed prior to 1891
- The courtyard walls and yard wall to the north of the stables building
- The original form, layout and fabric of the coach house, constructed c1883
- Tree plantings including a specimen of *Ficus rubignosa* (Port Jackson Fig) and specimen of *Pinus radiata* (Monterey Pine) on the eastern site boundary.

Convalescent Home for returned soldiers (1916-1918)—Australian Red Cross Society

At the official opening of Graythwaite on 1 March 1916, Dibbs presented the deeds of Graythwaite to Premier Holman who handed the property on to care of the NSW branch of the Australian Red Cross Society. The freehold comprised 7 acres 0 roods and 26½ perches inclusive of Graythwaite and a right of way from Union Street to neighbouring houses now within the Shore School.

In 1916, Graythwaite was altered to suit the needs as a convalescent home. This work was funded by the Red Cross and documented by the architect Timothy Honnor.

The major change instigated by the Red Cross over 1915/16 was the building of the lavatory and bathroom block comprising rooms. The addition is dated to 1915/1916 as its construction necessitated changes to the stair hall window of the House. The alteration of the window is a major change in itself. The building application lodged in October 1915 by TA Dibbs (the time he left Graythwaite) probably relates to this development. Minor changes to the rooms were undertaken to suit ward use inclusive of the timber blocking along the skirting boards.

The massage wing was constructed by the Red Cross in 1917.

The fashionable trees of the period were used: *Lophostemon confertus* (Brush Box) alternating with *Cinnamomum camphora* (Camphor laurel) and *Pinus radiata*. These appear to have been planted for the entire length of the drive from the Union Street entry. Later these plantings to the south of the house were removed and replaced for unknown reasons but possibly because of the potential for the trees to block out views over Sydney Harbour.

The western house gardens appear to have been conserved and adapted with arched arbours and climbing plants a distinctive quality.

Evidence from this phase retained at Graythwaite includes:

- The lavatory/bathroom addition to the rear of the existing house, within the courtyard, constructed c1916, which required modifications to the rear of the house, including to the stair hall window
- The original layout and fabric of the massage room/doctor's room, constructed c1917
- Some minor alterations to the interior of the existing house.

Anzac Hostel (1918-1980)—Australian Red Cross Society

Graythwaite became an Anzac Hostel in 1918 with the Red Cross caring for permanently disabled veterans. The change in role necessitated the building of a new ward known as the Hut, again funded by the Red Cross and designed by architect Maurice Halligan. The neighbouring Upton Grange property was acquired by the Commonwealth Government in 1919 as a home for the nurses working at

the Anzac Hostel. The nurses' home was closed in 1924 and Upton Grange was sold to the Shore School.

New ward facilities were sited on the location of the tennis court and new courts laid out on the grassed terrace to the south west of the house. These were extended to the south east as a series of terraced courts enclosed with mesh fencing on the downhill side. Photographic evidence also suggests that the planting along the southern side of the main entrance drive was extended to the previously clear area to the south of the house.

During this period additional building works were carried out with the ongoing adaptation of Graythwaite to serve its hospital functions with the brick laundry and billiard room building (former Tom O'Neill Centre) located on the western edge of the western garden a significant addition. Additional plantings include the *Washingtonia robusta* (Mexican Fan Palm) palms planted to the south of the main house complex and to the south of the Main Recreation Room. Other existing plants which appear to date from this period are the *Populus alba* (White Poplar) on the slopes between terraces.

Between 1940 and 1980 the two greatest changes to the landscape setting was the loss of grassing and gardens on the areas adjacent to the house complex through the expansion of paved surfaces, mostly bitumen, to accommodate increasing use by motor vehicles and the increase in plantings to the lower slopes together with areas of imported fill. The main entrance drive was surfaced with bitumen and a portion of its brick edges replaced with concrete kerbs.

Most of the earlier pine tree plantings matured and died in this period whilst the figs, of various species, continued to dominate the tree canopy on the slopes. Apart from some lopping of large trees to maintain views over the harbour, shrubs were planted, particularly along the main drive.

The diversity of plantings of Australian plants appears to have been generated by a concerned group of the local community activists particularly at the end of this period when Graythwaite became the Home of Peace Hospital and a level of uncertainty expressed about the future use of both 'Kailoa' and Graythwaite.

At some point, in the early 1960s, the main gates at the Union Street entry were changed and redesigned as a pair of simple brick piers together with a stepped dwarf brick retaining wall and metal mesh fence provided a new built edge to the Union Street frontage. The original design for the gateway was prepared by the Government Architect's Office, Department of Public Works most probably in the late 1950s or early 1960s. At this time the driveway was widened to accommodate trucks and like vehicles. This can be seen in the concrete kerbing which replaced some of the earlier brick edging in selected sections of the main entrance drive.

Steps were incorporated for pedestrian access to the former orchard area and lower slopes to form a sense of de facto public open space. The Union Street

frontage was also planted with mixed tree species including; *Lophostemon confertus* (Brush Box), *Eucalyptus nicholi* (Narrow Leaved Black Peppermint), *Eucalyptus botryoides* (Bangalay).

Evidence from this phase retained at Graythwaite includes:

- The original layout and fabric of the Ward Building, constructed in 1918
- The original layout and fabric of the recreation room at the south end of the Ward Building and lavatory block, constructed in 1919
- The remnant fabric of the enclosure of the first floor balcony of the House in 1924
- The current layout and internal finishes within the Tom O'Neill Centre, which was undertaken from the 1950s
- The brick boundary wall and fence and entrance gates on the Union Street boundary, constructed in 1960
- The site boundaries associated with the resumption of land for the construction of the substation on the lower terrace in 1965
- The iron balustrade on the roof of the House, which was reconstructed in 1975 using the original balustrade that appears to have been removed in the 1960s
- Potential archaeological relics:
 - Remains of the slit air raid trenches for Graythwaite staff and residents and for the local community on the lower terrace (on Union Street), which may contain artefacts from the phase.

Nursing Home/Tom O'Neill Dementia Centre (1980-2009)—Hope Healthcare

The management of Graythwaite Nursing Home was transferred from the Australian Red Cross Society to the Home of Peace Hospitals (which became Hope Healthcare in 1994 and then Hammond Care in 2008) for community geriatric use in 1980. A CMP was prepared by Graham Edds & Associates in 1993 and completed in February 2000.

Subsequently the Hut was refurbished in 1982/3 to satisfy fire safety requirements. The upper part of the site containing the complex of buildings and gardens was fenced off and security gates installed.

During this period the landscape setting and fabric of many of the buildings, structures and landscape features deteriorated. The lack of maintenance also led to an increase in weed growth and accidental growth of advantageous plants such as privet, white poplar, coral trees and Camphor laurels, particularly in areas of ground disturbance and on the lower slopes.

Evidence from this phase retained at Graythwaite includes:

- Much of the interior finishes and fit-out of the Ward Building
- Some of the floor finishes on the ground floor of the House

- The interior finishes and fittings of the Coach House
- The ground floor slab and kitchen fit-out in the Kitchen Wing
- Various moveable items, such as signs and printed materials
- The inner fence around the upper part of the site and gate on the entrance drive
- Recent plantings of privet, white poplar, coral trees and camphor laurels.

4.0 PLANNING FRAMEWORK AND CONTEXT

4.1 Strategic context

4.1.1 NSW State Plan

The project is consistent with the following relevant chapters, priorities and targets in the *NSW State Plan*.

Better transport and liveable cities, in particular

- *Improve the road network*
- *Increase walking and cycling*
- *Increase the number of jobs closer to home*

Comment: As detailed in the Traffic Impact Assessment, by Halcrow (**Appendix E**) and summarised at Section 7.6, the use of non car based modes of transport will be encouraged.

Clever State

- *Make sure children have the skills for learning by school entry*
- *Support students to reach their full potential at school*
- *Engage students in learning for longer*
- *Improve access to jobs and training*
- *Increase access to knowledge and skills in partnership with universities*

Comment: The Concept Plan will make a material contribution to the standard of educational facilities offered to Shore students, enhancing their education experience.

Green State

- *Tackle climate change*
- *Secure sustainable supplies of water and use our water more wisely*
- *Reduce waste*

Comment: As detailed in the Indicative ESD Assessment by Heggies (**Appendix I**), the project will incorporate measures to minimise demand for water and energy and waste/recycling management procedures will be adopted to reduce waste (Section 7.6).

4.1.2 Metropolitan Strategy

City of Cities: A Plan for Sydney's Future (the **Metropolitan Strategy**) was launched by the NSW Government in December 2005. It provides commentary and direction for the next 25-30 years at a regional level on issues such as land use, economic development, jobs, transport, innovation, centres and corridors, and residential areas within Sydney. It aims to accommodate 1.1 million additional residents and 500,000 new jobs over the period to 2031. The Concept Plan and Stage 1 Project Application satisfy the Metropolitan Strategy objectives which aim to:

- Promote City learning initiatives by facilitating development around research hubs
- Build Sydney's knowledge infrastructure
- Provide fair access to housing, jobs, services and educational opportunities.

4.1.3 Draft Inner North Subregional Strategy

The Draft Inner North Subregional Strategy was released on 18 July 2007. It is a key part of the implementation of the Metropolitan Strategy and is intended to guide land use planning in the subregion to 2031.

Graythwaite (and adjoining Kailoa) are identified in the Subregional Strategy on Figure 28 – Resources and heritage in the Inner North Subregion.

North Sydney Central Business District is identified as part of Global Sydney. Education is identified as an important asset.

The Draft Subregional Strategy sets a 2031 target of 15,000 additional dwellings and 11,000 additional jobs in North Sydney LGA. This creates demand for new student places

4.1.4 North Sydney 2020 Strategic Vision (2006)

North Sydney Council's 2020 Strategic Vision (2006) articulates the long-term priorities and objectives for managing growth, community development and service provision within the local government area (**LGA**). The overarching vision statement for the North Sydney LGA is stated in the 2020 vision document as follows:

North Sydney is a vibrant community with a major and unique commercial centre surrounded by related villages and neighbourhood centres. We celebrate community harmony, respect and diversity and we are recognised for our excellence in innovation, business and ecological sustainability.

Ours is a place where residents and businesses are proud to belong and we welcome students and others who work in, visit and enjoy the area. Our community supports social, economic and environmental wellbeing through local and practical solutions.

4.1.5 Draft North Sydney Local Development Strategy (2008)

A Draft North Sydney Local Development Strategy 2008 (**draft LDS**) has been prepared by North Sydney Council. The draft LDS aims to:

- Provide background to the community on why a new comprehensive Local Environmental Plan (**LEP**) is being prepared
- Identify the broad range of Council's existing strategies, studies, plans and policies that underpin the preparation of Council's new comprehensive LEP
- Illustrate how Council's new comprehensive LEP will be consistent with the Metropolitan Strategy and draft Inner North Subregional Strategy.

On 21 July 2008, Council resolved to place the draft LDS on public exhibition with the draft comprehensive LEP. Exhibition of the draft comprehensive LEP and draft DCP is scheduled to commence in early 2011. In any event, the Draft LDS is available on Council's website.

The draft LDS, under the heading Environment, Heritage and Resources states that:

North Sydney Council contains 25 heritage conservation areas and approximately 1400 heritage items in total within the LGA. NSLEP 2001 provides protection to these heritage items. Of particular note are, Luna Park, Brett Whitely's former home and studio, BHP Tank Farm, the former Quarantine Boat Depot, the National Maritime Museum Shipyard and Graythwaite Estate. Preservation of these resources is vital in improving and maintaining the quality and sustainability of North Sydney.

4.1.6 North Sydney Local Environmental Plan 2001 Review

Council is in the process of translating its current NSLEP 2001 into the Standard Instrument. The new comprehensive LEP will reflect the current NSLEP 2001 within the constraints imposed by the Standard Instrument.

Council resolved to prepare a draft Comprehensive LEP on 15 October 2007 and notified the DoP of this on 1 November 2007. An accompanying Draft Development Control Plan (**Draft DCP**) is also being prepared.

In August 2010, Council sought an amended Section 65 certificate to enable exhibition of the draft comprehensive LEP. As noted above, exhibition is due to commence in early 2011.

4.1.7 North Sydney Section 94 Contributions Plan

This contributions plan sets out Council's contribution rates for additional residential and commercial developments. At Section 1.4, the contributions plan notes that commercial development includes space to be used for hotels, medical centres, refreshment rooms, restricted premises, shops, showrooms and take-away food

shops). As the project proposes use of the Graythwaite site as an *educational establishment*, it is not subject to a contribution levied under the contributions plan.

4.1.8 Commonwealth and State legislation

The following legislation, environmental planning instruments and planning reforms may be relevant to an expansion of Shore onto the Graythwaite site:

- Environment Protection and Biodiversity Conservation Act 1999 (**EPBC Act**)
- Threatened Species Conservation Act (**TSC Act**)
- Environmental Planning and Assessment Act, 1979 (**EP&A Act**)
- Heritage Act, 1977 (**Heritage Act**)
- National Parks and Wildlife Act, 1974 (**NPW Act**)
- State Environmental Planning Policy (Infrastructure) 2008 (**Infrastructure SEPP**)
- State Environmental Planning Policy (Major Development) 2005 (**Major Development SEPP**) and Part 3A of the EP&A Act
- State Environmental Planning Policy No.55 – Remediation of Land (**SEPP 55**)
- State Environmental Planning Policy No.19 - Bushland in Urban Areas (**SEPP 19**)
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (**Harbour REP**)

A summary of the relevant provisions of these pieces of legislation, instruments and reforms follows.

4.1.9 EPBC Act and TSC Act

The Graythwaite and Shore sites are not listed on the National Heritage list under the Commonwealth EPBC Act.

None of the vegetation on the site meets the criteria for any of the EPBC Act or TSC Act listed Critically Endangered Ecological Communities (**CEECs**) or Endangered Ecological Communities (**EECs**).

Two Threatened fauna species were found to occur on the site, the Eastern Bent Wing Bat (listed as vulnerable under the TSC Act) and the Grey Headed Flying Fox (listed as vulnerable under the TSC and EPBC Acts). Mitigation measures are set out in the Flora and Fauna Report by Cumberland Ecology (**Appendix D**).

4.1.10 Part 3A of the EP&A Act

The objects of the EP&A Act are:

(a) *to encourage:*

- (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
- (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
- (iii) *the protection, provision and co-ordination of communication and utility services,*
- (iv) *the provision of land for public purposes,*
- (v) *the provision and co-ordination of community services and facilities, and*
- (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- (vii) *ecologically sustainable development, and*
- (viii) *the provision and maintenance of affordable housing, and*

(b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*

(c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

The project is consistent with the relevant objects of the EPA&A Act as it represents good planning, proposes orderly and economic use of the Graythwaite site, upgrades services as required, considers flora/fauna issues and ESD and North Sydney Council and relevant State agencies have been consulted by the proponent.

Part 3A of the EP&A Act outlines the process for considering major project applications. In particular it outlines:

- What development constitutes a major project
- The matters which the Minister must take into account when assessing a major project application
- Information which must be submitted with a major project application
- The environmental assessment requirements for approval
- Public exhibition of major project applications
- Assessment report procedures
- Appeals under Part 3A.

This document and the appended reports and plans are an EAR for the purpose of the concurrent Concept Plan and Project Application submitted under Part 3A of the EP&A Act.

4.1.11 Heritage Act

The Graythwaite site is listed on the SHR. As the project is to be determined under Part 3A of the EP&A Act, a Section 60 approval under Heritage Act need not be obtained. Notwithstanding, a CMP has been prepared to guide redevelopment of the site and in November 2010 was submitted to the Heritage Office for approval and endorsement.

4.1.12 NPW Act

The NPW Act provides for the protection of Aboriginal cultural heritage. The Act is administered by the DECCW who is also responsible for identifying, caring for and promoting Aboriginal culture and heritage in NSW. Under Section 87 of the Act, a permit is required to conduct works which will excavate, disturb, damage or move an Aboriginal object. A permit under Section 90 of the Act is required to destroy any Aboriginal objects.

As noted at Section 3.2, the Graythwaite site has not been identified as containing any potential Aboriginal objects. Nevertheless, should any Aboriginal objects be discovered at the site then all works in the vicinity should cease immediately and DECCW contacted (Statement of Commitment 3, **Table 16**).

4.1.13 Infrastructure SEPP

The divisions of the Infrastructure SEPP that relate to Educational Establishments, Railway Corridors and Traffic Generating Developments are relevant to the project. A summary of these divisions follows.

Division 3 Educational establishments

Clause 28(1A) of the Infrastructure SEPP permits the development of an *educational establishment* (on behalf of a person other than a public authority) on land in a *prescribed zone*⁴. The Special Use Zone under NSLEP 2001 is equivalent to Zone SP1 and/or Zone SP2 under the Standard Instrument; therefore it is a *prescribed zone* for the purpose of Clause 28(1A).

⁴ Pursuant to the Infrastructure SEPP, clause 27:

prescribed zone means any of the following land use zones or a land use zone that is equivalent to any of those zones:

....

(q) SP1 Special Activities,

(r) SP2 Infrastructure,

....

Clause 28(2)(b) of the Infrastructure SEPP permits the expansion of an existing *educational establishment* on land adjacent to an existing *educational establishment* (even though an *educational facility* is prohibited in the Special Use Zone (Hospital) under NSLEP 2001).

Clause 28 of the Infrastructure SEPP states (our emphasis):

28 Development permitted with consent

- (1) *Development for the purpose of educational establishments may be carried out by or on behalf of a public authority with consent on land in a prescribed zone.*
 - (1A) *Development for the purpose of educational establishments may be carried out by or on behalf of a person other than a public authority with consent on land in a prescribed zone.*
 - (1B) *Subclause (1A) ceases to have effect 3 years after the commencement of that subclause.*
- (2) *Development for any of the following purposes may be carried out by any person with consent on any of the following land:*
 - (a) *development for the purpose of educational establishments—on land on which there is an existing educational establishment,*
 - (b) *development for the purpose of the expansion of existing educational establishments—on land adjacent to the existing educational establishment....*

Division 15 Railways

As noted at Section 2.1 of this report, the North Shore Railway is below and immediately adjacent to the site. Pursuant to Division 15 of the Infrastructure SEPP, development within or above a rail corridor which involves excavation and other works (including those that penetrate the ground to a depth of two metres or more), requires the concurrence of the rail authority. Section 7.16 addresses excavation above the railway tunnel.

Division 17 Roads and Traffic

Clause 104 of the Infrastructure SEPP applies to traffic generating developments and ensures that the RTA is given the opportunity to make representations on certain traffic generating DAs before a consent authority makes a determination on the project. Schedule 3 of the Infrastructure SEPP lists traffic generating developments that must be referred to the RTA. It includes *educational establishments* with 50 or more students. As the Concept Plan provides the potential to accommodate up to 500 additional students, this concurrence requirement is triggered.

4.1.14 Major Development SEPP

The Major Development SEPP identifies certain categories of development and certain specified sites that are subject to assessment and determination under Part 3A of the EP&A Act, for which the Minister for Planning is the consent authority.

The Concept Plan and Project Application were declared a Major Project under Clause 20 of Schedule 1 as a development for the purpose of teaching or research (including universities, TAFE or schools) that has a CIV of more than \$30 million.

4.1.15 SEPP 55

SEPP 55 provides controls and guidelines for the remediation of contaminated land. In particular, this Policy aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

Clause 7 specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether land is contaminated and if the land is contaminated, it is satisfied that the land is/can be suitable for the proposed development. Section 7.7 explains that the Graythwaite site can be made suitable for the proposed uses.

4.1.16 SEPP 19

SEPP 19 requires consent for any proposal that disturbs bushland zoned or reserved for public open space. SEPP 19 does not apply as the Graythwaite and Shore sites are not zoned bushland or reserved for open space (and do not adjoin any such land).

4.1.17 Harbour REP

The Harbour REP covers all the waterways of Sydney Harbour, the foreshores and catchment. The entire North Sydney local government area is covered by the Harbour REP. The Graythwaite and Shore sites are not located on the foreshore and are outside of the Foreshore and Waterways Area boundary. The sites are not identified as Heritage Items under the Harbour REP.

Consistent with the relevant Planning Principles at clause 13 of the Harbour REP, the project preserves the natural assets of the Graythwaite site, stormwater management is to be improved, new buildings proposed on the site have been sited so that they will not be visible from Sydney Harbour (and any sightlines available to Graythwaite House will be preserved) and the site is not affected by acid sulfate soils.

