



MACQUARIE
University

Sustainability Financing Framework

2021 Annual Report



Sustainability Financing Framework – Annual Report

Purpose

Macquarie University is pleased to present its third Annual Report under the University's Sustainability Financing Framework (the **Framework**), covering the year ended 31 August 2021. The report provides detailed information on the use of proceeds from Sustainability Bonds across a range of projects that meet the eligibility criteria established within the Framework.

The Annual Report comprises:

- Part I: Overview of Sustainability Financing Framework
- Part II: Sustainalytics report
- Part III: Allocation of funds and use of proceeds
- Part IV: Impact reporting



Part I

Overview of Sustainability Financing Framework



Part I: Overview of Sustainability Financing Framework

Introduction

Macquarie University was the first Australian university to access debt capital markets, raising A\$250M in Australian medium-term notes in a 10-year transaction in September 2010.

During 2018 Macquarie University developed its **Sustainability Financing Framework**, anchored in the Sustainable Development Goals established by the United Nations. The move towards sustainability financing has been part of the University's overall commitment to embed environmental and social considerations in processes and practices across our core activity areas.

The Sustainability Financing Framework was developed to govern how Macquarie University will enter into future Sustainability Financing Transactions, with proceeds earmarked to finance projects that deliver positive environmental and social outcomes. Through the Framework, the University aims to fund eligible social and green projects in line with the ICMA Sustainability Bond Guidelines and APLMA Green Loan Principles.

In September 2018 the University issued its first A\$250M in medium term notes under the new Sustainability Financing Framework. This dual-tranche (10 year and 25 year) transaction involved 26 investors, 18 domestic and 8 international, expanding the University's already diverse investor base.

Macquarie University's 2018 A\$250M dual tranche transaction was named *Sustainability Bond of the Year* by Environmental Finance¹.

In November 2019 the University returned to the debt capital markets to issue a further A\$250M in medium term notes, again in a dual tranche (10.5 year and 25 year) transaction issued under the Sustainability Financing Framework. This issuance attracted 9 new investors, further diversifying the investors base.

Details of the sustainability bonds issued under the Sustainability Financing Framework are outlined in the Table 1 below.

Table 1: Sustainability Bonds on Issue – 31 August, 2021

Sustainability Bonds	Identifier/ISIN	Coupon	Term	Maturity	Amount (A\$'M)
2018 MTN	AU3CB0256279	3.50%	10Yr	September 2028	200.0
2018 MTN	AU3CB0256295	4.50%	25Yr	September 2043	50.0
2019 MTN	AU3CB0268399	2.25%	10.5Yr	May 2030	160.0
2019 MTN	AU3CB0268472	3.10%	25Yr	November 2044	90.0
				Total	500.0

¹ Sustainability Bond of the Year – Corporate; Environmental Finance 2019

Use of Proceeds

Proceeds from bonds issued under the Sustainability Financing Framework are allocated to eligible projects under the direction of the University's Finance and Facilities Committee (a committee of Council). As at 31 August 2021 a total of \$440M has been allocated to projects under the Framework (see Table 2).

Full details of funds allocated to projects can be found in Part III and are summarised in Table 2.

Table 2: Allocation of Proceeds – 31 August, 2021

(A\$'M)

ISIN	Amount	Projects Currently Funded			Projects Earmarked for Future Funding ²			To be Allocated
		MUCCP Stages 2, 4, 5 & 7 ³	Endoscopy Clinic at MQH	MQH Clinic at Trafalgar Place	MQ Law Building	Physics, Astronomy & Engineering	MUCCP Stage 6a.2 -18 Wally's Walk	
AU3CB0256279	200.0	200.0			-	-		-
AU3CB0256295	50.0	50.0			-	-		-
AU3CB0268399	160.0	-	12.0	1.0	-	60.0	27.0	60.0
AU3CB0268472	90.0	10.0			70.0	10.0		-
Total	500.0	260.0	12.0	1.0	70.0	70.0	27.0	60.0

A. Green Buildings



\$252M of the sustainability bonds have been allocated to the Macquarie University Central Courtyard Precinct ("MUCCP") – Stages 2 & 5a (1 Central Courtyard), 4 (Lincoln Building), 5b (Residential Student Accommodation R1 & R2) for the construction of Green Buildings, to be assessed by the Green Building Council of Australia ⁴ (GBCA).

Stage 4 (Lincoln Building) has been awarded a 5 Star Green Star Rating (Design and As Built) by the GBCA, and Stages 2, 5a & 5b are in the final stages of assessment for the Green Star certification.

An overview of the Stages of MUCCP are outlined below.

² As at Aug 31, 2021, an additional \$3m have been spent as early costs and detailed design fees on MQ Law and Physics, Astronomy & Engineering buildings.

³ Includes 1 Central Courtyard, Residential Student Accommodation R1 & R2, Lincoln Building Refurbishment and Mars Creek Rehabilitation Works.

⁴ Green Building Council of Australia, Design & As Built v1.2 certified rating.

Stages 2 & 5a (1 Central Courtyard): New Development consisting of formal and informal learning and teaching spaces, graduation hall and food and beverage retail spaces, totalling approximately 15,400m².

Eligibility Criteria: Green Building



Stage 4 (Lincoln Building): Major Refurbishment of 3 levels of workplace accommodation and provision of 6 new retail spaces, totalling approximately 2,570m².

Eligibility Criteria: Green Buildings



Stage 5b (Residential Student Accommodation R1 & R2): New Development consisting of Residential Student Accommodation spread across two buildings (with common podium) and a 342-bed capacity, totalling approximately 11,950m².

Eligibility Criteria: Green Buildings



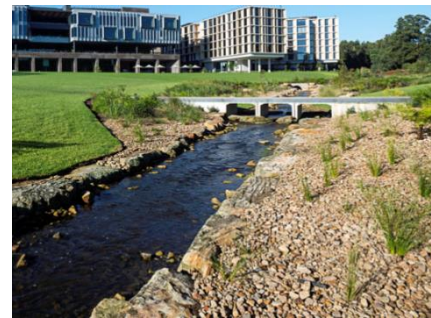
B. Sustainable water and wastewater management



\$8M of the sustainability bonds have been allocated to the Macquarie University Central Courtyard Precinct (“MUCCP”) – Stages 7 (Mars Creek Rehabilitation Works), to improve the restoration of natural landscapes and wetlands, such as the Mars Creek.

This project is expected to reduce the impact of storm flows for the MQ community and improve flood mitigation both on campus and to the downstream flows of Lane Cove River.

It is also expected to bring about significant enhancements of native plants along the project’s creek edge.



Eligibility Criteria: Environmentally Sustainable Management of Living Natural Resources & Land Use

C. Access to Essential Services



\$13M of the sustainability bonds have been allocated across the fitout and refurbishment of the Endoscopy Clinic (\$12M) and MQ Health Clinic (\$1M) at Trafalgar Place to facilitate:

Endoscopy Clinic at Macquarie University Hospital:

Fitout and refurbishment within the Macquarie University Hospital to expand the capacity and capability of Endoscopy Services to the community.

Over 5000 diagnostic and therapeutic specialist procedures annually (more than 2.5x increase current patient capacity).



Eligibility Criteria: Social – Access to Essential Services

MQ Health Clinic at Trafalgar Place: Fitout and refurbishment of tenancy to accommodate MQ Health Clinic to expand the capacity and outreach of General Practitioner health services to the community.

Up to 20,000 patient visitations annually.

Eligibility Criteria: Social – Access to Essential Services



D. Projects in development

The University has allocated A\$167M of funds to be used in the development of three new green building projects, with construction expected to occur over the next twelve to twenty four months.

- Macquarie University Law School (allocation of \$70M)
- Physics, Astronomy & Engineering (allocation of \$70M)
- 18 Wally’s Walk (allocation of \$27M)

Further details of these projects earmarked for future funding can be found in Part III – Section 3.5.