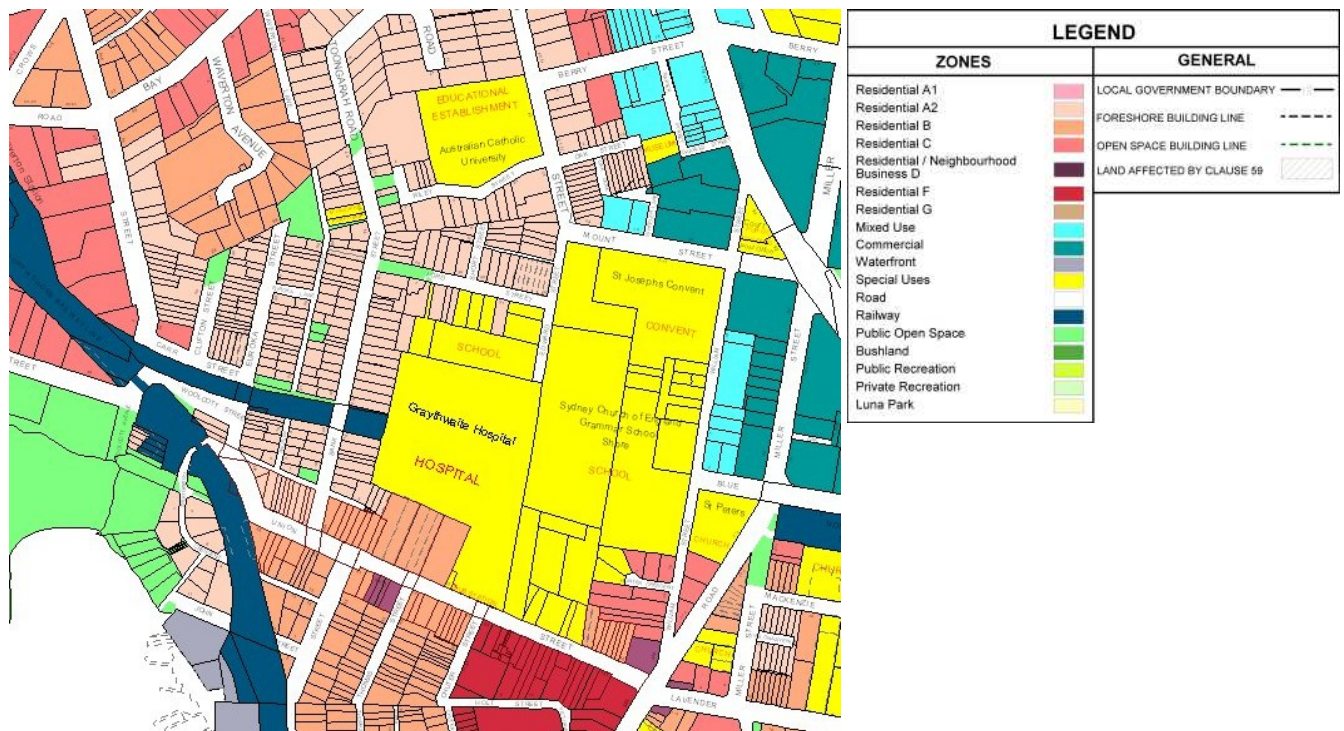


Figure 36 Zoning map (NSLEP 2001)

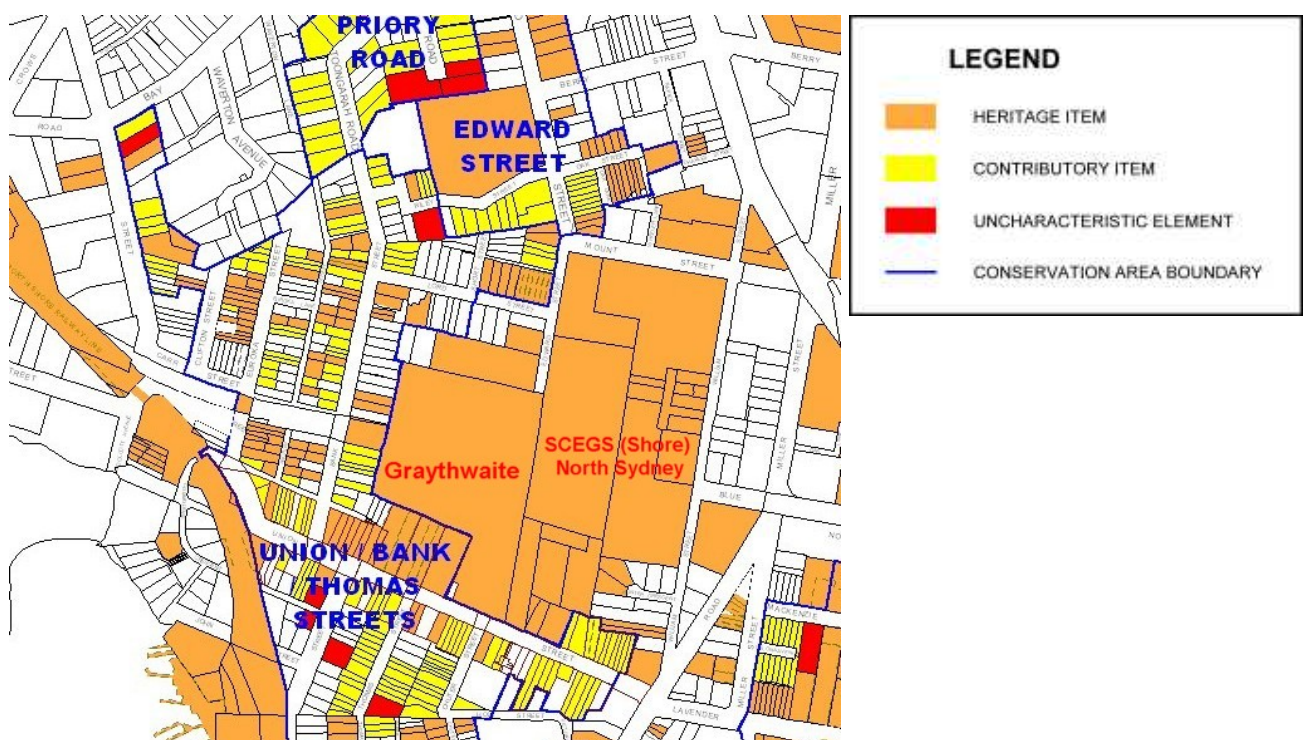


Figure 37 Heritage map (NSLEP 2001)

4.2 Local planning instruments and controls

The following LEP and DCP apply to the Shore and Graythwaite sites:

- North Sydney Local Environmental Plan 2001 (**NSLEP 2001**)
- North Sydney Development Control Plan 2002 and Character Statements (**DCP 2002**)

A summary of the relevant provisions of these local plans follows. As State planning legislation/plans override some local planning provisions, this Section should be read in conjunction with Section 4.1.

4.2.1 NSLEP 2001

A summary of the relevant provisions under NSLEP 2001 follows:

- The Graythwaite site is in the Special Uses Zone (Hospital) which prohibits *educational establishments*⁵. An extract from the zoning plan is shown on **Figure 35**. As detailed at Section 4.1.13, the Infrastructure SEPP overrides this prohibition
- The Shore site is in the Special Uses Zone (School) which permits *educational establishments*
- The special provisions for Special Use Zones (Clause 34) provide that the objectives and controls applicable to an adjoining zone apply to land in a Special Use Zone. Where a site adjoins more than one zone, the most onerous zone applies. The Graythwaite site adjoins or is across the road from land in the following zones (as illustrated on **Figure 36**):
 - Residential A2 Zone
 - Residential B Zone
 - Residential F Zone (McMahons Point)
 - Railway Zone (which pursuant to clause 34(5) is not a zone to be used to determine the most restrictive development standards)
 - Special Use Zone (School)
 - Special Use Zone (Substation)

Out of these adjoining zones; the objectives, permissible uses and development standards set out for Residential A2 Zone are likely to be the most restrictive. The Residential A2 Zone provisions are therefore relevant to the project

- The Graythwaite site and Shore site are items of environmental heritage (listed at Schedule 3 of NSLEP 2001), are within a heritage conservation area and are in the vicinity of many heritage items (refer extract from the NSLEP 2001

⁵ Pursuant to the definitions at Schedule 2 of NSLEP 2001:

educational establishment means a building used as a school, college, technical college, academy, lecture hall, gallery or museum, but does not include a building used wholly or principally as an institution or child care centre.

Heritage Map at **Figure 37**). The conservation incentives under clause 51 of NSLEP 2001 enable the grant of consent for use of a heritage item otherwise prohibited in the zone (for example an *education facility* on the Graythwaite site)

- A table of compliance with the relevant provisions under NSLEP 2001 is provided later at **Table 7** in Section 7.2.

4.2.2 DCP 2002

DCP 2002 sets out detailed provisions on all aspects of development. The key controls relevant to the project include:

- **Cultural Resources and Heritage** - (DCP 2002, Part 9)(addressed in detail in the SOHI, **Appendix H**)
- **Carparking for educational facilities** – One space per six staff (DCP 2002, Part 9)
- **Lavender Bay Area Character Statement** (DCP 2002, Clause 5.0)
- **Graythwaite Neighbourhood** (DCP 2002, Clause 5.5) – This planning area includes Shore and adjoins Graythwaite. It identifies Graythwaite Hospital as an identity/icon, refers to distant views of the CBD from Graythwaite and nominates the trees in the grounds of Graythwaite as a natural feature
- **Graythwaite** (DCP 2002, Clause 5.6) – This planning area encompasses the Graythwaite site.

A detailed table of compliance with these sections of DCP 2002 is set out in **Table 8** in Section 7.2 . Other sections of DCP 2002 that may be relevant to the project include:

- Section 3 Submitting an Application
- Section 4 Notification of Applications
- Section 14 Erosion and Sediment Control
- Section 15 Stormwater Drainage
- Section 19 Waste Management
- Section 23 Traffic Guidelines for Development
- Section 24 Public Infrastructure

5.0 CONSULTATION

In preparing this EAR, and as required by the DGRs (**Appendix A**), the proponent has consulted a number of agencies and has met with local precinct committees to outline the project. The agencies and committees consulted prior to lodging this EAR are set out in **Table 4**, along with a summary of their pre-lodgement advice.

Table 4 Consultation

Agency	Date	Agency comments/advice
North Sydney Council (councillors)	23 August 2010 6.00pm	<p>Tanner Architects presented the following:</p> <ul style="list-style-type: none"> – A background to the project, including a brief history of the site – The key findings of the revised CMP, including the heritage assessment of the site and its individual elements, key views, important landscape items and areas – Historical and present day photographs of the site and buildings – Heritage constraints and opportunities plan, focussing on the key areas where sensitive new development could occur – Proposal for the refurbishment of Graythwaite House – The discussion about the proposal including comments on the following: – Generally positive response to the proposal to retain the Union Street frontage undeveloped; – Details of the proposed adaptive re-use of Graythwaite House, including provision of a lift and use of the attic for storage. – Opportunities for public access to the site. – The need to undertake immediate remedial repair works to Graythwaite House, to prevent its ongoing deterioration.
NSW Heritage Branch	21 June 2010 2.30 pm	<p>Members of the Heritage Branch present included Vincent Sicari and Petula Samios. A walk through of the whole of the site was provided. The following issues were presented and discussed:</p> <ul style="list-style-type: none"> – Background, discussion about the preparation of a revised conservation management plan, taking into account the changed ownership and circumstances of the site – Proposal to apply for approval pursuant to Part 3A of the EP&A Act – PS advised that the HB would be interested in maintaining an ongoing consultative role in the project – PS offered to provide assistance in liaising with North Sydney Council
Precinct Committees	17 August 2010 6.00 pm	<p>See Tanner Architects' presentation to North Sydney Councillors. The discussion about the proposal included comments on the following:</p> <ul style="list-style-type: none"> – Generally positive response to the proposal to retain the Union Street frontage undeveloped, and the areas for new development generally; – Queries about the extent of retention / removal of landscape elements; – Discussion of details of the history of the site, including the brick water cistern and provenance of the tennis courts; – Opportunities for public access to the site.
North Sydney Council (planners & heritage advisors)	21 September 2010 3.00pm	<p>See Tanner Architects' presentation to North Sydney Councillors. Comments from Council officers related to:</p> <ul style="list-style-type: none"> – Remedial repair works to Graythwaite House – Amalgamation of the Shore and Graythwaite sites – Compliance with the BCA – Plan of Management for the Trees – Construction access – West Building and potential concern from Bank Street residents

6.0 CONCEPT PLAN DESCRIPTION

6.1 Overview

The Concept Plan seeks approval for the following:

1. Use of the Graythwaite site as an *educational establishment*, being an extension of the adjoining Shore campus
2. Conservation and adaptive reuse of Graythwaite House, the Coach House and other existing buildings on the site (and some demolition works)
3. Building envelopes (above and below ground) for new buildings on the Graythwaite and Shore sites with an additional gross floor area (**GFA**) of 5,345.80m²
4. Pedestrian and vehicular access arrangements and 48 car parking spaces
5. Capacity or potential to accommodate up to about 500 additional students and 50 additional staff
6. Landscape concept including removal of 80 trees (being 53 weed species, 12 inconsistent, five minor vegetation, three garden escape, four colonisers, two poor quality and one unstable Port Jackson Fig)
7. Completion of the Concept Plan works in three stages (Stages may be separated into sub-stages and re-sequenced).

The Concept Plan Architectural Plans (by Mayoh Architects) and Concept Landscape Plan (by Taylor Brammer) are included in **Volume 2** (reproduced as **Figure 39** and **Figure 44** (respectively)).



Figure 38 Existing site plan (by Mayoh Architects in association with Tanner Architects)



Figure 39 Concept Plan site plan (by Mayoh Architects in association with Tanner Architects)

6.2 Built form

6.2.1 Graythwaite House

Shore's priority is to conserve Graythwaite House (which has exceptional heritage significance), its significant outbuildings and the significant landscape features. It is proposed to use the House for administration and reception purposes. Externally, the building is to be conserved and reconstructed to its late nineteenth/early twentieth century appearance, involving the removal of intrusive non-original fabric, the repair and reconstruction of deteriorated original fabric and the reconstruction of missing original decorative features. Internally, the plan form is to remain largely intact and the spaces adapted for staff use (classroom uses are not proposed as they are deemed too intensive for a building of this character). New work includes a disabled lift and new toilets (suitable for disabled use); both needed for a practical outcome. Basements, attics and the rooftop will not be generally accessible (BCA and fire safety issues).

6.2.2 Coach House

The 1890s Coach House, which has a high heritage significance, is to be adapted for staff administrative offices at ground floor and a caretaker's residence at first floor. Remedial repair works include the renewal of rainwater goods and roofing and repair of brickwork. New work includes the construction of a new verandah and, internally, new bathrooms, staff offices, kitchen, bedroom and living room facilities.

6.2.3 Tom O'Neill Centre

The former Tom O'Neill Centre, which has moderate heritage significance, is to be adapted and refurbished for use as school student music facilities (Stages 1 and 2). Remedial repair works include the rectification of rising damp and renewal of rainwater goods and roofing. New work includes minor alterations and additions to provide a teaching space, BCA compliance and provision for new WCs. At Stage 3, the Tom O'Neill Centre is to be demolished and replaced with a new building of similar scale associated with the proposed West Building.

6.2.4 New buildings

In addition to the conservation and refurbishment of the retained historic buildings, four new buildings are proposed to provide facilities to meet future needs of the School. The role, scale, massing and character of the new elements have been carefully considered to provide an attractive ensemble of buildings in a landscaped setting, ensuring that Graythwaite House, its outbuildings and the significant landscape remain the dominant features of the site. Information on the new building envelopes follows at Section 6.4.

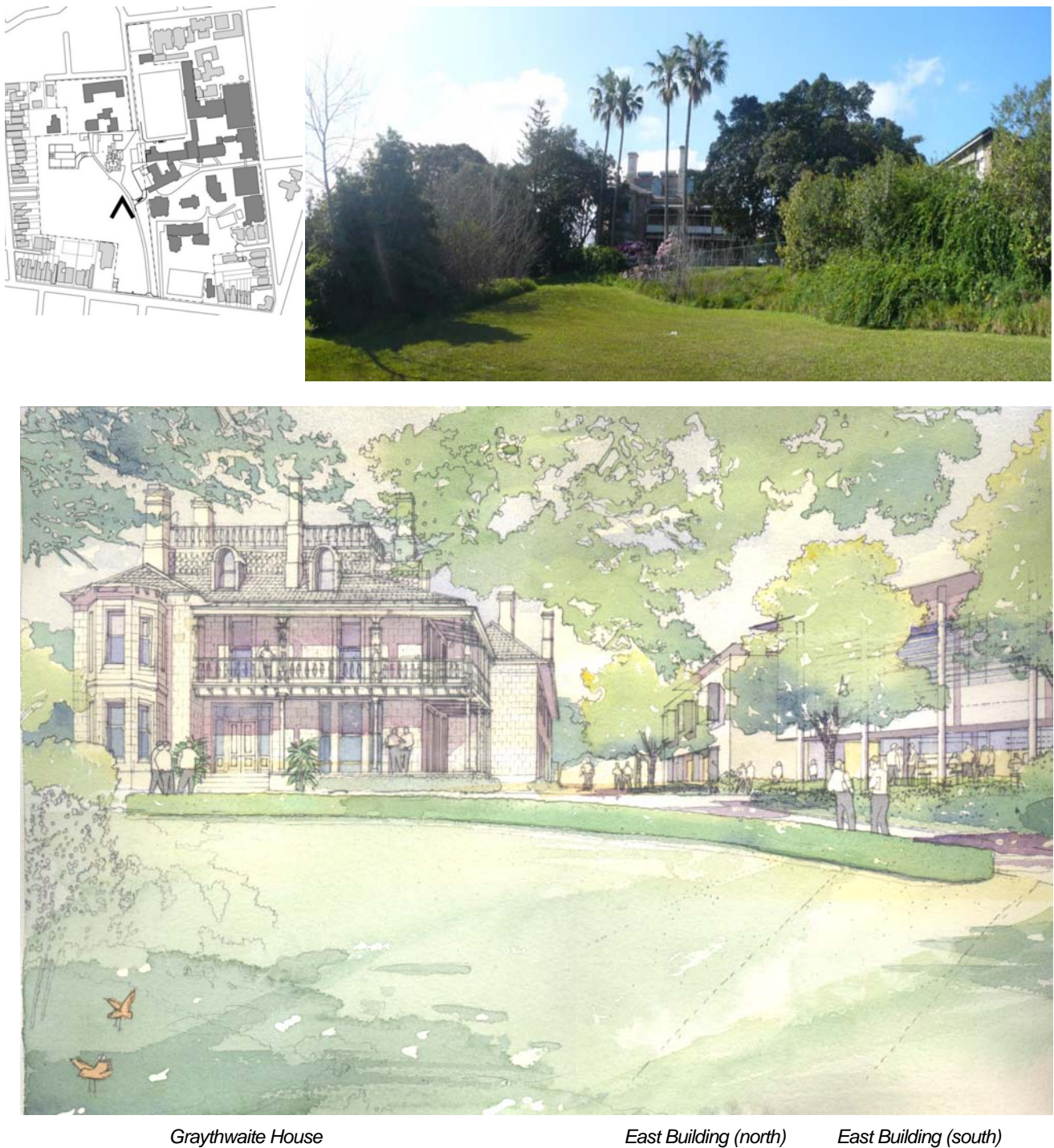


Figure 40 Proposed perspective view of Graythwaite House and East Building looking north (also showing existing photograph and view position) (Source: Tanner Architects)

6.3 Demolition

To accommodate the Concept Plan, the existing Ward Building (Stage 2) and potentially the Tom O'Neill Centre (Stage 3) are to be demolished (refer Concept Plan Drawing A.000, **Volume 2**). As shown on **Figure 12**, the CMP concludes that the Ward Building and Tom O'Neill Centre have moderate heritage significance.

6.4 Building envelopes

As noted above, four new building envelopes are proposed as part of the Concept Plan. Perspective sketches of the existing/retained buildings and proposed new buildings are shown at Figure 40 to **Figure 43**. A brief description of the new building envelopes follows.

6.4.1 North Building

- The North Building is to be located to the north of Graythwaite House, and is set back 2m from the existing historic garden wall to the west. It defines the northern edge of the 'Service Yard' precinct
- The North Building is to be one storey above ground and one storey below ground (existing trees limit the height of the North Building). The two levels are linked via an internal stair
- The building is accessed on grade from the south
- A secondary pedestrian link passes between the south façade of the North Building and the north façade of Graythwaite, through to the Formal Garden
- The North Building has a maximum height of 4m (RL 78.48).

6.4.2 East Building

East Building (South)

- East Building (South) is to be located to the south east of Graythwaite House.
- The East Building will have two main floor levels visible above ground, with a third floor level set back against the existing School House
- A two level car park is to be located underneath the building footprint, which will be entered via a driveway to the south
- The alignment of this building will correspond with the alignment of School House and as such, its south western corner skews back towards the east, away from Graythwaite House
- East Building is separated by a pedestrian link connecting the main school with Graythwaite and framing eastern views of Graythwaite. On the upper floors, this link could be used as an outdoor covered learning area.



Graythwaite House

East Building (north)

East Building (south)

Figure 41 Proposed perspective view of Graythwaite House and East Building looking east (also showing existing photograph and view position) (Source: Tanner Architects)

East Building (North)

- The East Building (North) is to be a two and three storeys located to the north east of Graythwaite House. The building has two levels adjoining Graythwaite and possibly three levels adjoining the existing West Wing
- A two level car park is to be located underneath the building footprint
- East Building will form a physical link between the existing 'West Wing' of the Senior School and the new East Building (north)
- East Building is to be separated by a pedestrian link connecting the main school with Graythwaite and framing eastern views of Graythwaite House
- The buildings sunny northern edge is proposed to have a deep sheltered undercroft facing the oval
- The ground floor of this building may contain key school services and facilities as a kind of hub at the centre of the combined Shore and Graythwaite sites
- The East Building has a maximum height of 10m (RL 84.28).

6.4.3 West Building

- The West Building is located in the north western portion of the Graythwaite site, and is surrounded to the north, west, south and south-east by large trees. The natural ground level falls steeply from the north-east to south-west
- The building envelope steps down the site with a maximum of three storeys visible above natural ground and some areas of the building located below grade
- The West Building is to comprise two main building forms, orientated north-south and linked via an atrium and circulation area
- The building is to be accessed from the east, on Levels 2 (on grade) and 3 (via an external stair). A lift will provide vertical access throughout the building
- This building will link below grade to the Tom O'Neill Centre or its successor
- The West Building has a maximum height of 14m (RL 77.67).

6.4.4 Tom O'Neill Centre

- The Tom O' Neill Centre (or its successor) is located to the north-west of Graythwaite, and defines the western edge of the Formal Garden Area
- The building will have a similar footprint to the existing Tom O' Neill Centre, but will extend further to the north to align with the northern edge of the proposed North Building
- The building is to be one storey above ground and one storey below ground, linking below ground to Level 2 of the West Building.



Graythwaite House

East Building (south)

Figure 42 Proposed perspective view of Graythwaite House looking north-west (also showing existing photograph and view position) (Source: Tanner Architects)

- The building will be accessed from the east and the west on grade and from Level 2 of the West Building below grade
- The Tom O'Neill Centre has a maximum (existing and proposed) height of 5.9m (RL 78.35).

6.5 Gross floor area

The Concept Plan proposes a total *gross floor area*⁶ (**GFA**) of 7,594.4m² comprising existing and proposed buildings. With an existing GFA of 2,248.60m² on the Graythwaite site, the proposed net increase is 5,345.8m².

Table 5 sets out the existing and proposed GFA (based upon areas calculated by Mayoh Architects and Tanner).

Table 5 Existing GFA and Concept Plan GFA (based upon areas calculated by Mayoh & Tanner Architects)

	Existing GFA (m ²)	Concept Plan GFA (m ²)	
		Existing to be retained	New buildings
West building			3,082.50
North Building			175.00
East building			3,219.70
Coach house	130.30	130.30	
Tom O'Neill	113.10	113.10	
Ward building	1031.10		
Graythwaite	974.10	873.80	
		1,117.20	6,477.20
Totals	2,248.60	7,594.40	
Net increase		5,345.80	

⁶ Pursuant to the Dictionary to the Standard Instrument – Local Environmental Plans:

gross floor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:

(a) the area of a mezzanine, and

(b) habitable rooms in a basement or an attic, and

(c) any shop, auditorium, cinema, and the like, in a basement or attic,

but excludes:

(d) any area for common vertical circulation, such as lifts and stairs, and

(e) any basement:

(i) storage, and

(ii) vehicular access, loading areas, garbage and services, and

(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and

(g) car parking to meet any requirements of the consent authority (including access to that car parking), and

(h) any space used for the loading or unloading of goods (including access to it), and

(i) terraces and balconies with outer walls less than 1.4 metres high, and

(j) voids above a floor at the level of a storey or storey above.



West Wing East Building (north) Graythwaite House North Building Shore Preparatory School (Upton Grange)

Figure 43 Proposed perspective view of the Graythwaite and Shore sites looking south-west from the Shore Oval (also showing existing photograph and view position) (Source: Tanner Architects)

6.6 Design and heritage guidelines

Tanner Architects has prepared a document titled *Graythwaite Planning Parameters (Volume 2)*. The document provides detailed guidelines for the scale, materials, expression and form of new buildings on the Graythwaite site (partly sited on the Shore site), their relationship with retained historic buildings and the preferred treatment of various landscape and other areas on the site. It is proposed that the guidelines are used to guide applications for the detailed design of new buildings on the site.

The guidelines provide planning parameters for the following elements:

- Gates / Union Street Frontage
- Driveway and Associated Planting
- Tennis Court Terrace
- Lower Garden
- Graythwaite House
- Landscape East
- East Building (south)
- East Building (north)
- Service Yard
- North Building
- Formal Garden
- Tom O'Neill Centre
- Coach House and Forecourt
- West Building
- Edward Street Frontage

Statement of Commitment 2, **Table 16** provides that future Project Applications will comply with the Planning Parameters document to the fullest extent possible. An assessment of compliance with the Planning Parameters document for the Stage 1 Project Application follows in Section 9.2.



Figure 44 Landscape Concept Plan (Source: Taylor Brammer)

6.7 Landscape concept

6.7.1 Landscaped area

On the Graythwaite site, the Concept Plan proposes a *landscaped area*⁷ of 20,307.6m², which equates to 75.84% of the site area (based upon a site area of 26,774.4m²). The land included in the *landscaped area* calculation is illustrated on the Landscaped Area Plan, by Mayoh Architects (**Appendix J**).

6.7.2 Tree retention/removal

The Development Impact Assessment by Earthscape Horticultural Services (**Appendix C**) identifies 230 trees within the Graythwaite site and in close proximity on the adjoining boundaries. The Tree Removal and Retention Plan by Taylor Brammer (LA.DA.002, **Volume 2**), which was prepared in consultation with the Earthscape, shows the following:

- Retention of 143 existing trees
- Removal of 80 trees (being 53 weed species, 12 inconsistent, five minor vegetation, three garden escape, four colonisers, two poor quality Port Jackson Figs)
- Transplanting of seven trees (being six Washington Palms and one Frangipani)

Tree removal and transplanting will take place as part of the Stage 1 project.

6.7.3 Landscape concept

For the Concept Plan, Taylor Brammer has prepared a Landscape Concept Plan to guide the landscape components of future Project Applications (LA.DA.001, **Volume 2** and **Figure 44**). Taylor Brammer has prepared the following landscape design statement.

The intent of the landscape concept is to provide a suitable setting for Graythwaite House that incorporates the heritage values of the place and accommodates the proposed use and requirements of the School. This design has been arrived at through careful analysis of the landscape significance of the site and an understanding of the landscape evolution of the site. This comprehensive understanding provides a clear strategy of providing a parkland setting for the site that emulates the style and character of the site as it was established in the late nineteenth and early twentieth century.

⁷ Pursuant to NSLEP 2001, Schedule 2 – Definitions:

landscaped area of a site means the part of the site that is generally at existing ground level, that is not occupied at or above or below ground level by any building structure, swimming pool or hard-surfaced tennis court, or the like, that is or is proposed to be predominantly landscaped by way of plantings, gardens, lawns, shrubs or trees and that is available for use and enjoyment by the occupants of the building erected on the site, but does not include any area set aside for driveways and parking.

The grounds are to be upgraded with detailed landscape complementary to the age and character of the house and consistent with the policies of the CMP prepared by Tanner Architects. The broader grounds are to be retained as a park like setting, again consistent with the policies of the CMP with a program put in place to remove the extensive weeds and reclaim the weed infested areas either as a continuation of the grassed areas of the site or under storey planting consistent with specialist botanical advice for planting native to the sub regional area.

This approach highlights the retention of the mature fig trees that are the dominant vegetation of the site, the retention of the grassed terraces, the reestablishment of the detailed gardens around the house commensurate with the style and character of the house and the removal of much of the subsequent weed growth that has occurred over the last twenty years in particular. Some of the subsequent plantings by the local community have to a degree enhanced the setting for the house and site creating selected vegetation communities, particularly under the established fig trees. Some of this planting will be amended to be consistent with the overall values of the site.

The existing landscape of the site will be strengthened through supplementary planting to the periphery of the site, particularly at the interface of the immediate house curtilage and the School. In place of the existing Ward building appropriate tree planting will be positioned so as to provide a stronger curtilage to the house, filtering the new building form and creating a transition of the driveway planting to the eastern face of the house. Supplementary tree planting is proposed for the driveway to augment gaps to the driveway planting with Brushbox trees.

The extensive weeds across the site will be carefully removed over time through a landscape management plan that will be prepared for the site. Part of the Stage 1 works is the proposed removal of the group of self sown Robinia trees adjacent to the main gate at Union Street and the cluster of Coral trees to the southern boundary. Extensive groves of Large Leaved Privet are to be removed along with other weed species such as the Silver Poplars to the bank below Graythwaite. Two Fig trees, a Port Jackson Fig to the drive (T160) and another Port Jackson Fig (T163) are structurally unstable, the latter fig conflicting with the heritage listed Bamboo Clump (T164). Ongoing management of the site will be continuous with the plan using recognised bush regeneration and accepted commercial methods to stabilise and restore the site.

The vegetative associations will form the basis of educational resource for the school in the teaching of natural systems and plant identification for the subjects of Science and Geography. The broad grassed areas will be used for informal recreation by students, in particular for lunch and morning breaks.

6.8 Access and parking

6.8.1 Car parking

The Concept Plan proposes 48 car parking spaces located as follows:

- East Building basement car park (two levels) 41 spaces
- Paved area to the south of Graythwaite 6 visitor spaces
- Coach House 1 space
- Provision of the parking will be staged as follows:
 - Stage 1 7 spaces (6 visitor spaces + Coach House space)
 - Stage 2 41 (East Building basement)
 - Stage 3 0 spaces

6.8.2 Vehicular access

As illustrated on the Vehicular Access Plan (**Figure 45** and Drawing A.003, **Volume 2**), the Concept Plan proposes two vehicular access points to the Graythwaite site being:

- Main entry for general vehicles via Union Street using the existing entry/exist providing access to the basement car park beneath the East Building, the Shore site and the six visitor spaces to the south of Graythwaite. Due to its heritage significance, the existing single lane driveway width will be retained, with reinforced grass verges installed at intervals to allow vehicles to pass each other
- Managed emergency and maintenance vehicular access from Edward Street (with pedestrian priority) via the existing entry/exist
- Vehicular movements within the paved area to the south of Graythwaite House will be kept to a minimum to protect pedestrian amenity.

6.9 Pedestrian access

As illustrated on the Pedestrian Access Plan (**Figure 46** and Drawing A.004, **Volume 2**), the Concept Plan proposes primary and secondary pedestrian links between the Graythwaite site, Shore Senior School and Shore Preparatory School.

All of the existing and proposed buildings will have at least one accessible entry point and passenger lifts will be provided in Graythwaite House, the new West Building and new East Building. The main pedestrian entry to Graythwaite House is to be via the existing main entry which faces south.





6.10 Use and population

The Concept Plan seeks consent for use of the Graythwaite site as an *educational establishment*. The existing number of students and employees on the Shore site and proposed increase is set out below.

Existing population (Shore site only)

- Students 1,430 (240 Prep School, 1,190 Senior School (including 198 boarders))
- Permanent Staff 240 permanent staff (including boarding staff) and up to 150 casual staff who are employed from time to time

Additional population (Shore and Graythwaite sites)

The Concept provides potential for the Graythwaite site (and Shore site) to accommodate up to 500 additional students and 50 additional employees. The population increase would be introduced in the following stages:

- Stage 1 No increase
- Stage 2 Notionally 100 students and 10 staff (Case 1 – 100 Prep and 0 Senior School: Case 2 - 0 Prep School and 100 Senior School)
- Stage 3 Notionally 400 students and 40 staff (0 Prep School and 400 Senior School)

The Project Applications for Stages 2 and 3 will provide details on the actual composition of students and staff (that is the number of additional Preparatory and Senior School students/employees).

6.11 Site works and ancillary structures

The Concept Plan includes the following site works and ancillary structures:

- Removal of existing and provision of a new fence and entry gate at Union Street, based on historic models
- Upgrading of the historic driveway, including some adjustments for traffic management and new entry points
- Creation of revised south and western forecourts to Graythwaite House and provision of rear services yard, following historic precedent
- Provision of new gates to Edward Street
- Site drainage and stormwater improvements
- Site levelling and landscaping
- External lighting
- Upgraded security and telecommunications.

6.12 Services and infrastructure

The Concept Plan includes upgrading of existing and installation of new services to the Graythwaite site (if and when required). Details will be provided with each Project Application.

6.13 Water management

The IWMP by ACOR (**Appendix F**) concludes the following in relation to the sewerage and water systems.

6.13.1 Sewerage system

There appears to be sufficient capacity in the sewer main to service the Concept Plan. After Project Application approval is granted for each stage, application for Sydney Water Section 73 certificate requirements will be made. The age and condition of the existing Graythwaite House drainage system is unknown. The system will be inspected and pipe works replaced if necessary.

6.13.2 Water reticulation

The Graythwaite site is currently serviced via a 150mm Sydney Water main located in Union Street. Application to Sydney Water will be made for available supply pressure and flows, however, it has been assumed, based on previous use of the house as a hospital, that the existing system has sufficient capacity to service the Concept Plan.

6.13.3 Proposed water management

Stormwater Drainage and Ground Water Treatment

Generally rainwater collection systems will be designed in accordance with North Sydney Council and Australia Rainfall and Runoff, and based on the following minimum criteria:

- Box Gutters – 1 in 100 year storm event
- Eaves Gutters – 1 in 20 year storm event
- Roads and Car parks – 1 in 20 year storm event
- Overland Flowpaths – 1 in 100 year storm event less capacity of the pipe system

Stormwater will drain via conventional underground piped systems for minor storm events and controlled overland flowpaths in designated areas will manage major storm events.

An underground stormwater drainage system is recommended to be constructed during Stage 1 of the development (refer **Appendix F**, Drawing C1.02). This system should include an underground stormwater drainage line running under the western side of the current access driveway and connecting to the existing stormwater drainage pit in Union Street. This drainage system will provide immediate connection for the downpipes from Graythwaite House, the Tom O'Neill Building and the Coach House and will include surface drainage pits along the access driveway.

The system will also provide connections for the proposed East and West Buildings. Rainwater tanks have been notionally located in association with these new buildings for capture and reuse with surplus water overflowing into the stormwater system (Stages 2 and 3).

It is proposed to construct a subsoil drainage system on the northern side of Graythwaite House to capture groundwater and prevent inundation of the basement. New downpipes and a drainage pit, within the internal courtyard, will be constructed to prevent any surface stormwater entering the basement level (Stage 1). A Basement Drain will also be constructed to prevent any build up of groundwater in the basement of the House (Stage 1).

In order to better manage water logging of local areas on the site, it is proposed to construct, during Stage 1 of the development, networks of subsoil drains to allow drainage of the waterlogged areas and management of any underground springs. (examples of potential locations are shown on Figure C1.02, **Appendix F**). The sizing and location of these networks will be designed in conjunction with the Landscape Architect and the Arborist to ensure that the existing heritage planting and any new plantings will be able to be sustained without the need for an artificial watering system (if possible).

Rainwater Reuse

Rainwater tanks will be constructed as part of the East Building (Stage 2) and West Building (Stage 3). Collected roof water could be reused for toilet flushing and irrigation. The design of the stormwater capture and reuse system will be undertaken in conjunction with the future Project Applications for Stages 2 and 3.

Reuse of Grey Water

The reuse of grey or black water on this project is not recommended due to the magnitude of flows to be generated and the limited opportunity for reuse.

6.13.4 Water sensitive urban design

The water sensitive urban design (**WSUD**) strategy for the site is bound in the retention of the native and cultural planting of the site. Through this strategy the existing landscape will be retained and restored with the removal of the extensive weed infestations and the maintenance of the natural/existing water balance. Supplementary watering will be required only in dry periods to the cultural landscape immediately around the house. A substantial portion of the rainfall that falls on the site is absorbed through the significant permeable landscaped areas and is substantially filtered as it passes through the site. Kerbs have been removed to allow for greater absorption on site while overland flow will be unobstructed for major storm events. The natural, aesthetic, social and heritage values of the site have been retained and enhanced through the careful approach to the retention of the heritage landscapes and reinforcement of the natural landscape values to the lower portions of the site. Within these areas, substantial areas of existing grassed areas provide for informal recreation. The native areas of the site will be used for the interpretation of native landscape systems for educational purposes.

6.14 Community access

The Concept Plan includes a Statement of Commitment (Commitment 11, **Table 16**,) that the proponent will provide community access to the Graythwaite site at nominated times throughout the year (eg. Heritage Week by arrangement). Community access will only be provided on the basis that it does not interfere with normal school activities.

Shore's duty of care to its students (including 198 boarders) and staff precludes unrestricted public access to the Graythwaite site.

6.15 Waste and recycling management

Waste bins will be provided in the Graythwaite buildings, around the Graythwaite site and within and around the proposed buildings (North, East and West), to separately collect paper and non-recyclable waste. The school's cleaners will empty these bins on a regular basis and take the two waste streams to the existing separate compactor bins. The compactor bins are located on the Southern side of the existing Dining Hall Building, on the existing Senior School site, adjoining Graythwaite's eastern boundary.

The anticipated path of travel for the waste bins from the Graythwaite site to the Senior School site will be through the existing West Wing building, via the hard paved area to the North of the proposed East Building. This uses the same pathway through the West Wing as is currently used for waste from the Preparatory School.

When the compactor bins are full, the School will contact their local private Waste Contractor to come to empty the bins. The Waste contractor will enter and exit the existing Senior School site via the Union Street driveway, adjoining the staff car park. Waste will then be taken to standard tips or recycling stations.

The Waste Management strategy for the Graythwaite site is consistent with the existing waste management arrangements on the Senior and Preparatory School sites. However, to cater for the future increase in waste generation from the Graythwaite site, the compactor bins would be emptied more frequently as required.

Typically waste is currently collected from the Shore site one or two times a week. There will be no change for the Stage 1 Project Application works, but this frequency could increase to two or three times a week at the end of the Stage 3.

Statement of Commitment 20, **Table 16** provides that the school will assess the feasibility of additional recycling measures (glass and plastic) as part of the Project Applications for Stage 2 and/or 3.

6.16 Staging

As illustrated on the Staging Diagram by Mayoh Architects (**Figure 47** and Drawing No. A.000, **Volume 2**), the Concept Plan proposes three stages of development. Stages may be divided into sub-stages and may not be commenced sequentially. The stages, which will be completed over 10 to 15 years, comprise:

Stage 1

- Conservation and refurbishment of the Graythwaite House, Coach House, Tom O'Neill Centre and associated garden area (the house will not be used for school classes but rather for administrative support and other activities, including perhaps the School archives)
- Drainage and Stormwater improvements, site levelling and landscaping of the site (significantly on the middle and lower terraces)
- Transport, traffic, parking and access improvements to the Graythwaite and Shore sites (spread over Stages 1 to 3)
- Miscellaneous works including site fencing and gates
- No anticipated increase in student or staff population
- Use of the grounds as a play and recreation space

Stage 2

- Development of a new building to the north of the house which may be used for education or administration purposes (North Building)
- Demolition of the Ward Building to the east of Graythwaite House
- Construction of a new building (two wings) to the east of the house for additional classrooms, teaching or other educational facilities (East Building)
- Capacity or potential to accommodate approximately 100 students and 10 staff

Stage 3

- Construction of a new building to the west of the Graythwaite House for additional classrooms, teaching or other educational facilities (West Building)
- Capacity or potential to accommodate approximately 400 students and 40 staff
- Potential demolition and replacement of the Tom O'Neill Centre

The Stage 1 Project Application is described at Section 7.0. Further Project Applications will be submitted for Stages 2 and 3.

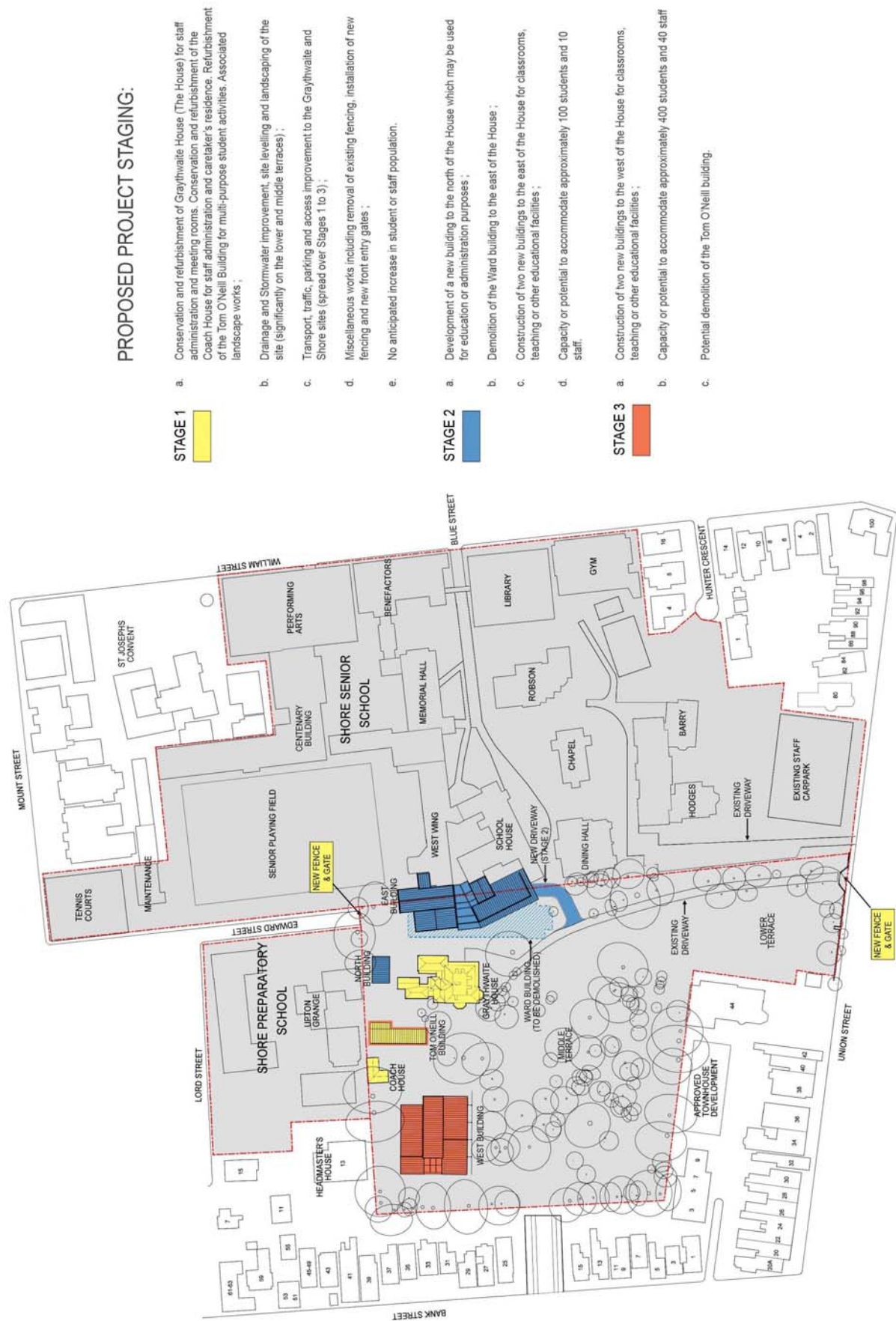


Figure 47 Concept Plan staging diagram (Source: Mayoh Architects)

7.0 CONCEPT PLAN ENVIRONMENTAL ASSESSMENT

7.1 Consistency with strategic and statutory plans and policies

A summary assessment of consistency with the strategic and statutory plans relevant to the Concept Plan is shown in **Table 6**. A detailed assessment of compliance with NSLEP 2001 and DCP 2002 follows in Section 7.2.