MUCCP: Supporting positive environmental and social outcomes in local communities...

88%
REDUCTION



Reduction in CO₂ emissions² when considered with renewable electricity supply agreement, equivalent to the emissions from **459 households** in the Macquarie Park surrounds

 90%

Reduction in **gross pollutants** in Mars Creek outflow



46%

Savings in energy demand¹ sufficient to provide energy for **262 households** in the Macquarie Park area

7450kL



Reduction in water consumption by stormwater re-use, equivalent to the water consumption of **38 households** in the Macquarie Park area, or **12.4 million bottles of water**



42%
REDUCTION



Reduction in CO₂ emissions¹ equivalent to the emissions from **219 households** in the Macquarie Park area



394

New trees planted in relation to the project



656MWh

Electricity generated from on-site photovoltaic arrays, sufficient to provide electricity for **128 households** in the Macquarie Park area

 80%

Reduction in total **suspended solids** in Mars Creek outflow



Part II
Sustainalytics Report



Part II: Sustainalytics Report 2021



Macquarie University

Type of Engagement: Annual Review
Date: October 06, 2021
Engagement Team:
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Introduction

In 2018 and 2019, Macquarie University (MQU) issued four sustainability bonds aimed at financing green and social projects. In September 2021, MQU engaged Sustainalytics to review the projects funded through the issued sustainability bonds and provide an assessment as to whether the projects met the use of proceeds criteria and the reporting commitments outlined in the Macquarie University Sustainability Financing Framework.

Evaluation Criteria

Sustainalytics evaluated the projects and assets funded from 2019 to August 2021 based on whether the projects and programmes:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Macquarie University Sustainability Financing Framework; and
2. Reported on at least one of the key performance indicators (KPIs) for each use of proceeds criteria outlined in the Macquarie University Sustainability Financing Framework.

Table 1 lists the Use of Proceeds, Eligibility Criteria and associated KPIs.

Table 1: Use of Proceeds, Eligibility Criteria, and associated KPIs

Use of Proceeds	Eligibility Criteria	Key performance indicators (KPIs)
Green Buildings	<ul style="list-style-type: none"> • New construction and/or renovation of existing buildings that follow strong Ecologically Sustainable Design (ESD) Principles¹ • New construction and/or renovation of existing buildings that have or will receive any one of the following certifications and ratings or demonstrate equivalent performance: <ul style="list-style-type: none"> ○ National Australian Built Environment Rating System (NABERS) – minimum 4.5 Star or above; or ○ Green Building Council of Australia (GBCA) Green Star – minimum 5 Star or above; or ○ For renovations or upgrades of existing buildings, deliver a minimum 30% reduction in carbon emissions intensity ○ Any other good green design label, that can be demonstrated to be equal or better than above ○ Procurement of sustainably sourced building materials - including certified products (such as FSC timber), or 	<ul style="list-style-type: none"> • Green or equivalent certifications obtained • ESD principles scorecard • Materials sourced sustainably (including certified products, recycled content) (%)

¹ The ESD Principles Scorecard ensures design initiatives have been included to provide performance equivalent to that of a 5 Star rated project under the nominated Green Star tool. This performance is to be achieved in the construction of the building in order to provide equivalence to an As Built rating.



	products containing recycled content (such as concrete, glass)	
Environmentally Sustainable Management of Living Natural Resources and Land Use	<ul style="list-style-type: none"> • Preservation or restoration of natural landscapes including biodiversity conservation and wetland projects, such as the Mars Creek and Bushcare programmes • Facility and infrastructure new build or upgrades that contribute to research programmes that contribute to the conservation of oceans, seas and marine reserves and/or the protection, restoration and sustainable use of ecosystems, reduction and reversal of land degradation and biodiversity such as the Biological Science Research Facility 	<ul style="list-style-type: none"> • Amount of land covered by open space (ha and %) • Amount of land covered by trees, plants, shrubs etc. (ha and %) • Number of trees planted • Avoidance or reduction of biodiversity loss (number of species) • Quality enhancement of soil and/or land and/or water through management practices associated with land use specific projects • For new builds and upgrades: no. of research programmes contributing to protection/restoration/ sustainable use of ecosystems/forests/halting or reversing land degradation and biodiversity loss • For new builds and upgrades: no. of research programmes contributing to conservation and sustainable use of oceans, seas and marine resources
Access to Essential Services	<ul style="list-style-type: none"> • New buildings and upgrades to facilities providing clinical care • Expenditure to support access to facilities and services that are disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all • Enhance capacity for scientific research, including upgrading technological capabilities, to ensure universal access across campus and encourage innovation and research and development 	<ul style="list-style-type: none"> • Number of people reached with new and/or improved health care facilities • Proportion of campus covered by reliable wifi network and/or technological upgrades to improve learning outcomes • Number of new and/or upgraded facilities that are disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

Issuing Entity's Responsibility

MQU is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, amounts allocated and project impact.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of MQU's Sustainability Bond Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from MQU employees and review of documentation to confirm the conformance with the Macquarie University Sustainability Financing Framework.

Sustainalytics has relied on the information and the facts presented by MQU with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings, or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by MQU.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

Conclusion

Based on the limited assurance procedures conducted,² nothing has come to Sustainalytics’ attention that causes us to believe that, in all material respects, the reviewed bond projects, funded through proceeds of MQU’s Sustainability Bond, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Macquarie University Sustainability Financing Framework.

Detailed Findings

Table 2: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the sustainability bonds from 2018 to 2021 to determine if projects aligned with the Use of Proceeds Criteria outlined in the Macquarie University Sustainability Financing Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria.	None
Reporting Criteria	Verification of the projects funded by the sustainability bonds from 2018 to 2021 to determine if impact of projects was reported in line with the KPIs outlined in the Macquarie University Sustainability Financing Framework and above in Table 1. For a list of KPIs reported please refer to Appendix 1.	All projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

² Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, estimated and realized costs of projects, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

Appendix

Appendix 1: Allocation and Impact Reporting by Eligibility Criteria

Use of Proceeds Category	Impact Reported by Eligibility Criteria	Net Bond Proceeds Allocation (AUD)
Green Buildings	<p>Current projects:</p> <p>Macquarie University Central Courtyard Precinct (MUCCP) Stage 4 - Lincoln Building: 5 Star Green Star (GBCA) – Design & As Built v1.2 rating tool (Australian Excellence)</p> <p>MUCCP Student Accommodation in buildings R1 and R2: 5 Star Green Star – Design & As Built v1.2 rating tool (Australian Excellence)</p> <p>MUCCP Stages 2 & 5a – 1 Central Courtyard: 5 Star Green Star – Design & As Built v1.2 rating tool (Australian Excellence)</p> <p>Future Projects:</p> <p>Macquarie University Law School: 5 Star Green Star (GBCA) - Design and As Built v1.3 rating tool (Australian Excellence)</p> <p>Physics, Astronomy & Engineering building: 5 Star Green Star (GBCA) – Design and As Built v1.3 rating tool (Australian Excellence)</p> <p>MUCCP Stage 6a.2 - 18 Wally's Walk: 5 Star Green Star (GBCA) - Design and As Built v1.3 rating tool (Australian Excellence)</p>	<p>252 million allocated for current projects³</p> <p>167 million allocated for future projects</p>
Environmentally Sustainable Management of Living Natural Resources and Land Use	<p>Mars Creek Rehabilitation: The rehabilitation of Mars Creek Reach 3 focuses on ameliorating the habitat 'truncations' from previous hard engineering works originating in the 1960s. This includes 'daylighting' or opening up a section of creek that was piped in a subterranean stormwater system for more than 50 years.</p> <p>The works will create a new naturalised surface channel through a section of the original creek bed, and in doing so, reinstate the riparian zone of approximately 20 metres in width. Additional habitat features will include a re-made culvert inlet that will offer native freshwater eels a new migration route from their existing habitat in the university's lake, to the rehabilitated upper reaches of Mars Creek.</p>	8 million ³
Access to Essential Services	<p>Endoscopy Clinic at Macquarie University Hospital: Fit-out and refurbishment within the Macquarie University Hospital to expand and enhance the capacity and capability of Endoscopy Services to the community is expected to increase</p>	12 million