7.2 Consistency with NSLEP 2001 and DCP 2002

Pursuant to Section 75R(3) of the EP&A Act, major project applications are only required to comply with State Environmental Planning Policies and other environmental planning policies (LEPs and REPs) to the extent that they dictate permissibility of land uses.

New *educational facilities* are permissible on the Shore site (which is in the Special Uses (School) Zone pursuant to NSLEP 2001). As explained in Section 4.1.13, the proposed expansion of Shore's *educational facilities* onto the Graythwaite site is permitted with consent subject to Clause 28(2)(b) of the Infrastructure SEPP.

DCP controls do not need to be complied with. Notwithstanding, the DGRs require an assessment of compliance with DCP 2002 (refer **Table 1**).

Table 7 assesses the compliance of the Concept Plan with NSLEP 2001 and **Table 8** considers compliance with DCP 2002.

Table 6 Summary of Consistency with Key Strategic and Statutory Plans and Policies

Strategy/Plan	Compliance
State Plan	Consistent with relevant priorities and targets in the State Plan, the Concept Plan promotes non-car based modes of transport, improves <i>educational facilities</i> for Shore (primary and secondary) student and incorporates measures to minimise demand for water and energy and procedures waste/recycling management.
Metropolitan Strategy	The Concept Plan improves Sydney's knowledge infrastructure and promotes access to educational infrastructure, consistent with the Metropolitan Strategy.
Draft Inner North Subregional Strategy	Consistent with the Draft Subregional Strategy, the Concept Plan proposes conservation and adaptive re-use of the Graythwaite House and maintains the existing conditions on the lower terrace, preserving the site's relationship with adjoining Kailoa. Graythwaite and Kailoa are identified in the Subregional Strategy as heritage significant buildings. The Concept Plan also increases the education assets in the Northern Subregion and provides the capacity for an additional 50 jobs, contributing to the employment target of 11,000 additional jobs by 2031.
SEPP (Infrastructure)	<p>Pursuant to clause 28(2)(b) of the SEPP, the proposed expansion of Shore's educational facilities onto the Graythwaite site is permissible with consent.</p> <p>The project is to be referred to the Rail Authority as required by clause 86 of the SEPP.</p> <p>The project is to be referred to the RTA as required under clause 104 of the SEPP.</p>
SEPP 55	The Soil Report, by WSP demonstrates that the Graythwaite site is suitable for use as an <i>educational establishment</i> subject to adoption of the recommendations set out within that report (see Section 7.7 and Appendix F).
SEPP 19	N/A
NSLEP 2001	<p>The project is permissible on the Shore Site (which is in the Special Use (School) Zone. The project is not permissible on the Graythwaite Site (which is in the Special Use (Hospital) Zone. Clause 28(2)(b) of the Infrastructure SEPP, which permits an expansion of educational facilities onto the Graythwaite site, prevails over NSLEP 2001 (see above).</p> <p>A more detailed assessment of compliance with NSLEP 2001 follows in Table 7.</p>
North Sydney DCP 2002	A detailed assessment of compliance with DCP 2002 follows in Table 8 .

Table 7 Compliance with NSLEP 2001

Clause	Required	Compliance
Land use zone (Cl. 9)	Graythwaite site - Special Use Zone (Hospital) Shore site - Special Use Zone (School)	
Permissible development (Cl. 10)	Shore site - <i>educational establishments</i> permissible with consent	✓
Prohibited development (Cl. 11)	Graythwaite site – <i>educational establishments</i> prohibited	N/A Infrastructure SEPP permits the project
Buildings in the Special Use Zone and Private Recreation Zone (Cl. 34)	Buildings must not be erected in the Special Use Zone unless they are consistent with the objectives, permissible uses and development standards for the particular building type on adjoining land and land directly across the road. The most restrictive planning regime applies when a site is near more than one zone..	Noted Adjoining Residential A2 Zone is the most restrictive adjoining zone
Residential A2 Zone Objectives (cl. 14)	(a) maintain lower scale residential neighbourhoods of mainly detached and duplex housing, and (b) assist in the conservation of heritage and other sensitive areas, and (c) encourage the retention of existing contributory items or neutral items in conservation areas, and (c1) promote affordable housing, and (d) minimise the impact of non-residential uses and ensure these are in character with the zone.	
Residential A2 Zone Permissible use (cl. 10)	<i>educational establishments</i> are permitted with consent	✓ Educational facilities are proposed
Residential A2 Zone Height standard (cl. 17)	8.5m	✓ North Building: 4m x East Building: up to 10m x West Building: up to 14m The proposed height is justified at Section 7.3
Residential A2 Zone BHP (cl. 18)	BHP measured 1.8m at the boundary, projected at an angle of 45 degrees	✓ Refer Drawing No A.160, Volume 2
Residential A2 Zone Landscaped area standard (Cl. 20)	60% for sites with an area of 900m ² or more	✓ 75.84% proposed (Appendix J)
Acid sulphate soils (Cl. 41)	The Soil Investigation (Appendix F) notes that according to the Acid Sulfate Risk Map provided by the Land and Water Conservation for this region, there is no known occurrence of acid sulphate soils on the site or the immediate surrounding area.	N/A
This Part to prevail (Cl. 43)	The heritage provisions at Part 4 of NSLEP 2001 prevail over other provisions of the plan to the extent of any direct or indirect inconsistency.	Noted
Heritage conservation objectives (Cl. 44)	Sets out the objectives for the heritage provisions.	Noted
Consent requirements (Cl. 45)	Provides that almost all work to a heritage item requires development consent (very minor works may be Exempt Development).	Noted

Clause	Required	Compliance
Aboriginal sites and relics (Cl. 46)	Sets out objectives and controls for aboriginal sites and relics	✓ The CMP provides recommendations in relation to excavation and ground disturbance which will be incorporated into each PA (Statement of Commitment 3, Table 16).
Archaeological resources (Cl. 47)	Sets out objectives and controls for archaeological resources	See above
Heritage items (Cl. 48)	Schedule 3 lists: Graythwaite - NSHS Item 0830, 20 Edward Street, Graythwaite, including outbuildings and grounds – with interiors of heritage significance and State significance). Shore - NSHS Item 0784, William Street, Shore Sydney Church of England Grammar School Clause 48(2) lists considerations that must be considered in the assessment of a DA in respect of a heritage item	Noted See Section 7 of the SOHI (Appendix H) and Section 7.8 of this EAR.
Conservation areas (cl. 49)	Graythwaite and Shore sites adjoins but is not within a heritage conservation area.	N/A
Development in the vicinity of heritage items (cl. 50)	Sets out objectives and controls for development in the vicinity of heritage items. As illustrated by Figure 37 , the Graythwaite and Shore sites are in the vicinity of many heritage items	✓ See Section 7 of the SOHI (Appendix H) and Section 7.8 of this EAR.
Conservation incentives (cl. 51)	Sets out objectives and conservation incentives that provide for the use of heritage items for uses that would otherwise be prohibited, in order to ensure their conservation (provided that such a use does not reduce residential density or adversely affect amenity).	N/A The project does not rely on the conservation incentives in NSLEP 2001.

Table 8 Compliance with DCP 2002

Clause	Required	Compliance
Graythwaite Neighbourhood (Cl. 5.5)	Planning area includes Shore and adjoins Graythwaite. It identifies Graythwaite Hospital as an identity/icon, refers to distant views of the CBD from Graythwaite and nominates the trees in the grounds of Graythwaite as a natural feature.	Noted
Graythwaite (Cl. 5.6)		
Function		
a. Building typology	<p>ii. Graythwaite is a grand Victorian Italianate mansion on a large, prominent urban property. Historic fabric from its three phases of development are readily evident within the main complex of buildings and the earliest remnants c.1830-50. Substantial sandstone Victorian villa with attached kitchen wings, single storey sandstone outbuilding with loft, and single storey masonry building. Single storey brick building, single storey brick outbuilding with attic, and associated landscaped grounds.</p> <p>ii. Additional uses, as identified in the Conservation Management Plan, include:</p> <ul style="list-style-type: none"> • A grand residence on substantial grounds • A residence in conjunction with a commercial use • Wedding and function reception centre • Community use – a neighbourhood centre in conjunction with public open space • Professional offices in association with a hospital or other health care facility • Uses must be non-intrusive and maintain the heritage fabric of the site. An interpretive feature or explanation may be incorporated into the site. 	<p>Noted</p> <p>x The proposed educational use is not consistent with DCP 2002, but conforms with the new Tanner CMP and retains the heritage fabric of the site.</p>
a.a. Archaeology	Archaeological relics on the site are protected and can be used to shed light on its development or add to understanding of past uses. An excavation permit is obtained for any ground disturbance.	<p>✓ The CMP provides recommendations in relation to excavation and ground disturbance which will be incorporated into each Project Application (Statement of Commitment 2, Table 16).</p>
Environmental Criteria		
b. Views	<p>i. Distant views of CBD and Sydney Harbour.</p> <p>ii. Views of the mansion and substantial landscaping from Union St.</p>	<p>✓ Views to and from the site are protected.</p>
c. Natural Features	i. Trees in grounds of Graythwaite (Moreton Bay & Port Jackson Figs, Washington Palms, Small fruit fig; Cook Pine; Firewheel tree; Jacaranda; English Oak; Monterey pine; Coral trees, Camphor laurels; Brush Box).	Noted
Quality Built Form		
d. Subdivision	i. The grounds form the curtilage to the mansion and should not be subdivided. Do not break up or separate the landscaped terraces and their relationship to the mansion.	<p>✓ No subdivision is proposed.</p>

Clause	Required	Compliance
e. Siting	i. New buildings are located to the north-east and north-west of Graythwaite Mansion.	✓ New buildings (being the North Building, East Building and West Building) are to the north, east and west.
	ii. View corridors of Sydney Harbour, Parramatta River to Parramatta are retained.	✓ View corridors will be retained.
f. Fences	i. Fences are no higher than 1 metre to provide views of Graythwaite from Union Street.	x The proposed Union Street fence is >1m high, but is open to provide views into the site.
	ii. Fencing includes open timber picket fences, low brick or stone wall or a hedge.	✓ The Union Street fence has timber pickets on a stone plinth.
g. Gardens	i. Historic plantings and significant trees are retained, including figs, pines and remnant vineyards.	✓ Retention of all significant (healthy) trees is proposed (refer Section 6.7.2 & Tree Assessment, Appendix C).
	ii. The lower, middle landscaped terraces are retained as open space for public access.	x In 2002, when the DCP was adopted, the Graythwaite site was in public ownership. It is now private land and Shore's duty of care to its students (including 198 boarders) precludes unrestricted public access. Public access will be available during nominated events throughout the year (Statement of Commitment 11, Table 16).
h. Form, Massing and Scale	i. New buildings are subordinate to massing and scale of Graythwaite Mansion, are lower in height and have a smaller footprint.	x/✓ New buildings are subordinate and lower, but new East and West Buildings have larger footprints.
i. Roofs	i. Roofs are pitched between 30 - 45 degrees made of either slate or terracotta tiles.	x Flat roofs are proposed. Roof materials are likely to be metal.
j. Windows and doors	i. Windows are timber framed with traditional vertical proportions.	x The Planning Parameters document provides guidance on window design for new buildings.
k. Materials, Colours, detail	i. Buildings are constructed of face brick, masonry, timber and/or sandstone.	x The Planning Parameters document provides guidance on materials for each of new building to ensure compatibility with Graythwaite House.
	ii. Colours used are browns, greens, grey.	
	iii. Architectural detail, external finishes of any new building are compatible with the Graythwaite Mansion but not a copy.	
Quality Urban Environment		
l. Car Accommodation	i. Car spaces or underground parking is available to accommodate cars.	✓ 7 at grade and 41 basement car parking spaces are proposed (Stages 1 and 2).
m. Public Access	i. Public access is maintained through the site from Edward to Union Street. Access should be maintained during daylight hours and should not be restricted by	x See above

Clause	Required	Compliance
	keyed access.	
	ii. Public access is retained to open space on lower, middle and upper terraces.	
	iii. Property is retained in public ownership, and some buildings are retained for community use.	
Carparking for educational facilities (Part 9)	One space per six staff (Concept Plan provides capacity for 50 additional staff, therefore 8 new spaces are required).	x 42 staff (41 basement and 1 coach house) and 6 visitor car spaces are proposed. This non-compliance is addressed at Section 7.5.2.

7.3 Visual impact

The visual impact of the new building envelopes will be minimal and reasonable given that:

- The height of all proposed building envelopes is below the widows walk to Graythwaite House (to be reinstated as part of the Stage 1 works)
- The lower terrace fronting Union Street is to be retained as an open space. As viewed from the public domain, this portion of the site is the most visually prominent
- Sightlines from Union Street to the new East, West and North buildings will be obstructed by vegetation distance, topography and existing buildings
- Sightlines from Edward Street will be available to the new East and North Buildings (and replaced Tom O'Neill Centre). As illustrated by the perspective sketches at **Figures 40 to 43**, the new East Building is screened by existing vegetation and will read as a logical extension of the existing West Wing and Shore House. This same vegetation has limited the height of the proposed North Centre to one storey above ground, minimising its visual impact. The replacement Tom O'Neill Centre has a height, bulk and scale commensurate with the existing building, maintaining the status quo in terms of its visual impact
- The visual impact of the proposed West Building, as viewed from the adjoining residences in Bank Street, will be acceptable for the following reasons:
 - The proposed West Building envelope is setback 16.8m to 18.6m from the western side boundary of the Graythwaite site which adjoins dwellings on the eastern side of Bank Street
 - This distance is comparable to the rear dwelling setbacks of many of the adjoining Bank Street dwellings
 - The proposed West Building envelope steps down the Graythwaite site to follow the topography and is two storeys at its western edge adjoining the Bank Street dwellings
 - Existing planting along the western boundary is to be retained and substantial new planting is proposed between the West Building and adjoining residences (refer Concept Landscape Plan, **Volume 2** and **Figure 44**).

7.4 Impact on residential amenity

7.4.1 Overshadowing

The proposed West Building envelope is the only Concept Plan addition that has the potential to cast shadows on any adjoining residential properties. Mayoh Architects has prepared shadow diagrams that illustrate shadows cast by the

proposed West Building envelope (**Volume 2**). Diagrams have been prepared for the following times:

- 21 June: 7.35am, 8.00am, 8.20am, 8.40am, 9.00am, 9.20am, 9.40am, 10.00am, 12 noon and 3.00pm (with additional diagrams showing shadows cast by existing/proposed structures and existing trees to be retained)
- 21 September: 9.00am, 12 noon, 3.00pm
- 21 December: 9.00am, 12 noon, 3.00pm
- 21 March: 9.00am, 12 noon, 3.00pm

The shadow diagrams show that in March, September and December; the proposed West Building will not overshadow any adjoining properties.

The diagrams also show that on 21 June (mid winter):

- The first additional shadow is cast on Banks Street properties at 7.35am
- At 9.00am, the proposed West Building will cast additional shadow on the rear yards of 7, 9, 11, 13, 15 and 25 Bank Street (as well as the North Shore Railway line)
- By 9.20am, the additional shadow from the proposed West Building would affect 15 and 25 Bank Street only (as well as the North Shore Railway line)
- By 9.40am, there will be no additional shadow cast on any adjoining residential property.

The additional shadow cast by the proposed West Building envelope is reasonable in the following circumstances:

- The proposed West Building envelope is setback 16.8m to 18.6m from the western side boundary of the Graythwaite site which adjoins dwellings on the eastern side of Bank Street. This distance is comparable to the rear dwelling setbacks of many of the adjoining Bank Street dwellings
- The proposed West Building envelope steps down the Graythwaite site to follow the topography and is two storeys at its western edge adjoining the Bank Street dwellings
- Most of the additional shadow cast by the proposed West Building envelope falls within shadows cast by existing trees to be retained on the Graythwaite site
- The Land & Environment Court's planning principle for solar access (*The Benevolent Society v Waverley Council* [2010] NSWLEC 1082) states that overshadowing by vegetation should be ignored, except that vegetation may be taken into account in a qualitative way. In undertaking an assessment of the impact of the proposed shadowing, the Minister should consider the true impact of the proposed shadow on the amenity of the affected Bank Street properties

as substantial vegetation currently overshadows them. The foliage shadow studies (A.063) show that:

- Established vegetation casts shadows on Bank Street properties in the morning in midwinter
- Despite creating ‘additional shadow’ the study demonstrates that the new shadows fall on areas that are already in shadow from dense vegetation
- Shadows cast in the morning by distant objects move quite quickly and the most affected Bank Street properties will experience a maximum of impact of one hour (8.20am to 9.20am)
- The affected Bank Street properties will retain more than three hours of solar access, consistent with DCP 2002, Section 7.0 - Residential development, part 7.2 - Environmental Criteria f. Solar Access which states the following:

Solar access

- f. All dwellings have access to sunlight and daylight. Minimal overshadowing of windows to internal living areas and private open space of adjoining dwellings. Existing sunlight and daylight to adjoining dwellings is maintained*
 - i. Design and site development so as to allow solar access to any solar panels, the main internal living areas and principal private open space areas of the subject property and adjoining properties, for a minimum of three hours between the hours of 9.00am and 3.00pm during winter solstice (21st June)*
 - ii. Design and site development so as not to reduce any existing solar access to adjoining properties if that solar access is already below three hours between the hours of 9.00am and 3.00pm during winter solstice (21st June)*
 - iii. Consider shadows cast from all development*
- The proposed West Building envelope is well below the relevant Building Height Plane stated in clause 18(2) of NSLEP 2001 (as illustrated on Architectural Drawing A.160, **Volume 2**).
- Compliance with the Building Height Plan prescribed by clause 18(2) of NSLEP 2001 would normally preclude an increase in shadows cast. However the topography of the Graythwaite site and adjoining Bank Street properties (which fall steeply to the west) mean that in the morning in midwinter, long shadows would be cast by even quite low buildings on the Graythwaite site.

Given the above points, the shadow impact of the proposed West Building envelope is comparable to the impact that would occur if Bank Street style residential development was to occur on the Graythwaite site.

7.4.2 Privacy

The proposed West Building is the only existing or proposed building on the Graythwaite site that has an interface with adjoining residential properties. The Concept Plan proposes the following privacy protection measures to minimise the potential for overlooking from the new West Building to the adjoining Bank Street residences:

- The proposed West Building envelope is setback 16.8m to 18.6m from the western side boundary of the Graythwaite site which adjoins dwellings on the eastern side of Bank Street
- The educational use of the West Building will be orientated to the north and south
- Fixed horizontal blades are to be provided on the western edge of the central atrium/circulation area of the West Building (refer Concept Plan drawings A.100-103, **Volume 2**)
- The roof of the West Building will not be trafficable (except for maintenance)
- Existing planting along the western boundary is to be retained and substantial new planting is proposed between the West Building and adjoining residences (refer Concept Landscape Plan, **Volume 2** and **Figure 44**)
- The setback area between the West Building and western boundary adjoining the Bank Street residences will not be used as a play or recreation area.

7.4.3 Noise

Heggies has prepared the following noise assessment reports (both included in **Appendix M**):

- Acoustic Impact Assessment
- Construction Noise Impact Assessment

The reports conclude the following in relation to operational and construction noise impacts on residential properties.

Operational noise impacts on residential properties

Heggies deployed environmental noise loggers at three locations (two along the western boundary adjoining Bank Street residences and one on the southern boundary adjoining Kailoa at 44 Union Street).

Similar ambient noise environments were measured in the day, evening and night at the Bank Street and Union Street locations. Given that the school would typically operate between 8.00am and 5.00pm (with classes between 8.30am and 3.15pm),

the daytime noise criteria of 47 dBA will be the governing criteria (that is 5 dBA above the measured Rated Background Level of 42dBA)⁸. Heggies conclude that:

- The design and orientation of proposed buildings is such that classroom noise emissions are not anticipated to adversely impact upon neighbouring residential receivers (emissions from classroom activities in the proposed West Building (and other more distant buildings on the site) will be well within the daytime criteria 47 dBA)
- Noise emissions from students engaged in outdoor recreational activities (typically during lunch and recess with a maximum of 100 students on the lower terrace and 100 students on the middle terrace). Noise levels to the nearest residential boundary would be in the order of 51 dBA at residences fronting Bank Street and 54 dBA at residences along Union Street (shielding from Kailoa would attenuate noise from the lower terrace by a further 10 dBA for the nearest Union Street residence)
- Heggies state that an assessment of outdoor school recreational activities against strict noise emission criteria is inappropriate and that:

... occasional exceedances of established noise criteria should be tolerated due to the wider community benefit and absolute necessity of educational establishments such as schools. A review was conducted of Land and Environment Court cases which may be of relevance to this type of assessment. However no judgements were found which specifically relate to this type of noise source. Whether this indicates that it is not considered to be a significant acoustical issue is unclear. However, in the case of Christian Brothers v Waverley Council, which involved the use of a swimming pool, no specific criteria were mentioned but Commissioner Murrell commented that,

"It is important in our society for uses such as schools and residential areas to coexist".

The issue of outdoor play areas associated with School developments has previously been addressed by Heggies ... In summary, the following factors apply to the assessment of noise generated by school children during outdoor play:

- *the nature of the noise source is not inconsistent with that experienced within residential communities, even those which are rural/residential;*
- *it occurs generally during short periods throughout the day, within school hours;*
- *it is not reasonable to consider that this noise source would interfere with regular domestic activities which may occur during this time; and*
- *the wider community benefits through the provision of the facility.*

⁸ Based upon Noise emission criteria set out in the DECC's Industrial Noise Policy.