³ MQU confirmed to Sustainalytics that it has allocated a total amount of AUD 260 million to the Lincoln Building, Student Accommodation in buildings R1 and R2, 1 Central Courtyard and Mars Creek Rehabilitation. Out of this, AUD 8 million is allocated for the Mars Creek Rehabilitation project.

	patient capacity and provide over 5000 diagnostic and therapeutic specialist procedures annually.	
	MQ Health Clinic at Trafalgar Place: Fit-out and refurbishment of tenancy to accommodate MQ Health Clinic to expand the capacity and outreach of General Practitioner health services to the community. Increase in patient capacity to allow up to approx. 20,000 patient visitations annually.	1 million

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Part III

Allocation of Funds and Use of Proceeds



Parts III: Allocation of funds and use of proceeds

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 - 3.5.3 MUCCP Stage 6a.2 18 Wally’s Walk

The Framework was developed in August 2018 to demonstrate how Macquarie University intends to enter into Sustainability Financing Transactions (“SFTs”) with proceeds earmarked to finance, or refinance, projects and expenditures that will deliver positive environmental and social outcomes and which support Macquarie University’s strategy and vision.

In accordance with Section 2.4 of the Framework, the following Annual Report relates to the reporting period of 1st September 2020 – 31st August 2021.

Information regarding Macquarie University’s Sustainability Targets can be found [here](#), whilst information regarding the alignment of Macquarie University’s core activities with the United Nations Sustainable Development Goals can be found [here](#).

3.1 SUMMARY OF SUSTAINABILITY FINANCING TRANSACTIONS (SFTs)

The following table is a summary of the SFTs:

Table 3: Sustainability Financing Transactions (A\$’M) – 31 August, 2021

Transaction	Identifier/ISIN	Coupon	Term	Maturity	Principal Amount	Allocation	To be Allocated
2018 MTN	AU3CB0256279	3.50%	10Yr	September 2028	\$200.0m	\$200.0m	-
2018 MTN	AU3CB0256295	4.50%	25Yr	September 2043	\$50.0m	\$50.0m	-
2019 MTN	AU3CB0268399	2.25%	10.5Yr	May 2030	\$160.0m	\$100.0m	\$60.0m
2019 MTN	AU3CB0268472	3.10%	25Yr	November 2044	\$90.0m	\$90.0m	-
				Total	\$500.0m	\$440.0m	\$60.0m

3.2 ALLOCATION REPORTING

In accordance with Section 2.2 of the Framework, the University's Finance and Facilities Committee (a committee of Council), approved the following allocation of proceeds totalling \$440.0m (of \$500.0m) from the Bonds raised under the Framework.

Table 4: Allocation of Proceeds (A\$'M) – 31 August, 2021

Identifier/ISIN	F&FC Meeting Reference	Principal Amount	Projects Currently Funded			Projects Earmarked for Future Funding			To be Allocated
			MUCCP Stages 2, 4, 5 & 7*	Endoscopy Clinic at Macquarie University Hospital	MQ Health Clinic at Trafalgar Place	MQ Law Building	Physics, Astronomy & Engineering	MUCCP Stage 6a.2 -18 Wally's Walk	
AU3CB0256279	27 th May 2019	\$200.0m	\$200.0 m			-	-		-
AU3CB0256295	27 th May 2019	\$50.0m	\$50.0m			-	-		-
AU3CB0268399	25 th May 2021	\$160.0m	-	\$12.0m	\$1.0m	-	\$60.0m	\$27.0m	\$60.0m
AU3CB0268472	25 th May 2021	\$90.0m	\$10.0m			\$70.0m	\$10.0m		-
	Total	\$500.0m	\$260.0m	\$12.0m	\$1.0m	\$70.0	\$70.0m	\$27.0m	\$60.0m

Note: All figures in \$AUD

* Includes 1 Central Courtyard, Residential Student Accommodation R1/R2, Lincoln Building Refurbishment and Mars Creek Rehabilitation Works.

3.3 USE OF PROCEEDS

The following table is a summary of the Funding and Expenditure:

Table 5: Funding and Expenditure (A\$'M) – 31 August, 2021

Identifier/ISIN	Allocation Amount	Cumulative Spent to Date*	MUCCP - Stages 2, 4, 5 & 7**	Endoscopy Clinic at Macquarie University Hospital	MQ Health Clinic at Trafalgar Place
AU3CB0256279	\$200.0m	\$200.0m	\$200.0m		
AU3CB0256295	\$50.0m	\$50.0m	\$50.0m		
AU3CB0268399	\$100.0m	\$11.7m		\$10.6m	\$1.1m
AU3CB0268472	\$90.0m	\$11.3m	\$11.3m		
Total	\$440.0m	\$273.0m	\$261.3m	\$10.6m	\$1.1m



Note: All figures in \$AUD

* As at Aug 31, 2021, \$2.9m and \$0.5m have been spent as early costs and design fees on MQ Law and Physics, Astronomy & Engineering buildings respectively.

** Includes 1 Central Courtyard, Residential Student Accommodation R1/R2, Lincoln Building Refurbishment and Mars Creek Rehabilitation Works.

3.4 PROJECT OVERVIEWS: PROJECTS CURRENTLY FUNDED

3.4.1 Macquarie University Central Courtyard Precinct (“MUCCP”)

- Project Part:** MUCCP Stage 4 – Lincoln Building
- Project Description:** Major Refurbishment of 3 levels of workplace accommodation and provision of 6 new retail spaces, totalling approximately 2,570m².
- Eligibility Category:** Green Buildings
- Impact Measure** 5 Star Green Star (GBCA) - Design and As Built v1.2
- Project Status:** Defects Liability Period
- SDG Alignment:**  



Project Part: MUCCP Stages 2 & 5a – 1 Central Courtyard

Project Description: New Development consisting of formal and informal learning and teaching spaces, graduation hall and food and beverage retail spaces, totalling approximately 15,400m².

Includes Stage 2 – Central Courtyard Upgrade, as it supports and is ancillary to the adjacent buildings in Stage 5

Eligibility Category: Green Buildings

Impact Measure 5 Star Green Star (GBCA) - Design and As Built v1.2

Project Status: Defects Liability Period

SDG Alignment:  





Project Part: MUCCP Stage 5b –Student Accommodation Buildings R1 & R2

Project Description: New Development consisting of Residential Student Accommodation spread across two buildings (with common podium) with a 342-bed capacity, totalling approximately 11,950m².

Eligibility Category: Green Buildings

Impact Measure 5 Star Green Star (GBCA) - Design and As Built v1.2

Project Status: Defects Liability Period

SDG Alignment:  



Project Part: MUCCP Stage 7 – Mars Creek Rehabilitation Works

The rehabilitation of Mars Creek Reach 3, focuses on ameliorating the habitat 'truncations' from previous hard engineering works originating in the 1960s. This includes 'daylighting' or opening up a section of creek that was piped in a subterranean stormwater system for more than 50 years.

Project Description:

The works will create a new naturalised surface channel through a section of the original creek bed, and in doing so, reinstate the riparian zone of approximately 20 metres in width. Additional habitat features will include a re-made culvert inlet that will offer native freshwater eels a new migration route from their existing habitat in the university's lake, to the rehabilitated upper reaches of Mars Creek.

Eligibility Category:

Environmentally Sustainable Management of Living Natural Resources and Land Use.

Impact Measure:

Preservation or restoration of natural landscapes including biodiversity conservation and wetland.

Project Status: Defects Liability Period

SDG Alignment:



3.4.2 Endoscopy Clinic at Macquarie University Hospital

Project Description: Fitout and refurbishment within the Macquarie University Hospital to expand and enhance the capacity and capability of Endoscopy Services to the community.

Eligibility Category: Social – Access to essential services – new buildings and upgrades to facilitate providing clinical care.

Impact Measure: Increase in patient capacity by to over 5000 diagnostic and therapeutic specialist procedures annually

Project Status: Construction

SDG Alignment:



3.4.3 MQ Health Clinic at Trafalgar Place

Project Description: Fitout and refurbishment of tenancy to accommodate MQ Health Clinic to expand the capacity and outreach of General Practitioner health services to the community.

Eligibility Category: Social – Access to essential services – new buildings and upgrades to facilitate providing clinical care.

Impact Measure: Increase in patient capacity to allow up to approx. 20,000 patient visitations annually.

Project Status: Construction

SDG Alignment:



3.5 PROJECT OVERVIEWS: PROJECTS EARMARKED FOR FUTURE FUNDING

3.5.1 Macquarie University Law School

Project Description: An adaptive re-use and expansion of 17 Wally’s Walk to provide a purpose-designed facility creating a flexible environment to accommodate the emerging needs of the MQ Law School.

Eligibility Category: Green Buildings

Impact Measure: 5 Star Green Star (GBCA) - Design and As Built v1.3⁵

Project Status: Detailed Design / Documentation

SDG Alignment:



⁵ Projects registered with the GBCA prior to 17th December 2021 are eligible to be assessed using the Design and As Built v1.3 tool. After this date, Green Star Buildings V1, released in 2020, will apply.

3.5.2 Physics, Astronomy & Engineering

Project: Physics, Astronomy & Engineering

Project Description: A dedicated major new multi-disciplinary building for Engineering, Physics and Astronomy, AAO-MQ, and potentially enabling collaboration with other parties.

Eligibility Category: Green Buildings

Impact Measure: 5 Star Green Star (GBCA) – Design and As Built v1.3⁶



Project Status: User Briefing/Concept Design

SDG Alignment:  



⁶ Projects registered with the GBCA prior to 17th December 2021 are eligible to be assessed using the Design and As Built v1.3 tool. After this date, Green Star Buildings V1, released in 2020, will apply.

3.5.3 MUCCP Stage 6a.2 - 18 Wally’s Walk

Project:	MUCCP Stage 6a.2 - 18 Wally’s Walk
Project Description:	Interior Fitout and refurbishment across multiple levels of Macquarie University’s original library building.
Eligibility Category:	Green Buildings: 5 Star Green Star (GBCA) Design and As Built v1.3 ^{Note 3}
Impact Measure:	5 Star Green Star (GBCA) - Design and As Built v1.3 ⁷
Project Status:	Schematic Design / Design Development
SDG Alignment:	 

⁷ Projects registered with the GBCA prior to 17th December 2021 are eligible to be assessed using the Design and As Built v1.3 tool. After this date, Green Star Buildings V1, released in 2020, will apply.



Part IV

Impact Reporting



PART IV: Impact Reporting

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4.1 MUCCP PROJECT OVERVIEW & PROJECT IMPACT

PURPOSE

In accordance with Section 2.4(c) of the Framework, this impact report relates to MUCCP as nominated in accordance with Section 2.2 of the Framework as an Eligible Project.

Project: Macquarie University Central Courtyard Project (MUCCP), comprising:

- Stage 2 Central Courtyard Redevelopment;
- Stage 4 C8A Lincoln Building;
- Stage 5a 1 Central Courtyard;
- Stage 5b Residential Student Accommodation Buildings R1 & R2;
- Stage 7 Mars Creek Rehabilitation Works.

Image 1: The Central Courtyard Precinct

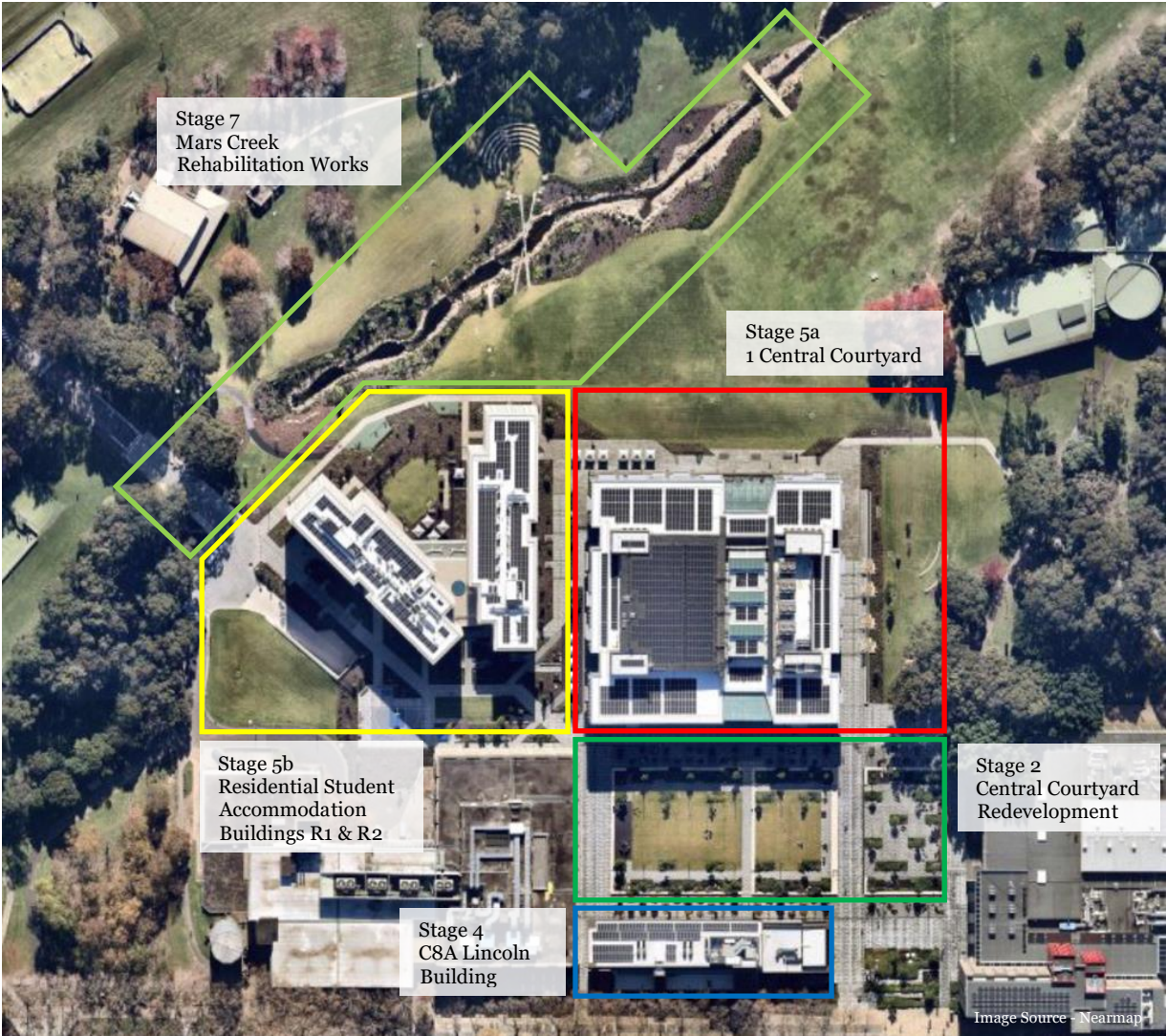


Image 2: MUCCP Central Courtyard Precinct



Project Overview

This rejuvenation and renewal of the Central Courtyard and the buildings that surround it, is a critical part of the reinforcement of the Central Courtyard Precinct as the “heart of the campus”.