- Noise emissions from mechanical plant should be controlled so that the operation of such plant does not adversely impact nearby residential properties. At this stage the location and selection of mechanical plant has not been made. Therefore appropriate assessment will need to be determined as part of the Construction Certificate documentation for each stage of the project. It is envisaged that mechanical plant noise sources will be controllable by common engineering methods that may include judicious location, barriers, silencers and acoustically lined ductwork.

Construction noise impacts

In relation to construction noise, Heggies conclude that the Stage 1 works (which involve minor demolition at the rear of Graythwaite House and minor excavation for new drainage pipes) are effectively equivalent to a typical house renovation/repair. As a result, noise impacts during this stage are expected to be low.

For Stages 2 and 3, Heggies conclude that demolition and construction activities are likely to exceed the construction noise goals, resulting in anticipated moderate noise impacts at the nearest noise affected residential receivers and high noise impacts at Shore school.

Accordingly, a noise and vibration management plan will be produced identifying reasonable and feasible noise mitigation measures to reduce the noise emissions to acceptable levels, and where this is not achievable, identify noise management practices to reduce the potential impacts (Statement of Commitment 16, Table 16).

7.4.4 Wind

Consideration of wind impacts is relevant in city centre environments where tall buildings are in close proximity. Notwithstanding, the Concept Plan proposal is unlikely to create adverse wind conditions for adjoining residential properties given the spread of buildings on the Graythwaite site, the distance to adjoining residences and intervening significant vegetation.

7.4.5 Views

There are no private views over the site.

7.5 Transport and accessibility impacts

A Transport and Accessibility Impact Assessment has been prepared by Halcrow (**Appendix E**). The report assesses the traffic, transport and parking implications of the Concept Plan considering the Shore and Graythwaite sites as a single integrated property. In relation to the Concept Plan, it concludes that the proposed Concept Plan has acceptable traffic and parking impacts. Halcrow's key findings are summarised below for each stage of the Concept Plan.

7.5.1 Stage 1 transport impacts

Stage 1 overview

No change to student or staff numbers, seven parking spaces

Stage 1 changes to travel demand

- As there is no increase in student or staff numbers proposed at Stage 1 there would be no change to the existing travel demands associated with the Shore and Graythwaite sites.

Stage 1 parking

- On site parking in the front of the Graythwaite House will be formalised to provide a total of six on site visitor parking spaces (an additional space is to be provided in the Coach House). These six spaces will not be used for student drop offs and pick ups. The proposed Stage 1 parking provision would reduce the existing on site parking capacity on the Graythwaite site from some 25 spaces to seven spaces
- It is noted that the provision of seven spaces does not arise from any change with regard to student or staff numbers during Stage 1. However, the Stage 1 proposal would represent a reduction in land use intensity compared with previous uses of Graythwaite, namely the former nursing home with staff, visitor and service vehicle deliveries
- On this basis, the provision of seven on site visitor parking spaces is not considered to have an adverse impact on traffic generation and parking provision compared with the previous use of the site.

Stage 1 site access arrangements

- Site access will be provided via the existing site driveway at Union Street. Vehicle access to the Graythwaite site via Edward Street would be restricted to emergency and service vehicles
- Union Street is a higher order road within the surrounding road network and suitable to accommodate direct vehicle access to and from properties
- The current surveyed traffic flows along Union Street indicate that there would be sufficient capacity to accommodate the additional traffic associated with the six formalised visitor car parking spaces
- The existing Union Street access can accommodate two vehicles passing each other on the driveway at the street frontage. As such a vehicle waiting to exit the site would not block access for a vehicle entering the site from Union Street
- The available sight distances at the existing Graythwaite site access have been reviewed and found to be satisfactory with regard to AS289.1-2004 requirements for safe vehicle entering and exiting movements

Stage 1 service and emergency vehicle access arrangements

- No changes to the existing service vehicle access or on site facilities are proposed at Stage 1. Furthermore there is no expected increase in demand for service vehicle facilities since the occupants of the heritage buildings will be relocations from Shore School.
- Emergency vehicle access to the Graythwaite site will be retained via Edward Street and Union Street at the completion of Stage 1 works. Existing emergency vehicle access to Shore School will remain unchanged by the Stage 1 works.

7.5.2 Stage 2 transport impacts

Stage 2 overview

- +100 students, +10 staff (associated with either the Preparatory School or Senior School) and 41 parking spaces

Stage 2 changes to travel demand

- Changes to the existing travel demand of the combined Shore School and Graythwaite site will occur during Stage 2 as a result of additional students. The extent of the travel demand changes and the implications to the surrounding road network will depend on whether the additional students and staff are related to the Preparatory School or Senior School. The two schools have different travel behaviour with a higher vehicle drop off / pick up rate for Preparatory School students than Senior School students who have a relatively higher use of public transport modes
- Furthermore the behaviour of student drop offs and pick ups will be different with Preparatory School movements focusing on Edward Street / Mount Street and the Senior School to Blue Street / William Street
- To assess the road network implications of Stage 2, two options have been considered, namely:
 - Option A : +100 Preparatory School students and +10 staff
 - Option B : +100 Senior School students and +10 staff
- The traffic generation potential of the 41 spaces proposed at Stage 2 has also been included in the Halcrow assessment. To assess the potential worst case for traffic impacts, it has been assumed that all of the new parking spaces will be fully occupied by new and existing staff (who currently do not park at or near the School).

Stage 2 traffic generation implications

- The estimated traffic generation for Stage 2 (Options A and B) is shown in **Table 9** (transcribed from 4.1 in the Transport Report). The estimates are based on Halcrow's surveys of existing travel behaviour obtained by traffic and pedestrian counts and the travel questionnaire

Table 9 Stage 2 Traffic Generation (Source: Halcrow)

	Option A Prep School	Option B Senior School
Student No. Increase	100	100
Rate of Vehicle Drop Off / Pick Up per student (One Way)	0.48 trips per student	0.24 trips per student
Number of Student One Way Trips	48	24
Total Number of Student Trips (Inbound + Outbound)	96	48
Staff Trip Rate	0.5 trips / parking space	0.5 trips / parking space
No. of Staff Parking Spaces	41	41
No. of Staff Trips	21	21
Total Vehicle Trips / Peak Hour	117	69

Table 10 Stage 2 Intersection Operation (Source: Halcrow)

	Existing				Stage 2 - Option A				Stage 2 - Option B			
	AM		PM		AM		PM		AM		PM	
	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS
Edward St-Mount St	6	A	8	A	6	A	15	B	6	A	8	A
Edward St-Lord St	5	A	6	A	6	A	8	A	5	A	6	A
William St-Blue St	6	A	6	A	6	A	6	A	6	A	6	A
Union St-Chuter St	6	A	6	A	6	A	6	A	6	A	6	A
Union St-School Access	6	A	6	A	6	A	6	A	6	A	6	A
Union St-Blues Point Rd	26	B	25	B	26	B	25	B	26	B	25	B
Blue St-Miller St	27	B	17	B	29	C	17	B	29	C	17	B

- The estimated traffic generation for Stage 2 has been added to the surveyed traffic flows on the surrounding road network and re-analysed using SIDRA
- The results are transcribed in **Table 10** (transcribed from Table 4.2 in the Transport Report) and show that the additional traffic generation of both Stage 2 options can be adequately accommodated within the existing road network capacity without significant adverse impacts to 'Level of Service' or average vehicle delays
- While the network operates satisfactorily, it is noted that the average vehicle delays at the Edward Street / Mount Street intersection increase from 8 seconds to 15 seconds per vehicle in the PM Peak Hour for Option A (+100 Preparatory students)
- This reflects the inclusion of the existing peak 15 minute pick up behaviour of the Preparatory School drop off / pick up facility in the afternoon in the modelling analysis
- If it is determined that the Stage 2 or 3 Project Applications include additional Preparatory School students, Shore will examine strategies to address the actual additional traffic load in Edward Street (as set out in Statement of Commitment 6, **Table 16**).

Stage 2 site access arrangements

- The proposed new staff car parking spaces will be accessed via the existing driveway at Union Street
- Staff arrival patterns were determined to be spread relatively evenly across a two hour period at the start and end of the school day
- As shown in **Table 10**, the additional traffic generated by the provision of staff parking accessed via Union Street can be adequately accommodated with regard to road network capacity and minimum delays (Level of Service A)
- As staff movements are principally made in one direction (i.e. inbound in the morning, outbound in afternoon) there will be minimal two way flows along the Graythwaite site driveway and internal road. Therefore the existing driveway, with the provision of passing bays, is considered to be adequate to accommodate traffic movements while retaining existing heritage features.

Stage 2 parking provisions

i. Proposed parking provision

- 41 staff car parking spaces are proposed at Stage 2 (located under the East Building). These spaces would accommodate parking demand for Stages 2 and 3. The advantages of providing a single consolidated parking area for Stages 2 and 3 include:
 - Proximity to vehicle access (ie. Union Street)

- Reduced number of vehicle paths within the site thereby allowing additional space for pedestrian areas
- Convenience and safety for special meetings at Graythwaite House particularly at night benefiting both school and community users
- Cost savings associated with building form.

ii. Application of North Sydney DCP 2002

- DCP 2002 specifies the maximum parking rates for *educational establishments* as one space per six staff. For the proposed additional increase of 50 staff by the completion of Stage 3, this would represent a maximum provision of eight parking spaces. Therefore without other considerations, the proposed parking provision exceeds Council's maximum allowable spaces
- Previous uses on the Graythwaite site had provision for up to 25 parking spaces. Stage 1 occupies seven of those spaces leaving a theoretical unused "existing use right" to a further 18 spaces. DCP 2002 allows for a further eight spaces making the total new spaces permissible for the site to be 26 (based on staff numbers). On this basis, the exceedance of the proposed 48 parking spaces over the DCP requirement is 22 spaces
- In addition to the specified parking rates, DCP 2002 sets out the objectives for parking provision which include:
 - Existing levels of traffic generation to be retained and reduced
 - Public transport, including walking and cycling is the main form of access
 - Parking is adequate and managed in a way that maintains pedestrian safety and the quality of the public domain and minimises traffic generation
 - Parking is limited to minimise impacts on surrounding areas
 - Parking below the maximum rates will not generally be accepted due to the impact that additional parking may have on surrounding residential streets
- Based on the travel questionnaire completed by Halcrow, it is estimated that some 70% of all staff drive to the School and park either on site or on street. This reflects the travel needs of staff which include early starts, late finishes and flexible / part time hours. This demand occurs despite the proximity of the School to good public transport
- The existing School parking demand equates to a demand of 1 space per 1.59 full-time staff (151 spaces for 240 full-time staff). (Note this ratio does not consider the additional part-time staff which brings the combined staff total up to about 390)
- The proposed Concept Plan parking provisions would provide parking at a rate of one space per 1.46 staff members across the entire Shore School campus (including Graythwaite) (198 car spaces for 290 full-time staff across both sites)

- In addition to the advantages of the proposed parking described above, there are local traffic benefits obtained by providing on site parking, namely that traffic that would otherwise circulate on local streets searching for parking can be accommodated on site with access from a local collector road (Union Street)
- In summary, the proposed parking provision will not accommodate all existing and proposed parking demand on site, but will reduce potential demand for on street parking by staff of the Shore School
- The combination of a reliance on public transport for students and on site parking provision for staff and visitors is considered to be a responsible balance to encouraging public transport use, minimising the intrusion of staff related parking on the surrounding residential streets and providing the benefits for staff and visitor efficiency within a densely occupied city location.

Stage 2 school bus operations

- Designated school bus operations will continue to occur via the existing Mount Street bus stops
- For Stage 2 the number of buses typically generated within any one afternoon will increase. It is estimated that an increase from eight buses to nine buses
- This increase can be adequately accommodated within the existing road network capacity. Furthermore the School would have the ability to spread the load of buses over a greater length of time such that the demand at any one time would be maintained at existing levels.

Stage 2 service and emergency vehicle access arrangements

- No changes to the existing service vehicle access or on site facilities are proposed as part of Stage 2
- Emergency vehicle access to Graythwaite will be retained via Edward and Union Streets at the completion of Stage 1 works and maintained for Stage 2
- Existing emergency vehicle access to the School campus will remain unchanged by Stage 2 works.

7.5.3 Stage 3 transport impacts

Stage 3 overview

- +400 students, + 40 staff (equating to a total of +500 students and +50 staff), no new parking

Stage 3 traffic generation implications

- The estimated traffic generation for Stage 3 is shown in **Table 11** (transcribed from Table 4.3 in the Transport Report). The estimates are based on Halcrow's surveys of existing travel behaviour obtained by traffic and pedestrian counts and the travel questionnaire.

Table 11 Stage 3 Traffic Generation – Cumulative of Stages 1, 2 and 3 (Source: Halcrow)

	Prep School	Senior School	Total
Student No. Increase	100	400	500
Rate of Vehicle Drop Off / Pick Up per student (One Way)	0.48 trips per student	0.24 trips per student	
Number of Student One Way Trips	48	96	144
Total Student Trips (Inbound + Outbound)	96	192	288
Staff Trip Rate	0.5 trips / parking space	-	
No. of Staff Parking Spaces	41	-	
No. of Staff Trips	21	-	21
Total Vehicle Trips / Peak Hour	117	192	309

Table 12 Stage 3 Intersection Operation (Source: Halcrow)

	Existing				Stage 3			
	AM Ave Delay	LoS	PM Ave Delay	LoS	AM Ave Delay	LoS	PM Ave Delay	LoS
Edward St-Mount St	6	A	8	A	6	A	15	B
Edward St-Lord St	5	A	6	A	6	A	8	A
William St-Blue St	6	A	6	A	7	A	6	A
Union St-Chuter St	6	A	6	A	6	A	6	A
Union St-School Access	6	A	6	A	6	A	6	A
Union St- Blues Point Rd	26	B	25	B	27	B	26	B
Blue St-Miller St	27	B	17	B	33	C	18	B

- The estimated traffic generation for Stage 3 has been added to the surveyed traffic flows on the surrounding road network and re-analysed using SIDRA. The results are presented in **Table 12** (transcribed from Table 4.4 in the Transport Report) and show that the additional traffic generation of Stage 3 options can be adequately accommodated within the existing road network capacity without significant adverse impacts to 'Level of Service' or average vehicle delays
- In particular the volume of traffic generated for Stage 2 and 3 accessing the School via Union Street (ie. staff accessing the additional on site parking under the East Building) would not be significant enough to change the existing vehicle delays and Level of Service along Union Street
- Furthermore, the assessment has assumed (as a worst case) that all additional Preparatory School students are accommodated in Stage 2 with Stage 3 being Senior School students. Senior school students generate significantly less vehicle trips than Preparatory School students. Hence the relative change in impact is low as shown in **Table 11** (transcribed from Table 4.3 in the Transport Report)
- As discussed for Stage 2 Option A, while the network operates satisfactorily it is noted that the average vehicle delays at the Edward Street / Mount Street intersection increase from 8 seconds to 15 seconds per vehicle in the PM peak hour when the additional 100 Preparatory School students are accommodated
- This indicates that management of the Edward Street drop off / pick up facility will need to be considered and implemented when the Preparatory School population increases (Statement of Commitment 6, **Table 16**).

Stage 3 site access arrangements

- The site access arrangements for Stage 3 will remain unchanged from Stage 2.

Stage 3 parking provisions

- No additional parking is proposed as part of Stage 3. Parking for Stage 3 is proposed to be constructed as part of Stage 2 and has been assessed above.

Stage 3 school bus operations

- Designated School bus operations will continue to occur via the existing Mount Street bus stops as part of Stage 3
- For Stage 3 the number of buses typically generated within any one afternoon will increase as a result of additional students. It is estimated that an increase from eight buses to 11 buses
- As discussed for Stage 2, this increase can be adequately accommodated within the existing road network capacity and furthermore the School would have the ability to spread the load of buses over a greater length of time such that the demand at any one time would be maintained at existing levels.

Stage 3 service and emergency vehicle access arrangements

- Continuation of Stage 2 arrangements.

The Transport and Accessibility Report by Halcrow concludes that:

This transport report has considered the transport implications associated with the proposed Master Plan Concept Application and Stage 1 Project Application for the Graythwaite site at North Sydney.

Graythwaite which was purchased by the adjacent Shore School will be incorporated into a combined campus. It is proposed that the campus will be developed in stages to provide capacity to accommodate an additional 500 students and 50 staff within the combined Shore School / Graythwaite site.

The Project Application for Stage 1 will not include additional student or staff on the site but essentially allow the existing Graythwaite buildings to be conserved and restored to allow the relocation of existing administrative roles to be relocated to the Graythwaite building. The traffic and parking implications of the Stage 1 works will not adversely impact on the existing conditions of the surrounding road network.

It is noted that Project Applications for Stages 2 and 3 of the Master Plan for Graythwaite will be submitted for approval at a later date.

However the assessment provided in this report has concluded that the proposed Master Plan as represented in the Concept Application can be adequately accommodated with regard to traffic and parking implications to the surrounding road network.

It is noted that management measures will need to be developed for the Preparatory School drop off / pick up facility in Edward Street as part of the project application for Preparatory School student increases. These measures will need to consider peak spreading to reduce peak loads on the existing capacity of the facility and potential congestion at local intersections.

7.6 Ecologically sustainable development

Heggies has completed a qualitative Ecologically Sustainable Design (ESD) assessment to accompany the Concept Plan (with specific recommendations included for the Stage 1 Project Application) (**Appendix I**). Statement of Commitment 7, **Table 16** provides that future Project Applications will adopt the recommendations of the ESD Assessment to the fullest extent possible.

In relation to the Concept Plan, the ESD Assessment concludes that good ESD design features are currently in place for a number of areas, incorporating the following:

- Passive and active energy saving measures such as operable windows to enhance natural ventilation where appropriate. The proposed development will also incorporate a mechanical ventilation system for selected spaces to provide adequate outside air rates to promote a healthy indoor environment

- North facing glazing to enhance solar access
- Naturally ventilated corridors (open galleries)
- Retention of most existing trees and provision of additional green walls landscaping for the West Building to provide an environmentally friendly contribution to the proposed development.

7.7 Site contamination

The Soil Investigation by WSP (**Appendix F**) concludes that:

Auger refusal was encountered earlier than anticipated in most boreholes. This can be attributed to reaching the underlying sandstone bedrock or large brick or concrete fragments in fill material. It is likely fill materials were imported to provide the foundation of the previous tennis courts, structural foundations near the Coach House and Headmaster's house, and to level the southern portion of the site. Fill generally comprised sandy silt with minor quantities of ash, glass, brick fragments and slag. Glass, brick and ash were absent in fill found in the eastern area of the site in BH1, BH2 and BH8. Fill in this area was described as coarse grained sand and gravel.

Asbestos was not detected in any of the 10 soil samples analysed. Furthermore, asbestos was not detected in the fibrous sheet fragment submitted for analyses.

Benzo(a)pyrene and lead are the only analytes tested found above the adopted criteria. Findings and recommendations are discussed below.

7.1 Benzo(a) pyrene

...the abandoned heating oil tank is removed off site and disposed of to an appropriately licensed facility. It is further recommended that an additional 3 shallow bores (maximum 0.5m) are drilled in the vicinity of the tank to delineate the lateral and vertical extent of PAH contamination. Two (2) soil samples should be collected at each location and tested for lead and PAHs (including benzo(a)pyrene. Following delineation, impacted soils should be removed to an appropriately licensed facility. It is anticipated that surface scraping is likely to be sufficient to remove the area of impact. However, the method of removal should be determined following the results of the additional investigation.

It is recommended that an additional three (3) shallow bores to 0.5m be drilled to delineate the extent of benzo(a) pyrene contamination found in BH3 in the southern area of the site. Two samples should be collected from each borehole to define the vertical extent of contamination. Following delineation, impacted soils should be removed and disposed to an appropriately licensed facility. Both of these recommendations could be carried out in conjunction with the future demolition of the Ward building.

7.2 Lead

Lead concentrations exceeded the adopted screening criteria for residential use (HIL A) of 100mg/kg in boreholes BH2 (440mg/kg) and BH8 (740mg/kg) in near surface samples (0 – 0.3m bgl). The BH sample also marginally exceeded the EIL. The exceedances of lead were found near the abandoned heating oil tank and the former Nursing Ward

building. A report by Hibbs & Associates (2009) Hazardous Materials Survey, Graythwaite Nursing Home, June 2009 reported the presence of lead based paint on the heating oil tank. Paint tested in several area of the Nursing Ward building also tested positive for lead, including downpipes, external doors, and window frames. This indicates that the lead recorded in shallow soils above the adopted criteria may be derived from lead based paint.

Recommendations for further investigation of the area around the heating tank have been discussed above. It is likely, given the findings of the Hibbs (2009) report that lead in near surface soils is derived from lead based paints used on the former Nursing Ward Building. The Hibbs report also reported positive results for lead based paints in the other buildings on external walls and window frames as well as internally. It is recommended that shallow bores (maximum 0.5m) are drilled under the eaves and curtilage of the buildings to capture any lead contamination fallout that may have occurred during construction and maintenance. A total of 12 shallow bores is recommended to target the Coach House (2), the Main House (4), the Nursing Ward (3) and the Tom O'Neill Building (3).

Following delineation of the extent of lead contamination, impacted soils should be removed and disposed of to an appropriately licensed facility.

This recommendation should be undertaken with the Stage 1 Project Application works.

7.3 Zinc

Zinc was found below the HIL A criteria for residential land use but was found above the EIL in 2 near surface (0 – 0.3m bgl) samples (BH2 and BH8). The recommended further works for lead contamination in the vicinity of BH2 and BH 8 should include a provision for further analysis of zinc.

The Supplementary Hazardous Materials Assessment Report, by WSP (**Appendix F**) identifies a small area that may contain asbestos and areas that contain lead based paint. The survey did not identify any evidence of Synthetic Mineral Fibre, Polychlorinated Biphenyls (**PCBs**).

The recommendations of the Soil Investigation and Supplementary Hazardous Materials Assessment Report will be completed as part of the Stage 1 Project Application, and have been included in the Statements of Commitment 12 and 7, **Table 16** and **Table 17** (respectively).

7.8 Heritage (including aboriginal heritage)

A Statement of Heritage Impact (**SOHI**) has been prepared by Tanner Architects with input from Taylor Brammer on heritage landscapes (**Appendix H**). The SOHI assesses the potential heritage impacts of the project by reference to the model questions given in the NSW Heritage Office's publication *Statements of Heritage Impacts*. The Model Questions are tabled below noting those that are relevant (**Table 13**), followed by the SOHI responses to the relevant questions.

The SOHI jointly considers the heritage impacts of the Concept Plan and Stage 1 Project Application. An Outline Schedule of Conservation Works (Stage 1) by Tanner Architects is also included in **Appendix H**.

Table 13 *Statements of Heritage Impacts Model Questions (Source: Tanner SOHI)*

<i>Model Question</i>	<i>Relevance</i>
<i>Demolition of a building or structure</i>	√
<i>Minor partial demolition</i>	√
<i>Major partial demolition</i>	x
<i>Change of use</i>	√
<i>Minor additions</i>	√
<i>Major additions</i>	x
<i>New development adjacent to a heritage item</i>	√
<i>Subdivision</i>	x
<i>Repainting</i>	√
<i>Re-roofing/re-cladding</i>	√
<i>New services</i>	√
<i>Fire upgrading</i>	x
<i>New landscape works and features</i>	√
<i>Tree removal or replacement</i>	√
<i>New signage</i>	x

7.8.1 Demolition of a building or structure

The Concept Plan includes demolition of the 1918 Ward Building to the east of Graythwaite House, which has been identified as having moderate heritage significance in the CMP. The significance of the building has been greatly compromised by modifications undertaken during the 1980s. The construction of the West Building will also necessitate the eventual demolition of the Tom O'Neill Centre.

Q. Have all options for retention and adaptive re-use been explored?

A. The condition of the buildings and their relatively low level of heritage significance do not necessarily warrant retention/adaptive re-use.

Q. Can all of the significant aspects of the heritage item be kept and any new development be located elsewhere on the site?

A. Because the Ward Building has been subjected to a large amount of change over the years its heritage significance has been greatly diminished. Its significance and historic role can be communicated through interpretive devices. An archival recording should be made of the building prior to demolition taking place.

The Tom O'Neill Centre has also been subjected to change over the years. Its relatively low level of heritage significance does not preclude demolition. An archival recording should be made of the building prior to demolition taking place.

Q. Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?

A. The buildings' heritage status does not warrant postponement of demolition.

Q. Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?

A. The Concept Plan has been developed in association with heritage consultants Tanner Architects, who also wrote the CMP for Graythwaite. Demolition of the Ward Building and the Tom O'Neill Centre is consistent with Tanner Architects' recommendations and the conservation policies contained within the CMP. It is also consistent with the recommendations of the earlier CMP prepared by Graham Edds and Associates.

7.8.2 Minor partial demolition

Minor partial demolition is associated with the Stage 1 Project Application. It is intended to demolish accretions to Graythwaite House. These include elements that were added to the building in 1915-1916 (including the lavatory block on the northern side of the building and associated passageways), internal fabric of low significance and intrusive linking structures constructed during the 1980s.

Minor demolition will also take place in the Coach House and the Tom O'Neill Centre to facilitate adaptive reuse of these buildings.

Q. Is the demolition essential for the heritage item to function?

A. The parts of the building to be demolished have been identified as having low heritage significance or intrusive. The functions for which they were constructed are no longer viable. Their demolition will not affect the way that Graythwaite functions and will materially enhance its heritage significance by regaining aspects of its original appearance.

Q. Are important features of the item affected by the demolition (e.g. fireplaces in buildings)?

A. No. Demolition associated with Graythwaite is confined to fabric that is of low heritage significance or is intrusive. Demolition associated with the Coach House and the Tom O'Neill Centre is confined to fabric of low heritage significance.

Q. Is the resolution to partially demolish sympathetic to the heritage significance of the item?

A. The partial demolition is sympathetic to all three buildings. In the case of Graythwaite it will remove intrusive elements that detract from its heritage significance. In the case of the Coach House and Tom O'Neill Centre fabric of little significance is being removed, which will facilitate sympathetic adaptive reuse of both buildings.

Q. If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired?

A. Demolition is not the result of fabric condition. Demolition of these sections of the building will contribute to conservation and reconstruction of significance building fabric that was damaged or destroyed by their construction in the first place.

7.8.3 Change of use

The Concept Plan proposes a change of use on the Graythwaite site to accommodate Shore *educational facilities*.

Q. Has the advice of a heritage consultant or a structural engineer been sought? Has the consultant's advice been implemented? If not, why not?

A. The Concept Plan design and documentation has been undertaken in conjunction with Tanner Architects. The documentation has been undertaken in accordance with the conservation policies included in the Graythwaite CMP. It is also consistent with the recommendations of the earlier CMP prepared by Graham Edds and Associates.

Q. Does the existing use contribute to the significance of the heritage item?

- A. Graythwaite House and its associated outbuildings are presently not in use. Lack of appropriate use is contributing to their deterioration.

Q. *Why does the use need to be changed?*

- A. The buildings are required to accommodate the needs of Shore. The history of Graythwaite includes major changes of use. The building's original residential functions were superseded in 1915 after the freehold of the property was transferred to the Crown by its owner, Thomas Dibbs, initially for the purposes of a convalescent home for sick and wounded soldiers and sailors. Shortly after it became an Anzac Hostel in 1918, then from 1980 was used as a nursing home. Similarly the Coach House, Tom O'Neill Centre and Stables have all been subjected to changes of use over time.

The uses that are proposed for the buildings are sympathetic to them and will not result in loss of significant fabric. The uses will enable conservation works to be undertaken and enhance the heritage significance and interpretation of the place.

Q. *What changes to the fabric are required as a result of the change of use?*

- A. Changes to fabric involve the removal of intrusive fabric and fabric of little heritage significance. Other changes will include restoration of fabric that has been removed but remains on site (such as decorative ground floor brackets and cast iron balustrading at Graythwaite) and reconstruction of components previously removed when alteration to the buildings were undertaken.

Q. *What changes to the site are required as a result of the change of use?*

- A. Proposed changes to the site include demolition of the Ward Building and conceptual descriptions (building envelopes) for three new buildings to be used for educational purposes. Graythwaite and associated outbuildings, the Stables, Coach House and Tom O'Neill Centre will be adaptively reused for administrative and educational purposes.

7.8.4 Minor additions

Minor additions (to be completed as part of Stage 1) are proposed to Graythwaite House and including a covered link along the western side of the courtyard on the northern side of the building and the installation of a lift, new first floor landing and stair near the south western end of the former kitchen wing. These changes are intended to facilitate disabled access and access to lavatories.

Q. *How is the impact of the addition on the heritage significance of the item to be minimised?*

- A. The additions are located in a section of Graythwaite that has been subjected to intrusive additions in the past. These intrusive additions are to be removed. The bulk and scale of the lift and landing is substantially less than the existing structure in this part of the building. External finishes will be detailed to

harmonise with adjacent significant fabric. The covered link will have little impact on the heritage significance of the place. It will be a lightweight glazed structure with a metal roof.

Q. Can the additional area be located within an existing structure? If no, why not?

A. Locating the lift within the building is not practicable because of the impacts that would result on significant spaces and fabric. The proposed location of the lift and stair works, in the service area of the house, will minimise any impacts on Graythwaite.

Q. Will the additions visually dominate the heritage item?

A. No. The additions are located at the rear of the building and contained within the service court. The bulk and scale of the additions is far less than the 1916 additions that are to be removed.

Q. Is the addition sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered?

A. There are no known archaeological deposits in this part of the site. However, there is the potential for archaeological deposits to exist and accordingly precautions should be undertaken in accordance with best practice guidelines should deposits be discovered in the course of the works.

Q. Are the additions sympathetic to the heritage item? In what way (e.g. form, proportions, design)?

A. The lift and covered way additions are sympathetic to Graythwaite in terms of their simple form and use of materials, which are intended to harmonise with the palette of materials associated with the House.

7.8.5 New development adjacent to a heritage item

New development consists of the East Building (two basement and three upper levels), the North Building (a basement and ground floor level) and the West Building (four levels stepped).

Q. How is the impact of the new development on the heritage significance of the item or area to be minimised?

A. The impacts of the buildings are minimised in several ways:

- The East Building replaces the 1918 Ward Building and occupies a similar footprint. Its impacts on Graythwaite are minimised by locating the building at a distance from Graythwaite and manipulating its footprint so that the southern section of the building is splayed away from the House. This device will also regain views of the House that are available from the driveway leading from Union Street. Impacts are further reduced by progressively reducing the mass of the upper levels as the building rises. Although the Concept Plan does not describe architectural resolution and

materials, these can be effectively used to further minimise impacts. Materials are discussed in a separate Planning Parameters Report prepared by P D Mayoh Architects in association with Tanner Architects.

- The impacts of the North Building are minimised because of the location of the building away from Graythwaite and by its restricted height. Although the Concept Plan does not describe architectural resolution and materials, these can be effectively used to further minimise impacts.
- The impacts of the West Building are minimised by taking advantage of the fall across this part of the site and locating the building at a distance from Graythwaite. It is proposed to control the height of the building by excavation so that some levels can be located below the existing ground levels. Although the Concept Plan does not describe architectural resolution and materials (which are dealt with in Planning Parameters Report), these can be effectively used to further minimise impacts.

In general terms the placement and configuration of the buildings, as described in the Concept Plan, demonstrate compliance with the relevant policies contained within the CMP.

Impacts on heritage items listed by North Sydney Council on the Shore School site are minimised by the height and scale of the buildings and by their distance from the items.

Q. Why is the new development required to be adjacent to a heritage item?

A. Shore acquired the Graythwaite site to increase available land. It is intended to make Graythwaite an integral part of the school. The new development is required to augment and upgrade the teaching facilities at the School, and to effectively interface Graythwaite and Shore School. The buildings need to be carefully integrated into the existing infrastructure to allow efficient use of the Shore site.

Q. How does the curtilage allowed around the heritage item contribute to the retention of its significance?

A. The curtilage for the Graythwaite site is defined by its site boundaries and careful consideration of new building volumes and setbacks to respect the heritage significance of the place.

The immediate curtilage that has been allowed for the House ensures that it will retain its status as a free standing building and maintain interpretation of its historic townscape role of a large and impressive dwelling placed in a prominent geographical location. The curtilage prevents undue encroachment on the House and enables the establishment of an appropriate landscaped setting for it.

Q. How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?

- A. The plan footprint of the East Building is splayed so that views to the House along the driveway are regained. The footprint minimises the inclusion of the building into the open space of the Graythwaite site. The new buildings are located to the north, east and west of the House so that the significant views of the building and its relationship to its open site are retained.
- Q. *Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?*
- A. The site has the potential to contain archaeological deposits. Accordingly any proposed building or landscaping works that require excavation should be preceded by an assessment of the excavation's potential to impact on the site's historical archaeological resources. In the event that excavation, ground disturbance or vegetation removal is to take place in the less developed parts of the site to the south and west of the House, then the Metropolitan Local Aboriginal Land Council should be contracted so that a representative can monitor the work.
- Q. *Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?*
- A. The new development proposed by the Concept Plan is sympathetic to Graythwaite in terms of its placement on the site and building form. Impacts can be further minimised in the future by the detailed resolution of the buildings appearance and materials to be used in their construction.
- Q. *Will the additions visually dominate the heritage item? How has this been minimised?*
- A. Additions to existing buildings described in the Stage 1 Project Application will not dominate them. The majority of proposed works are internal, while the external additions to the House (the lift and associated stairs, the new covered way) are situated at the rear of the building. The presentation of all of the buildings to the site is not dominated by the proposed works.
- Q. *Will the public, and users of the item, still be able to view and appreciate its significance?*
- A. Yes. New buildings are sited away from Graythwaite and associated structures and are not connected physically to them. The interpretation of the buildings in terms of their historical relationships and to the site will still be available to users and visitors to the site.

7.8.6 Repainting

- Q. *Have previous (including original) colour schemes been investigated? Are previous schemes being reinstated?*

A. Repainting of the buildings is to be based on the evidence of original paint schemes and decoration that remain in place (for instance, on the first floor level of Graythwaite House). In the absence of firm physical evidence colour tones will be based on available photographic evidence of early paint schemes and actual colours based paint schemes that would have been used during the last quarter of the nineteenth century.

Q. *Will the repainting affect the conservation of the fabric of the heritage item?*

A. Repainting will assist in conserving the fabric of all of the House and outbuildings, Stables, Coach House and Tom O'Neill Centre. Necessary repairs will be undertaken prior to repainting and surfaces that are to be repainted will be protected from further deterioration.

7.8.7 Re-roofing/re-cladding

New slate is to be installed on the roofs of Graythwaite House and outbuildings and the Stables. The Coach House roof is to be re-lined with corrugated galvanised steel.

Q. *Have previous (including original) roofing/cladding materials been investigated through archival and physical research?*

A. The proposed re-roofing is based on the evidence provided by historical photographs of the place and by the evidence provided by existing roof fabric.

Q. *Is a previous material being reinstated?*

A. Early photographs show the House to have had slate roofing.

Q. *Will the re-cladding effect the conservation of the fabric of the heritage item?*

A. The re-roofing will greatly assist conservation of the buildings, providing protection against water ingress and the possibility of birds or animals entering the roof space. It will also enhance the heritage significance of the place.

Q. *Are all details in keeping with the heritage significance of the item (e.g. guttering, cladding profiles)?*

A. The detailing of fabric associated with re-roofing works will be consistent with the age and appearance of the buildings.

Q. *Has the advice of a heritage consultant or skilled tradesperson (e.g. slate roofer) been sought?*

A. The proposed works form part of documentation prepared by Tanner Architects, recognised heritage consultants.

7.8.8 New services

Q. *How has the impact of new services on the heritage significance of the item been minimized?*

- A. New services will be located as much as possible in locations currently taken by existing services and in wall, floor and ceiling cavities. Wall surfaces will not be chased to take new services. Plant and equipment associated with air conditioning and heating will be situated in discrete locations that will not impact on the appearance of buildings or their contribution to the place.
- Q. *Are any of the existing services of heritage significance? In what way? Are they affected by the new work?*
- A. Existing services are understood to have little heritage significance, reflecting processes of change and modification undertaken during hospital and aged care use.
- Q. *Has the advice of a conservation consultant (e.g. architect) been sought? Has the consultant's advice been implemented?*
- A. All works associated with services will be documented in conjunction with Tanner Architects, recognised heritage practitioners.
- Q. *Are any known or potential archaeological deposits (underground and under floor) affected by the proposed new services?*
- A. Graythwaite does not feature any known Aboriginal sites nor is it considered to have potential to contain previously unidentified sites. The site is also not considered to have any Aboriginal heritage significance. Nevertheless, the Metropolitan Local Aboriginal Land Council has expressed an interest in monitoring any excavation, ground disturbance or vegetation removal in the less disturbed areas to the south and west of the House. This action should be followed in the event that new services need to be located in these parts of the site.

As a place of State heritage significance, historical archaeological relics at Graythwaite are protected under the *Heritage Act 1977*. Any proposed excavation or ground disturbance will therefore require approval under the Act.

7.8.9 New Landscape works and features

- Q. *How has the impact of the proposal on the heritage significance of the landscape item been minimized?*
- A. The proposed location of the new built form on the site has been carefully positioned so as to reinforce the landscape setting of Graythwaite. This is achieved through the retention and clarification of major and significant landscape features and identified views to and from the site.

The proposed location of the West Building does not affect any major planting on the site and is screened from Graythwaite through existing and proposed planting. The location of the East Building is on the site of the former Ward Building, which has been identified as having low heritage significance. The building will be partially screened by new planting that will reinforce the

immediate landscape curtilage of the house and reinforce the hierarchy of landscaped spaces across the site that have become marginalised over time.

Q. Has the evidence (archival and physical) of the previous landscape work been investigated?

A. Careful consideration of all evidence has been incorporated in the assessment of this proposal. As part of this process, historical photography has been used to assess the age, intent and character of the landscape as it was instigated in the late 19th century to form an appropriate curtilage to the property. The tennis courts on the terrace below the House have been recognised by the proposal of marking out the area that the courts took up on site. Note is made of the retention and protection of the well and the terraces that are evidence of the prior use of the site.

The poor state of vegetation in the vicinity of the proposal and the improvements noted in the approved plans have been incorporated into this proposal.

Q. Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented?

A. Craig Burton of CAB Consulting prepared the historical outline and landscape conservation policies that form part of the CMP for the site. He is a recognised heritage practitioner and has prepared a number of important heritage documents for State and Local listed properties. Matthew Taylor of Taylor Brammer Landscape Architects has been engaged to provide advice to the client. He is a recognised heritage practitioner and has prepared a number of important heritage and conservation strategies for sites of national, state and local heritage significance. He has also been involved in conservation plans such as the Conservation Management and Cultural Tourism Plans for NPWS Lighthouses, the township of Hill End, Admiralty House, Kirribilli and the former explosives storage at Bantry Bay. His recommendations are outlined in the SOHI.

Q. Are there any known or potential archaeological deposits affected by the landscape works?

A. Particular note has been made of the well located on site. The extent of the well has been carefully noted and is to be retained in its landscape setting. Note is made for the potential interpretative role that the well may play onsite. As noted above, the proposed works do not impede or interfere with the well and as such do not affect this part of the place. Edging bricks have been noted to be retained along the drive. The terraces of the former vineyard are retained and noted on site.

Graythwaite does not feature any known Aboriginal sites nor is it considered to have potential to contain previously unidentified sites. The site is also not considered to have any Aboriginal heritage significance. Nevertheless, the Metropolitan Local Aboriginal Land Council has expressed an interest in monitoring any excavation, ground disturbance or vegetation removal in the less disturbed areas to the south and west of the House.

As a place of State heritage significance, historical archaeological relics at Graythwaite are protected under the *Heritage Act 1977* (NSW). Any proposed excavation or ground disturbance will therefore require approval under the Act.

Q. *How does the work impact on views to and from adjacent heritage items?*

A. In principle, the proposed works are visually subservient to the established form and character of the place. The major visual elements are the proposed building forms to the east and west of Graythwaite. However, the scale, size, shape and qualities of the buildings have been carefully structured so as to allow for the pre-eminence of Graythwaite on the site. The landscape treatment around the proposed building forms filters views from the heritage item while acknowledging the new built form. The location of the buildings to the side of the house and within the former area of the Ward Building and a service area to the north of the House does not affect the formal south façade of the House. The scale and character of the existing and proposed landscape is such as to reinforce the immediate curtilage of Graythwaite, this being consistent with the conservation policies in reinforcing the residential character and form of the site and house while acknowledging the institutional use of the site. The proposed buildings will not be seen from public viewing points on Union Street and will be screened from private open space immediately adjacent on the western boundary through the use of landscaping on the substantial setback from the boundary.

7.8.10 Tree removal or replacement

Q. *Does the tree contribute to the heritage significance of the item or landscape?*

A. All major and significant trees are to be retained on the Graythwaite site. Two figs are to be removed, along with extensive areas of weed species.

Q. *Why is the tree being removed?*

A. Two figs to be removed are poor in structure, presenting a potential threat to people using the site. One of the figs is near the significant clump of Bamboo, obstructing views to it. Removal of the trees will enhance public safety and enhance the presentation of the Bamboo to the site.

Q. *Has the advice of a tree surgeon or horticultural specialist been obtained?*

A. Advice concerning removal of the trees has been provided by horticultural specialists Earthscape Horticultural Services and Taylor Brammer.

Q. *Is the tree being replaced? Why? With the same or different species?*

A. The two figs and the weed species are to be replaced with similar and appropriate species to consolidate and enhance the landscaping of the site.

A Statement of Commitment has been drafted (**Table 16**) obliging the proponent to adopt the recommendations of the SOHI and the Planning Parameters document, both by Tanner Architects.

7.9 Drainage and stormwater

The proposed stormwater concept described at Section 6.13 (based on the recommendations set out in the IWMP by ACOR, **Appendix F**) will improve stormwater conditions on the site and those adjoining.

7.10 Flooding

The site is not within a flood prone area

7.11 Utilities

Proposals for site service upgrades (if required) will be set out in each Project Application.

7.12 Flora and fauna

The Flora and Fauna Report, by Cumberland Ecology (**Appendix D**), concludes that:

The subject site supports established gardens of exotic and non-indigenous plants only. None of the vegetation present is representative of any native vegetation communities. None of the vegetation present within the subject site would meet the criteria for any of the EPBC Act or TSC Act listed CEEC's or EEC's known to occur in the wider locality.

Anabat survey results indicated that low numbers of Eastern Bentwing-bats are likely to roost within the roofs of existing buildings within the subject site. The refurbishment or demolition of these buildings under the proposed development has the potential to impact on these individuals. It is recommended that fauna protocols should be established and impacts on microbats and other fauna should be managed prior to and during construction or demolition operations.

The Grey-headed Flying-fox is known to forage on fruit and blossom-producing trees within the subject site. The proposed development will not result in the removal of any of these trees. Further, the subject site does not provide suitable roosting or breeding habitat for the Grey-headed Flying-fox. Suitable forage habitat for this species occurs throughout the locality of the subject site, and it is highly unlikely that the proposed development will result in any significant impacts on the Grey-headed Flying-fox.

Statement of Commitment 21, **Table 16** obliges the proponent to adopt the recommendations of the Flora and Fauna Report.