The guiding vision for the design for the Central Courtyard Precinct is to create a vibrant dynamic precinct that:

- Creates a focus for the entire University community – students, staff and visitors;
- Manifests the vision for and aspirations of the University;
- Creates a memorable and meaningful place;
- Respects and celebrates the architectural, cultural and landscape heritage of the project;
- Engages and enhances the campus through sustainability, functionality and design;
- Accommodates a wide variety of functions and activities, both permanent and temporary;
- Is sustainable, functional, flexible and capable of evolving over time.

This is to be delivered as a program of ‘Project Parts’, which when realised will serve a variety of functions, delivering new social and educational infrastructure at the very heart of the campus, incorporating approximately 68,000m² of gross floor area (GFA) across both new and refurbished buildings and associated public realm.

The nominated Project Parts (as listed above), being funded under the Framework, are being delivered under a single Construction Contract to FDC Constructions (NSW) Pty Ltd.

The 2021 Impact Report sees no material departure from the 2020 Impact Report.

4.1.1 MUCCP Impact Measure – Green Buildings



Impact Measure # 1

Eligible Category: 2.1.1 Green: Green Buildings

Eligibility Projects: New construction and/or renovation of existing buildings that have or will receive any one of the following certifications/ratings or demonstrate equivalent performance as listed below.

- Green Building Council of Australia (GBCA) Green Star (minimum 5 Star or above).

Impact Indicators: Green or equivalent certifications obtained.

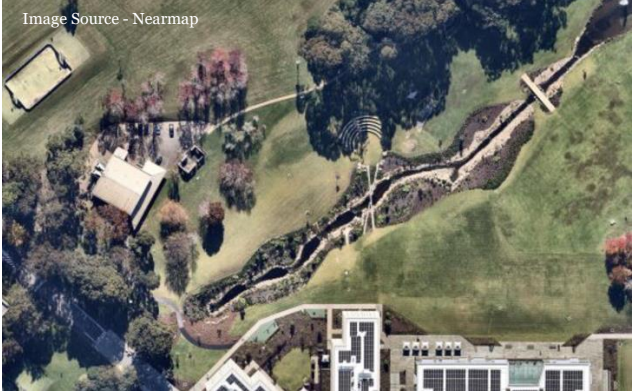
Project Alignment: Given the diversity of functional building types included in the Project, three separate applications have been made to the GBCA as noted in the table below.

Table 1: Applications to the Green Building Council of Australia

Project	Stage 4 – Lincoln Building	Stage 5a 1 Central Courtyard	Stage 5b Residential Student Accommodation Buildings R1 & R2
Project Description	Refurbishment of office space and provision of 6 new retail spaces.	New learning and teaching building, retail spaces and graduation hall.	342 bed student accommodation across two buildings with common podium.
Rating Tool	Green Star – Design and As Built v1.2		
Project Size (GFA)	2,568m ²	15,400m ²	11,950m ²
Desired rating	5.0 Star Green Star		
Rating Type	Major Refurbishment	New Construction	New Construction
Space Use	Class 5/6	Class 5/6/9b	Class 3/7a/9b
GBCA Project Registration Number	GS-4589DA	GS-4588DA	GS-4587DA
Approval date	2 nd August 2021	tba	tba

*Stage 2 of the Central Courtyard Redevelopment, which comprises the landscape treatment of the public realm, is captured within Green Star assessment of the adjacent buildings.

4.1.2 MUCCP Impact Measure – Environmentally Sustainable Management of Living Natural Resources and Land Use



Impact Measure # 2

Eligible Category: 2.1.1 Green: Environmentally Sustainable Management of Living Natural Resources and Land Use.

Eligibility Projects: Preservation or restoration of natural landscapes including biodiversity conservation and wetland projects such as the Mars Creek and Bushcare programs.

- Impact Indicators – the amount of land covered by open space (ha and %);
- Amount of land covered by trees, plants, shrubs etc. (ha and %);
- Number of trees planted;
- Avoidance or reduction of biodiversity loss (# of species);
- Quality enhancement of soil and/or land and/or water through management practices associated with land use specific projects.

Project Alignment:

Macquarie University has two creeks traversing campus:

- University Creek catchment is 94.4 ha – 30 per cent within Macquarie University land;
- Mars Creek catchment is 118.3 ha – 70 per cent within Macquarie University land.

Image 3: Mars Creek Catchment (red outline) and the University Boundary (yellow outline)



Discharge of run-off

Upstream (off campus) flows are contained within subterranean stormwater systems collecting runoff from the local district (roads, roofs, parkland etc). Once on campus, these subterranean systems are discharged into two creeks, which discharge downstream into the Lane Cove River (via the Lane Cove National Park) which is an upper tributary of Sydney Harbour.

Since 2010, Macquarie University has progressively reinstated the creeks and associated riparian zones to their natural state, and in doing so, installed intervention devices that include some form of detention, retention (e.g. water reuse or infiltration system), water quality infrastructure and biodiversity zones to protect the in-stream environment.

The above interventions, together with large areas of the catchment that allow storm water runoff to be intercepted by our landscape, create significant amelioration of 'Urban Stream Syndrome' impacts of extreme/erosive storm flows and suppressed dry-weather flows.

Typical performance criteria resulting from this water quality infrastructure includes the reduction in the mean annual load of:

- Gross pollutants – 90 per cent;
- Total suspended solids – 80 per cent;
- Total Phosphorus – 65 per cent;
- Total Nitrogen – 45 per cent.

To date, the progressive reinstatement of the creek lines and rehabilitation of associated vegetated riparian zones, across 50 per cent of the University's creek landscape, has added 60,000 native plants along 800 metres of creek edge.

The benefits to this combined water catchment and Creek Rehabilitation Strategy are:

- Improved amenity for the Macquarie University community;
- Flood mitigation, both on campus, and to the downstream flows in the Lane Cove River (Sydney Harbour);
- Water purification and pollution control.

Mars Creek

The component of Mars Creek which transverses Macquarie University is approximately 1,220 metres in length and is broken down into six reaches. The MUCCP Stage 7 Mars Creek Rehabilitation Works, is the rehabilitation of the 130m section of Mars Creek known as Reach 3 which makes up 11 per cent of the 1,220 metres of the total length that traverses campus.

Table 2: Mars Creek Rehabilitation Status

Reach Identity	Length (m)	% of total within campus	Riparian Corridor width	Period of Re-vegetation
Mars Creek Reach 1	240	20%	25 m	2012-2013
Mars Creek Reach 2	405	33%	15-30m	2008-2011
Mars Creek Reach 3	130	11%	20 m	Stage 7 Mars Creek Rehabilitation Works
Mars Creek Reach 4 (Campus Lake)	225	18%	n/a	n/a
Mars Creek Reach 5	115	9%	n/a	n/a
Mars Creek Reach 6 (bushland reach)	105	9%	30 m	2008-present
	1,220	100%		

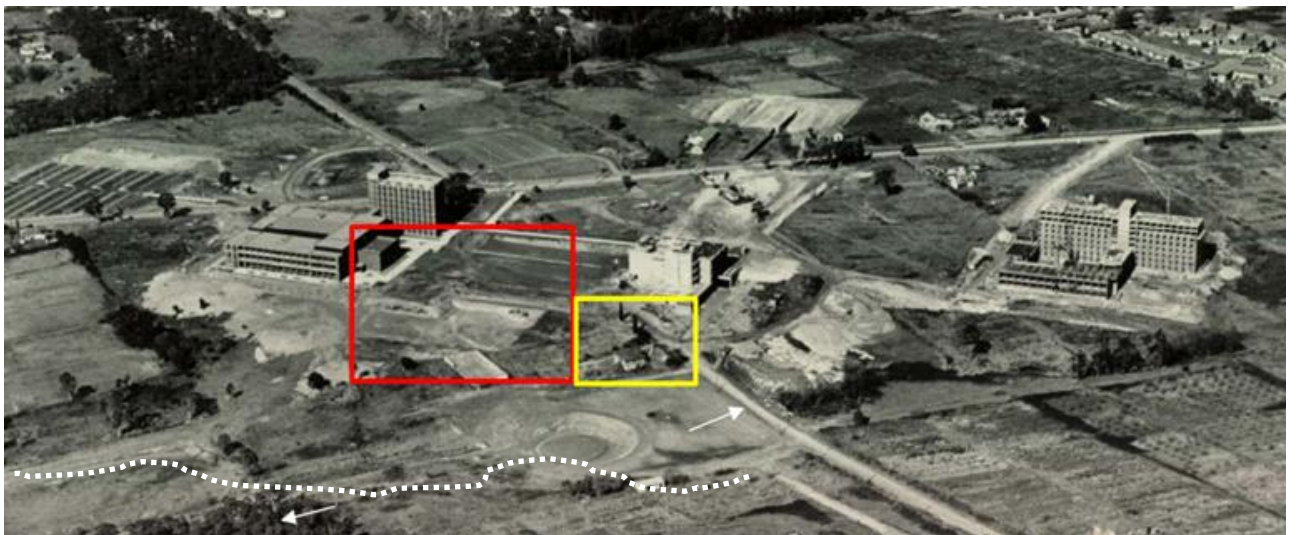
MUCCP – Stage 7 Mars Creek Reach 3 Rehabilitation Works

The following Images 4 - 7 indicate the reaches of Mars Creek, the existing condition and site context

Image 4: The reaches of Mars Creek



Image 5: The University under construction in 1967, looking south east towards the Central Courtyard Precinct (Stage 5a is indicated in red, 5b in yellow)



*The dotted lines indicate the former path of Mars creek directly before it was piped underground.

Image 6: Mars Creek - Reach 3 Site Context

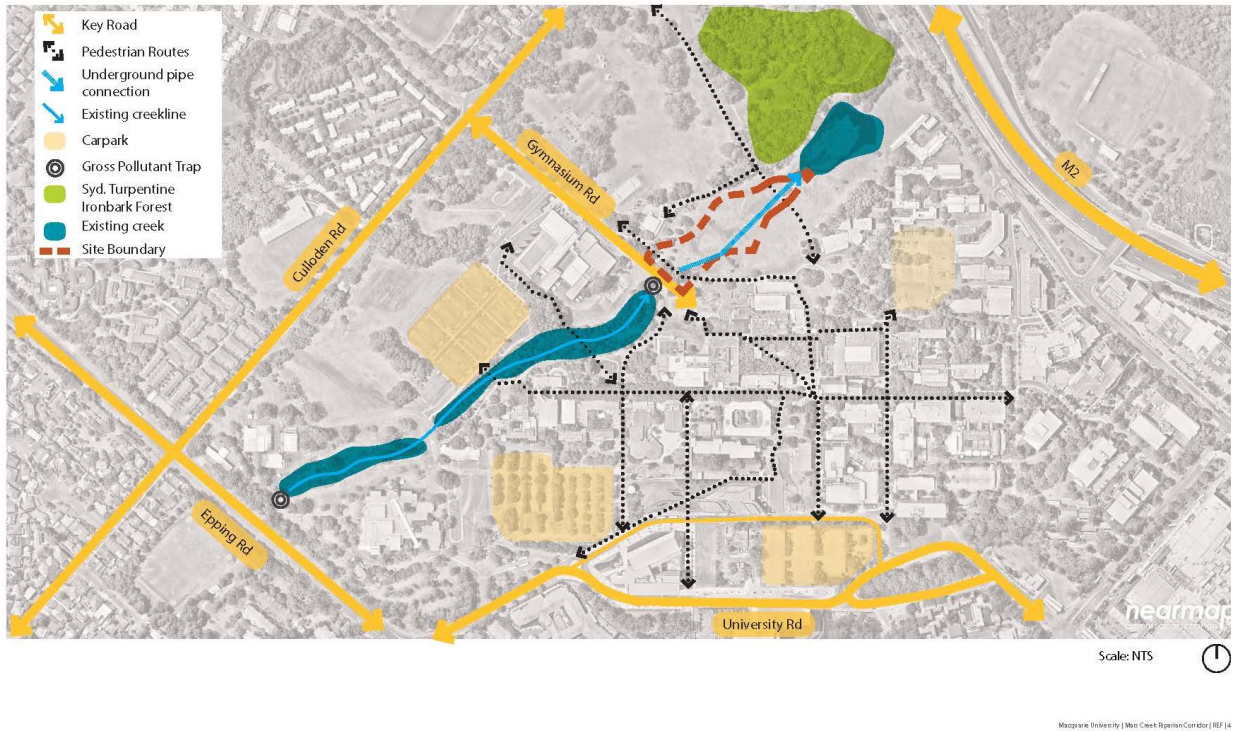
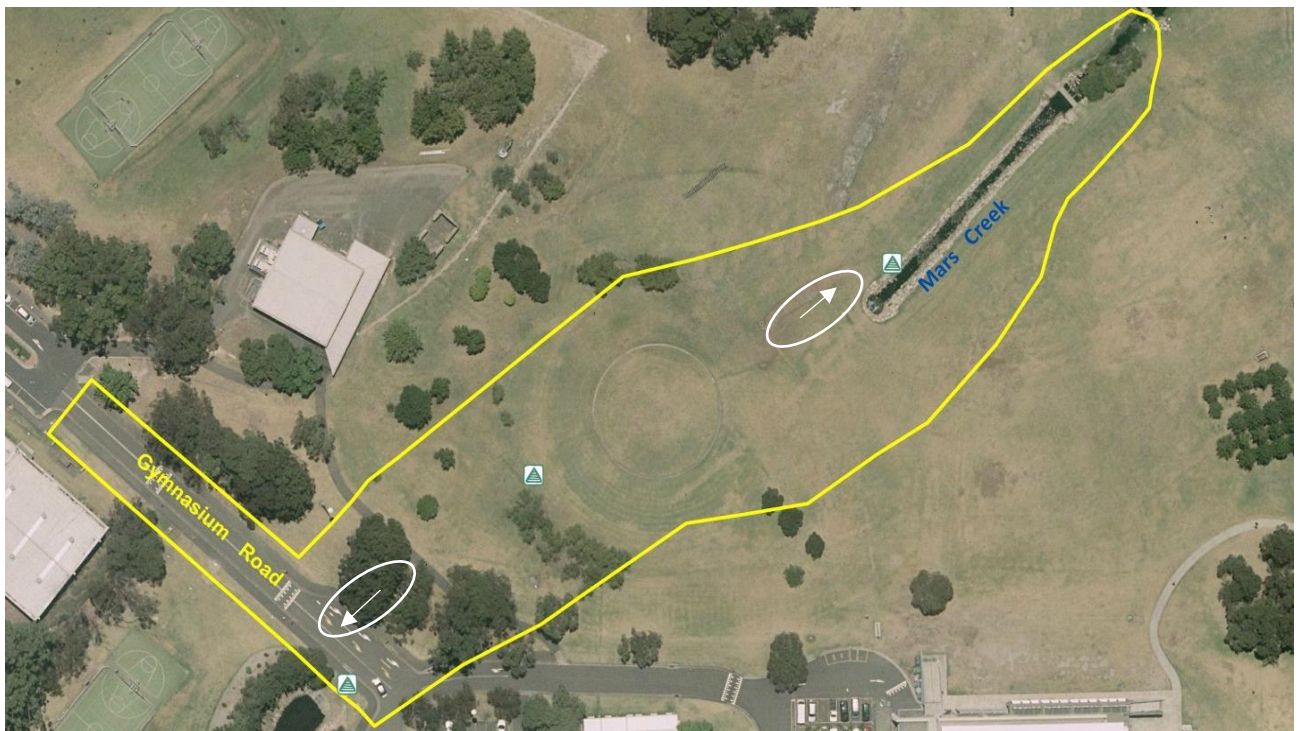


Image 7: An aerial photo indicating the 'ends' of Mars Creek Reach 3 in 2018



The Rehabilitation of Mars Creek Reach 3

The rehabilitation of Mars Creek Reach 3, focuses on ameliorating the habitat 'truncations' from previous hard engineering works originating in the 1960s. This includes 'daylighting' or opening up a section of creek that was piped in a subterranean stormwater system for more than 50 years.