7.13 Vibration and noise impacts from railway

Noise impacts from the operation and construction of the project are described above at Section 7.4.3. Heggies (**Appendix M**) has also considered the effects of rail noise and vibration on the proposal in accordance with the DoP's *Interim Guideline Development Near Rail Corridors and Busy Roads* (2008).

Results of noise predictions from measurements indicate that, with windows closed, all proposed buildings of the development will meet the airborne noise criteria by means of standard building construction without specific noise control measures included in the design.

Results of noise predictions from measurements indicate that, with windows open, internal noise levels within classrooms along the south and west facades of the West Building are likely to exceed the relevant criteria by up to 4 dBA. In light of this exceedance, it is recommended that alternative means of ventilation be provided to allow the closure windows during noisier periods.

Results of vibration measurements show that the maximum measured rail vibration complies with established criteria for intermittent rail vibration by a significant margin.

Ground-borne noise levels have been assessed for the project and comply with established noise criteria.

Heggies concludes that rail induced noise and vibration will not cause a significant impact that cannot be easily addressed through design or operation and that does not require any special construction to achieve noise/vibration dampening. It will be prudent, however, to undertake further specific detailed noise and vibration analyses in conjunction with the detailed design required for future Project Applications in relation to the East and West Buildings (Stages 2 and 3).

7.14 Erosion and sediment control

An erosion and sediment control plan is included in the IWMP by ACOR (**Appendix G**).

7.15 Geotechnical

There is no excavation proposed at Stage 1. Stages 2 and 3 involve excavation works to construct the lower levels of the new North, East and West Buildings. The Project Applications for Stages 2 and 3 will include Geotechnical Investigations to ensure that appropriate excavation techniques and structural methodologies are employed (Statement of Commitment 8, **Table 16**).

7.16 Railway tunnel

The North Shore Line rail corridor tunnel runs east-west directly below the approximate centreline of the Graythwaite site. Accordingly, the project will be

delivered in accordance with applicable standards and procedures as set out in the Infrastructure SEPP and the relevant RailCorp legislation and design guidelines.

The Rail Corridor Management Group (**RCMG**) requires any development located around or above a rail corridor to be assessed and to comply with the appropriate consent conditions. The Rail Protection Zone (**RPZ**) dictates those developments that fall within this category for assessment. Horizontally, the RPZ spans a distance of 25 metres, measured from the inside face of the tunnel nearest to the proposed development. Vertically, the RPZ is not restricted by height or depth.

Several of the proposed new buildings on the Graythwaite site are affected by the RPZ. As part of the detailed design and approval process for all new buildings, the specialist expertise of a surveyor, geotechnical, structural and acoustic engineer will be sought to ensure the development meets the necessary compliance criteria.

It is not expected that the rail corridor will prevent any of the buildings being constructed, but its presence will impact directly on building design and construction.

7.17 Impacts of construction

Construction Management Plans will be prepared to accompany each Project Application. They will address the following issues:

- Site management and public safety
- Operating hours and construction staging
- Demolition and excavation work methods
- Archaeological issues
- Geotechnical
- Groundwater and water extraction
- Noise and vibration management
- Air and water quality
- Waste management
- Construction traffic management

The Transport Assessment by Halcrow (**Appendix E**) addresses construction traffic and identifies issues which should be considered in detailed construction planning and general principles for vehicle and pedestrian management during construction.

Halcrow recommend that a formal Construction Traffic Management Plans (**CTMP**) be prepared prior the release of Construction Certificates for each stage of the project (Statement of Commitment 15, **Table 16**) incorporating the following information and construction methodologies to manage construction traffic:

- All unloading and loading of construction vehicles should occur on site
- All construction vehicles would enter and exit the site in a forward direction
- Vehicle access to the Stage 1 building conservation works will be provided via Edward Street, with no vehicles using Edward Street during the morning drop off and afternoon pick at the Preparatory School (ie. 7:50am – 8:40am and 2:40pm – 3:20pm). During these periods access would be available via the Union Street access
- To the maximum extent possible, materials delivered to or extracted from the site with larger vehicles will be undertaken via Union Street which is a higher order road than Edward Street
- Construction vehicles associated with the drainage works would access the site from Union Street
- Construction vehicle access to and from the site during the Stage 2 and 3 construction works will be via Union Street
- To mitigate on street parking implications, dedicated temporary parking spaces should be provided on site (where possible) for construction workers vehicles
- Contractors shall be encouraged to utilise public transport or car share arrangements
- The hours of operation for construction vehicle movements will be restricted to agreed hours so that the impacts of construction vehicle noise on amenity (noise, vibration, safety) can be mitigated for sensitive times (ie. night time, weekends)
- Safety issues will need to be addressed with the implementation of appropriate Traffic Control Plans (TCPs) which will need to be developed in accordance with RTA guidelines. The TCP's will include details of advance warning signage, traffic flow management and pedestrian management measures
- Details of proposed works
- Timing of proposed works
- Hours of construction activities
- Number of construction vehicles, particularly heavy vehicles to be used
- Mitigation and management measures including use of stop / go signals, construction vehicle access arrangements and circulation
- Contact details for on site construction personnel.

The CTMPs will be prepared in accordance with RTA guidelines.

Table 14 Proposed measures that promote CPTED principles

CPTED Principle	Measure to be incorporated into the project
<p>Surveillance</p> <p>Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by:</p> <ul style="list-style-type: none"> • Clear sightlines between public and private places. • Effective lighting of public places. • Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims. 	<p>Surveillance will be maximised by:</p> <ul style="list-style-type: none"> • CCTV will be installed to monitor retained and new buildings • Lighting (automatic) will be installed at the Graythwaite site entries (Union and Edward Streets), along the Union Street driveway, in the outdoor parking areas and intermittently throughout the garden areas (directed away from adjoining residences) as part of the Stage 1 Project Application • An on-site caretaker will reside in the Coach House • Passive surveillance is provided by the 198 boarders and their masters
<p>Access control</p> <p>Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. Effective access control can be achieved by creating:</p> <ul style="list-style-type: none"> • Landscapes and physical locations that channel and group pedestrians into target areas. • Public spaces which attract, rather than discourage people from gathering. • Restricted access to internal areas or high-risk areas. 	<p>Access control will be maximised by:</p> <ul style="list-style-type: none"> • Controlling public access to the Graythwaite site via fencing (all gates will be locked outside of normal school hours). This is essential to ensure that Shore fulfils its duty of care to students (including 198 boarders) and staff • Secure Parking under the East Building (Stage 2) will improve night security for staff and community users of the school • Sign procedure where all visitors to the Shore and Graythwaite sites must be registered and issued with visitor passes
<p>Territorial reinforcement</p> <p>Community ownership of public spaces sends positive signals. Well used places also reduce opportunities for crime and increase risk to criminals. Territorial reinforcement can be achieved through:</p> <ul style="list-style-type: none"> • Design that encourages people to gather in public space and to feel some responsibility for its use and condition. • Design with clear transitions and boundaries between public and private space. • Clear design cues on who is to use space and what it is to be used for. 	<p>Territorial reinforcement will be maximised by:</p> <ul style="list-style-type: none"> • High quality landscaping and on going maintenance of grounds • Providing physical barriers (fencing) to preclude access to outside of school hours • Signage will be used to direct pedestrian and vehicular access
<p>Space management</p> <p>Space management ensures that space is appropriately utilised and well cared for. Space management strategies include: activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements.</p>	<p>Space management will be maximised by:</p> <ul style="list-style-type: none"> • Graffiti removal is to occur immediately • On-site cleaners and gardeners will be maintain the site regularly (to a standard commensurate with the Shore site) • On-site care taker will be responsible for all general repairs/maintenance, gardening, repair of vandalism, replacement of light bulbs • Robust materials will be used to mitigate against potential malicious damage

7.18 Accessibility

A Concept Plan Access Capability Statement has been prepared by Access Associates Sydney (**Appendix K**). It considers access capability for each stage of the Concept Plan and makes specific recommendations to achieve compliance with the requirements of the Disability Discrimination Act 1992 (**DDA**), Building Code of Australia (**BCA**) (2010), draft BCA (2011), DCP 2002, AS1428.1 (2009) and AS2890.6 (2009).

The Statement shows that the Concept Plan is capable of providing equitable and dignified access for all users of the Graythwaite site through the provision of a continuous accessible path of travel including:

- Points of arrival: proposed vehicular drop off and accessible parking space
- Proposed links to adjacent senior and preparatory school campuses
- Proposed accessible entry to administration building (Graythwaite House); reception, staff offices, function and meeting facilities, proposed museum and the equitably provided unisex accessible sanitary facility
- Proposed landscaped garden
- Proposed accessible entry and at least one proposed teaching/staff facility for the Tom O'Neill Centre and the equitably provided unisex accessible sanitary facility
- Proposed accessible entry, staff offices and equitably provided accessible sanitary facility at the Coach House.

Statement of Commitment 9, **Table 16** requires compliance with the recommendations of the Concept Plan Access Capability Statement and requires the submission of detailed Access Statements for each stage of the project.

7.19 Safety and security

The Concept Plan has been designed with reference to the document prepared by the DoP titled *Crime prevention and the assessment of development applications Guidelines under section 79C of the EP&A Act* (the **CPTED Guidelines**).

Proposed crime prevention measures to be incorporated into the project, under the four principles set out in the CPTED Guidelines are set out in **Table 14**. Statement of Commitment 19, **Table 16** requires the Proponent to implement these measures, at each stage of development.

8.0 PROJECT APPLICATION - STAGE 1

8.1 Overview

The Stage 1 Project Application proposes the following project:

1. Conservation and refurbishment of Graythwaite House, the Coach House, Tom O'Neill Centre and associated garden area (the house will not be used for school classes but rather for administrative support and other activities, perhaps including the school archives)
2. Minor demolition works
3. Drainage and stormwater improvements, site levelling and landscaping (significantly on the middle and lower terraces) including removal of 80 trees and transplanting of seven trees
4. Use of the Graythwaite middle and lower terrace as a play and educational space
5. Transport, traffic, parking and access improvements to the Graythwaite and Shore sites
6. Miscellaneous works including site fencing and lighting (to Graythwaite House and the driveway)
7. No anticipated increase in student or staff population.

Stage 1 Architectural Plans (by Tanner Architects) and Stage 1 Landscape Plans (by Taylor Brammer) are included in **Volume 2**.

8.2 Conservation works

The Stage 1 Project Application comprises the following conservation works. More detail is set out in the Outline Schedule of Conservation Works, by Tanner Architects (**Appendix H**):

Graythwaite House

Conservation and refurbishment of Graythwaite House (the House) for staff administration and meeting rooms, comprising:

- Demolition of sundry c1918 and c1980s additions
- Exterior repair and reconstruction of historic fabric including sandstone, timber door, window, verandah and roof joinery, cast iron, slate roofing, rainwater goods
- Construction of a glazed link and new lift to the rear (north)
- Interior alterations and refurbishment works, including new staff office fitouts, joinery, WCs and new finishes and fittings generally.

Coach House

Conservation and refurbishment of the Coach House for staff administration and caretaker's residence, comprising:

- Exterior repair and reconstruction of historic fabric including brickwork, timber door, window and roof joinery
- New verandah structure to replace the existing (non-original) verandah
- Renewal of roofing and rainwater goods
- Interior alterations and refurbishment works, including new staff office fitout, joinery, WCs, kitchen, laundry, bedrooms and fixtures and fittings generally.

Tom O'Neill Centre

Adaptation and refurbishment of the former Tom O'Neill Centre for multi-purpose student activities, comprising:

- Exterior repair works to brickwork, timber door, window and roof joinery
- Renewal of roofing and rainwater goods
- Interior alterations and refurbishment works including new WCs; kitchenette and new finishes and fittings generally
- Minor alterations at the northern end to achieve a suitable teaching space
- New entrance at the north elevation.

8.3 Demolition

The Stage 1 Project Application includes minor partial demolition comprising elements that were added to Graythwaite House in 1915-1916 (including the lavatory block on the northern side of the building and associated passageways), internal fabric of low significance and intrusive linking structures constructed during the 1980s. Minor demolition will also take place in the Coach House and the Tom O'Neill Centre to facilitate adaptive reuse of these buildings.

8.4 Landscaping

As illustrated on the Project Application Landscape Plans prepared by Taylor Brammer (**Volume 2**), the following landscape works are proposed at Stage 1:

- Reinterpretation of the formal gardens in the immediate vicinity of Graythwaite House, including the relocation and/or removal of plant material that is inconsistent with the period of house, reinstatement of detailing to the garden that is consistent with the overall conservation guidelines for the place
- New bonded gravel surface over part of the existing asphalt to the south of Graythwaite House

- Tree retention and removal as proposed by the Concept Plan (Section 6.7.2 and **Volume 2**)
- Restore existing turf in the vicinity of Graythwaite House
- Retention of the park like setting of the broader grounds (consistent with the policies of the CMP) with removal of weed infestations and unrelated modern plantings which diminish the impact of the historic features of the grounds
- The broader grounds will form an educational resource for the school in the teaching of natural systems and plant identification for the subjects of Science and Geography. The broad grassed areas will be used for informal recreation by the pupils of the school, in particular for lunch and morning breaks
- Re-surfacing of the main driveway.

8.5 Uses and population

Consistent with the Concept Plan, the Stage 1 Project Application proposes use of the entire Graythwaite site as an *educational facility*. The Stage 1 Project Application does not propose any additional students or employees (with the Stage 1 buildings occupied by existing Shore staff and students). The typical operational hours of the School are 8.00am to 5.00pm Monday to Friday.

8.6 Recreational use of the grounds

The Stage 1 Project Application includes use of the lower and middle terraces as a recreation and play space. The area that can be practically used by students is limited by the slope of the land, the number of trees, the distances from Shore school and the Graythwaite House surrounds. In general, students will not congregate around the heritage buildings (other than formal school activities in the refurbished Tom O'Neill Centre). Areas near to the Headmaster's House and the adjoining houses in Bank and Union Streets will not normally be used due to the sloping topography and school directives.

Use of the middle terrace (south of Graythwaite House) by up to 100 Preparatory School students (9 to 12 year olds) during recess and lunch time is proposed. These students would be supervised.

The Senior School will not use the middle terrace during breaks. Up to 100 Senior School students would use the lower terrace at lunch time. Again, these students would be supervised.

Occasional special events and functions may be held in the Graythwaite grounds, including community events or fire drills where the whole School population would be outdoors at the same time.

The School also envisages other potential uses such as cadet field work, possible limited athletics and scientific (botanical type) purposes which could occur during the usual operational hours of the school.

On the weekend, it is possible that the lower and middle terraces would be used for leisure or games by the boarders under supervision.

8.7 Drainage and stormwater improvements

As set out in the IWMP by ACOR (**Appendix F**), the following stormwater improvements form part of the Stage 1 Project Application:

- An underground stormwater drainage system (refer **Appendix F**, to drawing C1.02), including an underground stormwater drainage line running under the western side of the current access driveway and connecting to the existing stormwater drainage pit in Union Street. This drainage system will provide immediate connection for the downpipes from Graythwaite House, the Tom O'Neill Centre and the Coach House and will include surface drainage pits along the access driveway
- A subsoil drainage system on the northern side of Graythwaite House to capture groundwater and prevent inundation of the basement. New downpipes and a drainage pit, within the internal courtyard, will be constructed to prevent any surface stormwater entering the basement level. A basement drain will also be constructed to prevent any build up of groundwater in the basement of the House
- In order to better manage water logging of local areas on the site, it is proposed to construct networks of subsoil drains to allow drainage of the waterlogged areas and management of any underground springs (examples of potential locations are shown on Figure C1.02 in **Appendix F**). The sizing and location of these networks will be designed in conjunction with the Landscape Architect and the Arborist to ensure that the existing heritage planting and any new plantings will be able to be sustained without the need for an artificial watering system (if possible).

8.8 Transport, traffic, parking and access

The Stage 1 transport, traffic, parking and access proposal is consistent with that proposed in the Concept Plan (described in detail at Section 7.5.1, based upon the Transport Report at **Appendix E**). In summary, it comprises:

- Six visitor parking spaces to the south of Graythwaite House
- One space to serve the caretaker's residence in the Coach House
- Vehicular access to the site via the existing driveway to Union Street (with improvements proposed to the driveway)
- Secondary vehicular access to the site via Edward Street.

8.9 Fencing, signage and lighting

Fencing and gates

The existing fencing and gates to Union Street will be removed as part of the Stage 1 works. A new Union Street fence and gate has been designed by Tanner Architects (Drawing AR.DA.5001, **Volume 2**). The gate comprises four pillars, faced with sandstone with two pedestrian gates and one vehicular gate (4m wide) erected between the pillars. The design of the Union Street gate and fence is based on early photographs of the site.

The Union Street fence has a sandstone plinth with timber pickets above and follows the topography running along the boundary.

Signage

Signage will be discreet, with a 'Graythwaite – Shore School' sign (exact wording to be determined by the proponent) to be erected at both the Union Street and Edward Street gates, and some small path-finding signs along the drive and in the environs of Graythwaite House.

Lighting

The Edward and Union Street Gates, main driveway, pedestrian routes and the landscaped grounds will be illuminated to provide security and to ensure good visibility for both vehicles and pedestrians. Graythwaite House will be lit at night, from concealed sources.

9.0 PROJECT APPLICATION ENVIRONMENTAL ASSESSMENT

9.1 Consistency with strategic and statutory plans and policies

The consistency of the Stage 1 Project Application with relevant strategic and statutory plans and policies is consistent with that set out in Section 7.1 of this EAR.

9.2 Compliance with Planning Parameters

The Concept Plan proposal includes a Planning Parameters document, prepared by Tanners Architects (**Volume 2**) which has been prepared to guide the detailed design of each stage of development. The Stage 1 project is consistent with the relevant requirements, as set out in **Table 15**.

9.3 Visual impact

The visual impact of the Stage 1 works will be that of positive improvement as:

- The project involves conservation and refurbishment of Graythwaite House, the Coach House, Tom O'Neill Centre and associated garden area (with no new buildings constructed)
- The Union Street streetscape will be improved through new fencing
- Views to Graythwaite House, from Union Street will be improved
- Views to the landscaped gardens from Union Street will be improved.

Table 15 Stage 1 Project Application Compliance with Planning Parameters

Area	Development Parameters/Goals	Compliance
Gates/Union Street frontage	<ul style="list-style-type: none"> – Development of Union Street frontage endorsed in earlier CMP. – New CMP preference to leave as open ground, enabling traditional visual link between Union Street and Graythwaite House. Should the area be left as open ground, grading and some levelling is required to improve site drainage. – Historic evidence of Union Street Gates and fencing to guide provision of new fences and gates. 	<ul style="list-style-type: none"> ✓ No development proposed on the lower terrace. Site drainage is to be improved. ✓ Proposed Union Street gate/fence matches recommended design.
Drive + Associated Planting	<ul style="list-style-type: none"> – Existing character to be maintained with upgraded planting – Driveway to be bonded gravel 	<ul style="list-style-type: none"> ✓ Upgraded driveway planting and bonded gravel driveway finish is proposed.
Lower Garden	<ul style="list-style-type: none"> – General landscape rehabilitation proposed – Area capable of being used for botanical field studies and similar educational roles – An area of potential future development exists as indicated in the following figure. This is a site unrelated to Graythwaite House and its primary landscape setting 	<ul style="list-style-type: none"> ✓ No works are proposed at Stage 1 (however the Lower Garden may be used for educational purposes).
Landscape East	<ul style="list-style-type: none"> – Forecourt to house and side driveway to be in bonded gravel. The Eastern planting to the drive to feature a grass verge and intensive shrub planting and several large trees to establish a garden belt between the drive and the main school buildings – Limited Vehicular access to this area only (Other provisions relate to Stage 2 works) 	<ul style="list-style-type: none"> ✓ New bonded gravel surface shown on the Stage 1 Landscape Plans. ✓ There is no vehicular access to the eastern landscape area.
Service Yard	<ul style="list-style-type: none"> – Restore screen fencing and historic planting bed – Provide traditional paving to yard – The conserved stables, amongst the earliest structures in North Sydney, could be used for display purposes 	<ul style="list-style-type: none"> ✓ Landscape Plan adopts design parameters.
Formal Garden	<ul style="list-style-type: none"> – General retention of original layout and square beds is proposed with brick paving and curbs. The squared beds to be edged in planting and filled with flowering shrubs or plants allied with an educational role. – An opening in the historic wall will enable linkage with the service yard 	<ul style="list-style-type: none"> ✓ Landscape Plan adopts design parameters.
Coach House and Forecourt	<ul style="list-style-type: none"> – Coach House conserved for administration and caretaker use. – Wide verandah is not original and may be varied. – Vista from Graythwaite House forecourt to Coach House gable to be maintained. – With appropriate landscaping, the forecourt can be a general gathering area. 	<ul style="list-style-type: none"> ✓ Coach house is to be used as an administration area with caretaker's residence above. Verandah width retained, but design is to be altered.
Edward Street Frontage	<ul style="list-style-type: none"> – Retention of the major existing trees is proposed with improved paving and landscaping restoring the original impression of Graythwaite House from this position. 	<ul style="list-style-type: none"> ✓ Existing trees to Edward Street retained.

9.4 Impact on residential amenity

Impacts on neighbouring properties from the Stage 1 works will be minor, given that the project involves conservation of existing heritage significant buildings on the site (and no new buildings).

As such, the Stage 1 project will not result in any shadow, view or privacy impacts for adjoining residential properties.