The works will create a new naturalised surface channel through a section of the original creek bed, and in doing so, reinstate the riparian zone of approximately 20 metres in width. Additional habitat features will include a re-made culvert inlet that will offer native freshwater eels a new migration route from their existing habitat in the university's lake, to the rehabilitated upper reaches of Mars Creek.

Key Landscape Design Principles

The proposed Mars Creek works within the Reach 3 zone described above adhere to the general design principles listed below:

- The implementation of environmentally sustainable design principles;
- Storm water management including water sensitive urban design initiatives (WSUD) such as bio swales;
- New tree planting to offset existing tree removal in the vicinity of the proposed works;
- High quality, low maintenance materials and planting;
- Ensure that the public domain has been designed with regard to crime prevention through environmental design (CPTED) principles;
- Provide bed and bank stability and reducing bank and channel erosion;
- Provide an interface or buffer between developments and waterways
- Provide passive recreational uses.

Image 8: Landscape Plan

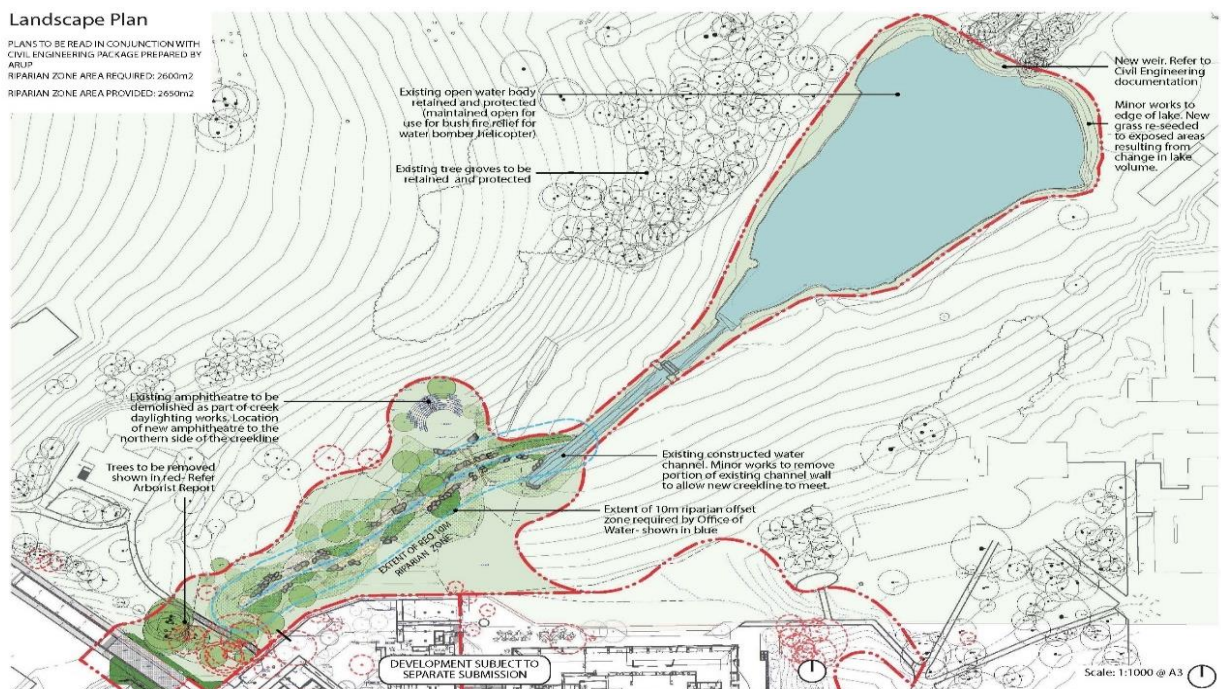


Image 9: Landscape Detail Plan

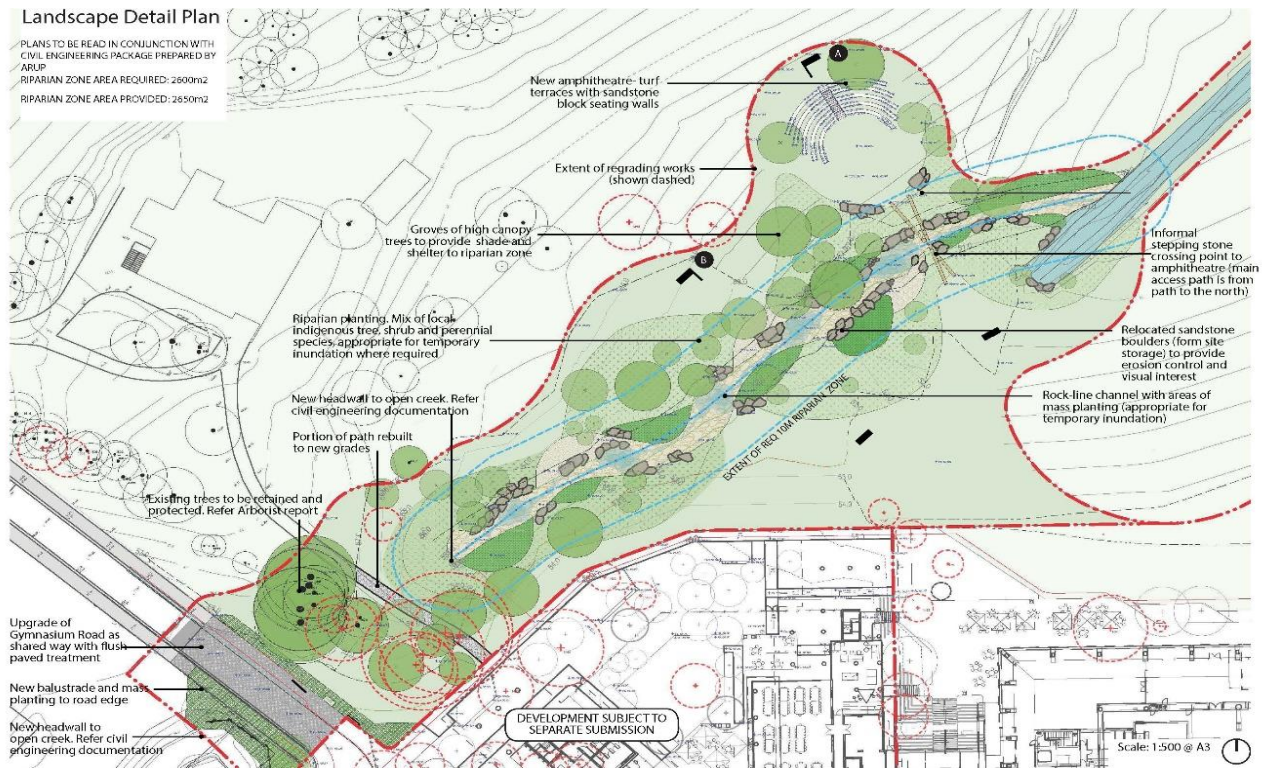


Image 10: Landscape Sections

Landscape Sections



Image 11: Tree Removal / Retention Plan



Image 12: Indicative Planting Palette

Botanic Name	Common Name
Trees	
<i>Angophora costata</i>	Smooth Bark Apple
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Eucalyptus globoides</i>	White Stringy Bark
<i>Eucalyptus paniculata</i>	Grey Ironbark
<i>Eucalyptus piperita</i>	Sydney Peppermint
<i>Eucalyptus pilularis</i>	Blackbutt
<i>Melaleuca decora</i>	White Feather Myrtle
<i>Syncarpia glomulifera</i>	Turpentine
Shrubs	
<i>Acacia longifolia</i>	Sydney Golden Wattle
<i>Acacia terminalis</i>	Sunshine Wattle
<i>Banksia ericifolia</i>	Heath Banksia
<i>Banksia spinulosa</i>	Hairpin Banksia
<i>Breynia oblongifolia</i>	Coffee Bush
<i>Dodonaea triquetra</i>	Common Hop Bush
<i>Doryanthes excelsa</i>	Gynea Lilly
<i>Isopogon anemonifolius</i>	Broad Leaf Drumsticks
<i>Leptospermum trinervium</i>	Tea Tree
<i>Persea levis</i>	Dark Paperbark
Grasses, sedges + Groundcovers	
<i>Baumea articulata</i>	Jointed Twig Rush
<i>Carex appressa</i>	Tall Sedge
<i>Cyperus gracilis</i>	McCoy Gass
<i>Dianella revoluta</i>	Flax Lilly
<i>Danthonia racemosa</i>	Wallaby Grass
<i>Eleocharis spicata</i>	Tall Spike Rush
<i>Gahnia sieberiana</i>	Saw Sedge
<i>Hardenbergia violacea</i>	Happy wanderer
<i>Imperata cylindrica</i>	Kunal Grass
<i>Isolepis nodosa</i>	Knobby Club Rush
<i>Juncus uittatus</i>	Common Rush
<i>Lomandra glauca</i>	Pale Matt Rush
<i>Lomandra longifolia</i>	Common Matt Rush
<i>Pandorea pandorana</i>	Wonga Wonga Vine
<i>Themeda australis</i>	Kangaroo Grass

TREES

SHRUBS

GRASSES, SEDGES + GROUNDCOVERS

4.2 ENDOSCOPY CLINIC AT MQ HOSPITAL

PURPOSE

In accordance with Section 2.4(c) of the Macquarie University Sustainability Financing Framework (the 'Framework, this Impact Report relates to the Project as nominated in accordance with Section 2.2 of the Framework as an Eligible Project.

PROJECT OVERVIEW

Fitout and refurbishment within the Macquarie University Hospital to expand and enhance the capacity and capability of Endoscopy Services to the community.

The redevelopment of the endoscopy unit addresses critical issue of non-compliant scope flow (decontamination) within existing unit, and non-compliant recovery to procedure room ratio. Failure to address would result in Macquarie University Hospital losing accreditation to perform endoscopic procedures.

The project relocates the existing endoscopy service to an alternate ground floor location, providing

- Increased capacity with the addition of a third procedure room to meet the demand for growing therapeutic and diagnostic endoscopic services,
- Relocation of main reception and complementary modernisation of hospital foyer,
- Dedicated patient admissions office,
- Dedicated outpatient entrance and private waiting area, offering an improved patient experience,
- Dedicated inpatient entrance for transport of inpatients by bed, trolley, or wheelchair.

The project involves the decant of over 100 support staff from existing ground floor area to office space.

The project is scheduled for completed mid-December 2021.



IMPACT MEASURE

Eligible Category: 2.1.2 Social – Access to essential services

Eligibility Projects: New buildings and upgrades to facilitate providing clinical care.

Impact Indicators: Increase in patient capacity.

Services Provided: The Endoscopy unit at Macquarie University Hospital provides over 5,000 diagnostic and therapeutic specialist procedures annually.

MQ Health are committed to the adoption of improved models of care in accordance with contemporary evidence-based best practice. The Endoscopy unit provides procedures in line with advances in technology with a focus on patient-centred care.

Macquarie University Hospital’s Endoscopy unit has been operating since the hospital opened in 2010 and activity has grown exponentially. The medical team comprises 24 specialists, providing an essential diagnostic and support service to patients of MQ Health.

This unit provides specific Endoscopy services in a day surgery environment, including:

- Gastroscopy
- Colonoscopy
- ERCP (endoscopic retrograde cholangio-pancreatography)
- Oesophageal and anal manometry
- Endoscopic ultrasound
- Biopsy
- Urodynamics

These procedures can aid in the diagnosis, management and treatment of:

- Gastroesophageal reflux disease
- Cholelithiasis (gall stones)
- Stomach and colon cancer
- Conditions of the digestive system
- Polyp removal biopsy
- Minor anorectal surgical procedures

The Endoscopy unit allows MQ Health to increase service capacity to the local community and further develop an environment that facilitates the training of the next generation of health professionals.

4.3 MQ HEALTH CLINIC AT TRAFALGAR PLACE

PURPOSE

In accordance with Section 2.4(c) of the Macquarie University Sustainability Financing Framework (the 'Framework, this Impact Report relates to the Project as nominated in accordance with Section 2.2 of the Framework as an Eligible Project.

PROJECT OVERVIEW

Fitout and refurbishment of tenancy to accommodate MQ Health Clinic to expand the capacity and outreach of General Practitioner health services to the community:

- Fit out of vacant tenancy to facilitate new GP clinic (205sqm).
- Minor cosmetic upgrade of existing 75sqm GP clinic.
- Compliance upgrade to centre to toilets to meet new clinic requirements and BCA compliance. Provision of accessible toilet.

Primary care business development and expansion is part of MQ Health's strategy, with the goal of increasing community presence and referrals to specialist and ancillary services and the Hospital.

With Basil's Seafood Restaurant vacating the Macquarie University premises at 1 Trafalgar Place, Marsfield, a time-critical opportunity was taken to develop a new MQ Health general practice site specifically to support a chronic and complex care model.

This opportunity provides increased attraction and retention for our GP workforce, new and unique learning opportunities for students and doctors in training, increased capacity to serve the community and generate referrals and the ability to trial and evaluate new and innovative models of care in service of our patients.



IMPACT MEASURE

Eligible Category:	2.1.2	Social – Access to essential services
Eligibility Projects:	New buildings and upgrades to facilitate providing clinical care.	
Impact Indicators:	Increase in patient capacity.	
Services Provided:	<p>The MQ Health Clinic at Trafalgar Place provides for up to 5 full-time General Practitioners to provide medical services to the local community. This will allow for up to approximately 20,000 patient visitations annually.</p> <p>This clinic provides general practice medical and nursing services, including:</p> <ul style="list-style-type: none">• Children’s health• Women’s health• Men’s health• Vaccinations (including COVID-19)• Mental health• Sexual health• Preventive health• Chronic disease management <p>A room is leased to Douglass Hanly Moir to provide pathology services to the community.</p> <p>The clinic also provides an outreach service to Willandra Residential Village, and to nearby aged care facilities.</p> <p>The clinic employs academic GPs who support other programs at MQ Health, Macquarie University and beyond:</p> <ul style="list-style-type: none">• Macquarie MD Program• Macquarie University Student Wellbeing• MQ Health Doctors in Training Program• Australian Institute of Health Innovation’s Learning Health Systems Project• GP Synergy’s Registrar Training Program• Sydney North Health Network’s Person Centred Medical Home Program	



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