Use of the Graythwaite grounds as a play area for students may have noise impacts on the neighbouring properties. As detailed above at Section 7.4.3 (and **Appendix M**). Heggies has completed noise assessments that conclude the following in relation to the Stage 1 Project Application:

- Noise emissions from students engaged in outdoor recreational activities. Noise levels to the nearest residential boundary would be in the order of 51 dBA at residences fronting Bank Street and 54 dBA at residences along Union Street (shielding from Kailoa would attenuate noise from the lower terrace by a further 10 dBA for the nearest Union Street residence)
- Heggies state that an assessment of outdoor school recreational activities against strict noise emission criteria is inappropriate as:
 - It is important in our society for uses such as schools and residential areas to coexist⁹
 - The nature of the noise source is not inconsistent with that experienced within residential communities, even those which are rural/residential
 - It occurs generally during short periods throughout the day, within school hours
 - It is not reasonable to consider that this noise source would interfere with regular domestic activities which may occur during this time
 - The wider community benefits through the provision of the facility
- Measures to minimise noise emissions from mechanical plant will be explored as part of the Construction Certificate documentation.

Stage 1 construction noise is likely to be minimal as the project involves minor demolition at the rear of Graythwaite House and minor excavation for new drainage pipes (which is effectively equivalent to a typical house renovation/repair).

⁹ As stated by Commission Murrell in *Christian Brothers v Waverley Council*

9.5 Transport and accessibility impacts

Stage 1 transport, traffic, parking and access impacts are consistent with that described in the Concept Plan Environmental Assessment (described in detail at Section 7.5.1, based upon the Transport Report at **Appendix E**). In summary:

- As there is no increase in student or staff numbers proposed at Stage 1, there would be no change to the existing travel demands associated with the Shore and Graythwaite sites
- The provision of seven on site visitor parking spaces at Stage 1 will not have an adverse impact on traffic generation and parking provision compared with the previous use of the site
- Appropriate site access and service and emergency vehicle access arrangements are proposed.

9.6 ESD

Heggies has completed a qualitative ESD assessment to accompany the Concept Plan (**Appendix I**).

In relation to the Stage 1 Project Application, the ESD Assessment concludes:

Opportunities for ESD are limited in respect to the refurbishment of the heritage building whereas all options are available for consideration in the new buildings. The following additional recommendations have been made to improve the sustainability of the heritage building:

- *Lighting system incorporating high frequency ballasts;*
- *On-site rainwater collection; and*
- *Low VOC paint, carpet, sealant and adhesives where appropriate.*
- *The following additional recommendations have been made to improve significantly the sustainability of the proposed development:*
- *Line the inside of the roof with a minimum R3.0 insulation;*
- *Provide external walls insulation with R2.0;*
- *Incorporate openings to the east and west sides of the basement carpark to enhance natural ventilation;*
- *Achieve a Daylight Factor (DF) of 2% at desk-height level (720mm AFFL) under a uniform design sky;*
- *Lighting system incorporating high frequency ballasts;*
- *Installation of motion sensor lighting in low use basement carpark areas.*
- *Rainwater tank for irrigation and toilet flushing.*
- *Water efficient bathroom and kitchen fittings;*
- *A minimum 4.5 star energy efficient air conditioning systems, if provided;*

- Power sub-metering to allow for effective monitoring and management of electricity consumption;
- Water sub-metering for different uses where appropriate;
- Cyclist parking facilities; and
- Low VOC paint, carpet, sealant and adhesives throughout the building.
- A renewable energy option such as Photovoltaic (PV) Solar Cells for the proposed development is considered viable economically. Heggies recommend conducting a detailed study to select, size, cost and conduct a payback analysis for the proposed PV system for the site if this option is desired.....
- The environmental initiatives of the proposed development will be validated during the DA stage against Green Building Council of Australia (GBCA's) standards in consultation with the School to select an appropriate rating at that time.

Heggies has also completed an Indicative Green Star Assessment demonstrating that the Stage 1 project can indicatively achieve a Four Star Green Star Rating (**Appendix I**). Heggies notes that:

The Coach House and Tom O'Neill Centre are not eligible for Green Star Rating. It is therefore recommended to rate the Graythwaite House Using Green Star using Office Design V3 rating tool.

Overall, good ESD design features are currently in place for a number of areas, incorporating the following:

- *The proposed development is close to good transport nodes with frequent service and facilitates the use of mass transport for work commuting;*
- *The proposed development will incorporate passive and active energy saving measures such as operable windows to enhance natural ventilation where appropriate;*
- *The building is naturally ventilated;*
- *Most building facades are retained;*
- *Most building structures are retained;*
- *No refrigerants are used in the project;*
- *No heat rejection water system is used in the project; and*
- *All trees are retained and additional landscape is provided.*

The following additional recommendations have been made to achieve Four Green Star:

- *Line the inside of the roof with a minimum R3.0 insulation;*
- *A 12 month building tuning period also incorporates quarterly reviews and a final recommissioning;*
- *Independent commissioning agent;*
- *Building user guides to provide information on the design features and ensure that they are used efficiently;*

- *Environmental Management Plan (EMP) in accordance with Section 4 of the NSW Environmental Management System guidelines (1998);*
- *Lighting system incorporating high frequency ballasts and limiting electric lighting levels to 400 Lux;*
- *On-site rainwater collection for irrigation and toilet flushing to be constructed in Stage 2 of development;*
- *External cycling facility;*
- *Water efficient bathroom and kitchen fittings;*
- *Low VOC paint, carpet, sealant and adhesives where appropriate;*
- *Dedicated waste storage area for the separation, collection and recycling of consumables with good access for all building users and for collection by recycling companies; and*
- *Fitout design is being coordinated with the base building design and construction.*

9.7 Heritage (including aboriginal heritage)

Stage 1 relates to the three historic buildings on the site which are to be conserved, refurbished and adapted for school-related uses. Graythwaite House is to be refurbished for use as staff administration and reception, the Coach House as a caretaker's residence and staff offices and the Tom O'Neill Centre for music classrooms for students.

The buildings are currently disused and are variously in fair to poor condition. Graythwaite House in particular is in need of immediate remedial repair; the slate roofs are in deleterious condition and water ingress is particularly evident at the first floor. The positive heritage impacts of the Stage 1 project application, described at Section 7.3 (which is based upon the SOHI by Tanner Architects at **Appendix H**), include:

- Conservation and adaptive reuse of Graythwaite House and outbuildings (a rare survivor of a late Victorian estate)
- Demolition of intrusive elements
- Retention of the park-like setting of expansive lawns and large fig trees
- Use of Graythwaite House and the outbuildings for school administration and occasional gatherings, which complements the formal rooms of the house (the proposed uses minimise the need to alter heritage significant fabric)
- Maintenance of the majority of the land as an open parkland (subject to Stage 2 and 3 building envelopes). Schools are among the few enterprises which can use landscaped open space as a resource for educational enhancement and informal forms of recreation. It is Graythwaite's good fortune that the contiguous location of Graythwaite with the School has enabled Shore to justify the purchase of the site for future enhancement of the school in a highly

satisfactory way at its central North Sydney site, and as a result justify the considerable costs of conservation, restoration and maintenance of this property

- Integration of the Shore and Graythwaite sites.

As noted in Section 3.2, physical evidence of aboriginal occupation of the Graythwaite site has not been identified.

9.8 Drainage, stormwater and flooding

As noted in the IWMP by ACOR (**Appendix G**), the following drainage and stormwater works are proposed as part of Stage 1:

- An underground stormwater drainage system including an underground stormwater drainage line running under the western side of the current access driveway and connecting to the existing stormwater drainage pit in Union Street. This drainage system will provide immediate connection for the downpipes from Graythwaite House, the Tom O'Neill Centre and the Coach House and will include surface drainage pits along the access driveway. The system will also provide connections for the proposed East and West Buildings (Stages 2 and 3)
- Construction of a subsoil drainage system on the northern side of Graythwaite House to capture groundwater and prevent inundation of the basement
- New downpipes and a drainage pit, within the internal courtyard to prevent any surface stormwater entering the basement level
- A basement drain to prevent any build up of groundwater in the basement of the House
- In order to better manage water logging of local areas on the site, networks of subsoil drains are proposed to allow drainage of the waterlogged areas and management of any underground springs (locations are nominated by ACOR). The sizing and location of these networks will be designed in conjunction with the Landscape Architect and the Arborist to ensure that the existing heritage planting and any new plantings will be able to be sustained without the need for an artificial watering system (if possible).

The site is not flood affected.

9.9 Utilities

Existing services to Graythwaite House, the Coach House and Tom O'Neill Centre will be upgraded (all works associated with services will be documented in conjunction with Tanner Architects, to ensure that upgrades do not affect heritage fabric).

9.10 Flora and fauna

Stage 1 flora and fauna impacts are consistent with that described in the Concept Plan Environmental Assessment (described in detail at Section 7.11, based upon the Flora and Fauna Report at **Appendix D**).

9.11 Waste management

Waste and recycling management procedures will be implemented, consistent with that described for the Concept Plan (Section 6.15).

9.12 Landscaping and tree removal

The landscape of the site is currently degraded and reflects past institutional uses. The Stage 1 works will enhance the Graythwaite site and the setting of Graythwaite House through the careful reinstatement of the immediate heritage curtilage to Graythwaite that will involve the removal of weeds and overgrowth, the removal of the hospital buildings to eastern portion of the site, the reinstatement of gardens, period roses and planting beds in a style that is evidenced in the contemporary photographs and plans of Graythwaite both prior to and after WW1, reflecting a landscape that is complementary to the style and architectural character of the place and reflecting the historical legacy of the site. This design approach strengthens the house and its immediate grounds allowing for an appropriate appreciation of the style and character of the place where presently there exists substantial areas of bitumen and grassed over planting beds.

The removal of substantial weeds to the grounds and supplementary tree planting will enhance the setting and character of the site. Views to and from the site will be enhanced through the clarification of a parkland character that is consistent with the style and character of the landscape at the turn of the twentieth century.

The Stage 1 works include implementation of the Tree Removal Plan & Retention Plan by Taylor Brammer (LA.DA.002, Volume 2). The plan retains the majority of existing trees, supplemented with further planting, to protect the existing style and character of the property.

The surface of the drive will be reinstated with a stabilised gravel surface to reflect the original finish to the drive.

The proposed landscape will provide a positive impact to the site with the reinstatement of heritage landscape details, the reinforcement of the landscape curtilage to the site, the removal of the substantial weed infestation and the instigation of a landscape management plan to ensure that the landscape principles are instigated and undertaken on a rational and measured basis across the site.

9.13 Community access

As proposed by the Concept Plan, community access to the Graythwaite site will be available at nominated times throughout the year (eg. Heritage Week by arrangement). Shore's duty of care to its students (including 198 boarders) and staff precludes unrestricted public access.

9.14 Erosion and sediment control

Stage 1 does not involve major excavation therefore the likelihood of erosion and sediment escape is minor. Notwithstanding, an Erosion and Sediment Control Plan is included in the IWMP (**Appendix G**).

9.15 Site contamination

The Stage 1 remediation works recommended in the Soil Investigation (**Appendix F** and summarised at Section 7.7) will be completed as part of the Stage 1 project. The hazardous materials management recommendations set out in the Supplementary Hazardous Materials Assessment Report (**Appendix F**) will also be implemented as part of the Stage 1 works. This will ensure that the site is suitable for use as an *educational establishment* prior to its first occupation.

9.16 Railway tunnel

The Stage 1 works do not include any excavation near the railway tunnel.

9.17 BCA compliance and fire engineering

BCA Reports have been prepared by Davis Langdon assessing the BCA compliance of the Stage 1 works to Graythwaite House, the Coach House and Tom O'Neill Centre (**Appendix L**). The reports show that the Stage 1 works include BCA upgrades to improve compliance, but that a number of non-compliances are proposed, on the basis that heritage significance should take precedence.

9.18 Accessibility

A Stage 1 Project Application Access Capability Statement has been prepared by Access Associates Sydney (**Appendix K**). It considers access capability for Stage 1 and makes specific recommendations to achieve compliance with the requirements of the DDA, BCA (2010), draft BCA (2011), DCP 2002, AS1428.1 (2009) and AS2890.6 (2009).

The Statement shows that subject to compliance with its recommendations (including preparation of an operational management strategy), the Stage 1 project is capable of providing equitable and dignified access for all users of Graythwaite House, Tom O'Neill Building, the Coach House (but not the caretaker's residence) and landscaped external paths.

Statement of Commitment 4, **Table 17** requires compliance with the recommendations of the Stage 1 Project Application Access Capability Statement.

9.19 Impacts of construction

A Stage 1 Construction Management Plan addressing the issues described at Section 7.17 of the Concept Plan Environmental Assessment has been prepared by WSP (**Appendix M**).

As recommended by Halcrow (Section 7.17 and **Appendix E**), a CTMP will be submitted to the DoP for approval, prior to the issue of a Construction Certificate for the Stage 1 works.

10.0 DRAFT CONCEPT PLAN STATEMENT OF COMMITMENTS

The following draft statement of commitments (**Table 16**) sets out the measures proposed by the proponent to manage and minimise the potential impacts arising from the Concept Plan.

Table 16 Draft Concept Plan statement of commitments

Subject	Commitment	Timing
1. General	Future Project Applications will be generally in accordance with the EAR prepared by Robinson Urban Planning Pty Ltd (and accompanying consultant reports) and the Concept Architectural and Concept Landscape Plans listed at Table 1 of the EAR.	During and after Construction
2. Heritage	a) Shore will seek Heritage Branch endorsement of the CMP and will manage the property in accordance with the endorsed CMP. b) Future Project Applications will be generally in accordance with the Planning Parameters document (by Tanner Architects). c) Future Project Applications will implement the recommendations of the Statement of Heritage Impact (by Tanner Architects).	Project Applications and ongoing
3. Archaeology	Should any Aboriginal or European objects be discovered at the site, then all works in the vicinity should cease immediately and the DECCW or Heritage Branch would be contacted.	During construction
4. Transport	Future Project Applications will implement the recommendations of the Transport and Accessibility Impact Assessment (by Halcrow) in relation to non-car modes of travel.	Prior to and after occupation
5. Parking	By the end of Stage 2, a minimum of 48 car parking spaces will be provided on the Graythwaite site (in addition to any existing parking on the Shore site).	Prior to occupation of Stage 2
6. Traffic	If the population of the Preparatory School is to increase, strategies to address additional traffic load in Edward Street will be examined.	Stage 2 or 3 Project Application
7. ESD	Future Project Applications will, to the greatest extent possible, implement the recommendations of the Indicative ESD Report, by Heggies.	During and after to construction
8. Geotechnical	Future Project Applications for Stages 2 and 3 will include Geotechnical Investigations to ensure that appropriate excavation techniques and structural methodologies are employed.	Stage 2 and 3 Project Applications
9. Disabled access	Future Project Applications will implement the recommendations of the Concept Plan Access Capability Statement (by Access Associates Sydney).	Project Applications
10. Existing trees	Other than trees nominated for removal/transplanting on the Tree Removal Plan & Retention Plan by Taylor Brammer (LA.DA.002), future Project Applications will retain existing trees on the site and will implement the recommendations in the Development Impact Assessment, by Earthscape Horticultural Services.	Project Applications

Subject	Commitment	Timing
11. Public access to Graythwaite	Community access to the Graythwaite site will be available at nominated times throughout the year (eg. Heritage Week by arrangement). Community access will only be provided on the basis that it does not interfere with normal school activities.	On going
12. Contamination & hazardous materials	Future Project Applications will implement the recommendations of the Soil Report (by WSP) and Supplementary Hazardous Materials Assessment Report (by WSP).	Project Applications
13. Water management	The recommendations of the IWMP (by ACOR) will be implemented.	Project Applications
14. BCA and Fire Engineering	Future Project Applications will comply with the Building Code of Australia (or proposed fire engineered solutions).	Prior to construction
15. Construction management	Construction Traffic Management Plans (CTMP) will be submitted to the DG for each development stage as part of the Construction Certificate following Project Application approval.	Prior to construction
16. Construction noise and vibration	A noise and vibration management plan will be produced for Stages 2 and 3 identifying reasonable and feasible noise mitigation measures to reduce construction noise emissions.	Prior to construction (Stages 2 and 3)
17. Site consolidation or boundary realignment	The Graythwaite and Shore sites are to be consolidated (or the common boundary realigned) prior to the occupation of the East Building.	Prior to occupation of Stage 2
18. Excavation	The Rail Corridor Management Group will be consulted to ascertain its requirements for excavation in the vicinity of the railway tunnel.	Stage 2 Project Application
19. Crime prevention	Crime prevention through environmental design measures will be considered at each stage of the development.	Stage 1, 2 and 3 Project Applications
20. Waste	Shore will assess the feasibility of additional recycling measures (glass and plastic) as part of the Project Applications for Stage 2 and/or 3.	Stage 2 and 3 Project Applications
21. Flora and fauna	Future Project Applications will implement the recommendations of the Flora and Fauna Report (by Cumberland Ecology).	Project Applications

11.0 DRAFT PROJECT APPLICATION STATEMENT OF COMMITMENTS

The following draft statement of commitments (**Table 17**) sets out the measures proposed by the proponent to manage and minimise the potential impacts arising from the Stage 1 Project Application.

Table 17 Draft Project Application (Stage 1) statement of commitments

Subject	Commitment	Timing
1. General	The project will be generally in accordance with the EAR prepared by Robinson Urban Planning Pty Ltd (and accompanying consultant reports) and the Architectural Plans (by Tanner Architects) and Landscape Plans (by Taylor Brammer) listed at Table 1 of the EAR.	During and after Construction
2. Parking	The project will include six visitor and one caretaker's car parking spaces (in addition to any existing parking on the Shore site).	Prior to and after occupation
3. ESD	The recommendations of the Sustainability Report and Indicative Green Star Assessment (by Heggies) (that are relevant to Stage 1) will be implemented.	During and after to construction
4. Disabled access	The detailed design of Stage 1 is to comply with the Stage 1 Project Application Access Capability Statement (by Access Associates Sydney).	During and after to construction
5. Existing trees	All trees on the site shall be retained except for the trees nominated for removal and transplanting on the Tree Removal Plan & Retention Plan (LA.DA.002 Rev P3, by Taylor Brammer). All construction and other activities will implement the recommendations in the Development Impact Assessment (by Earthscape Horticultural Services).	During and after to construction
6. Public access to Graythwaite	Community access to the Graythwaite site will be available at nominated times throughout the year (eg. Heritage Week by arrangement). Community access will only be provided on the basis that it does not interfere with normal school activities.	On going
7. Contamination & hazardous materials	The recommendations of the Soil Report (by WSP) and Supplementary Hazardous Materials Assessment Report (by WSP) are to be implemented as part of the Stage 1 project works.	Prior to occupation
8. Water management	The recommendations of the IWMP (by ACOR) (that are relevant to Stage 1) will be implemented.	During and after to construction
9. BCA and Fire Engineering	The recommendations of the BCA Reports (by David Langdon) will be implemented.	Prior to construction
10. Construction management	Construction activities are to implement the recommendations of the Construction Management Plan (by WSP). A detailed CTMP will also be prepared addressing the matters identified in the Transport and Accessibility Impact Assessment (by Halcrow).	Prior to and during to construction

Subject	Commitment	Timing
11. Waste management	The project will implement waste minimisation and recycling measures.	After construction
12. Lighting	External lighting will be designed to comply with Australian Standard AS4282 on "The Control of the Obtrusive Effects of Outdoor Lighting".	Prior to construction
13. Construction Certificates	The proponent will obtain all relevant construction and compliance certificates as required by the <i>Environmental Planning and Assessment Act, 1979</i> and the <i>Environmental Planning and Assessment Regulation, 2000</i> .	Prior to construction
22. Crime prevention	The crime prevention through environmental design measures set out in the EAR (that are relevant to Stage 1) will be implemented.	Prior to occupation

12.0 CONCLUSION

The Concept Plan and Project Application proposing an expansion of Shore educational *establishment* onto the Graythwaite site at 20 Edward Street, North Sydney has considerable merits as noted below:

- The principal buildings on the Graythwaite site are in a poor state of repair. Shore intends to conserve these buildings for an administration role and occasional gatherings which complement the formal rooms of the house. The School also intends to maintain the majority of the land as an open parkland, as it was originally.
- Schools are among the few enterprises which can use landscaped open space as a resource for educational enhancement and informal forms of recreation. It is Graythwaite's good fortune that the contiguous location of Graythwaite with the School has enabled Shore to justify the purchase of the site for future enhancement of the school in a highly satisfactory way at its central North Sydney site, and as a result justify the considerable costs of conservation, restoration and maintenance of this property.
- The Concept Plan and Stage 1 Project Application have been guided by extensive site analysis work (with plans and specialist reports on architecture, heritage, landscape design, existing trees, flora and fauna, transport and accessibility, soils and contamination, water management, sustainability, disabled access, BCA, acoustic impact, shadows and construction management. A new CMP for the Graythwaite site has also been prepared by Tanner Architects (submitted to the Heritage Council for endorsement).
- The project is permissible pursuant to Clause 28(2)(b) of the Infrastructure SEPP which enables an expansion of Shore onto the Graythwaite site.
- In preparing Concept Plan and Project Application, Shore has consulted North Sydney Council (officers and Councillors), the NSW Heritage Branch of the DoP and Local Precinct Committees and taken the comments of each organisation into account when designing the project.
- The Concept Plan is generally consistent with relevant strategic and statutory plans and policies. Variations proposed to North Sydney Council's controls/standards (for example height and parking) are reasonable and do not result in any adverse environmental effects.
- A thorough assessment of the environmental effects of the Concept Plan and Project Application shows that the project will not adversely affect the environment, the amenity of adjoining residences or the locality in general.
- Draft Concept Plan Statement of Commitments and Draft Project Application Statement of Commitments have been prepared setting out the measures proposed by the proponent to manage and minimise the potential impacts arising from the project.

In light of the considerable merits of the Concept Plan and Project Application, it is requested that the Minister:

- Approve the Concept Plan under Section 75O of the EP&A Act
- Approve the Project Application under Section 75J of the EP&A Act
- Determine under Section 75P(1)(a) of the EP&A Act that future projects be the subject of Part 3A of the EP&A Act.