Capital Projects
Sustainability Framework
Overview
The Framework is aligned with the overall vision for UNSW as outlined in the 2025 Strategy, and in the context of UNSW Estate Management team’s role in the realisation of that vision, which is: ‘We are entrusted and empowered to create outstanding campus environments and experiences’.

It is intended to provide guidance to project teams for fitouts, refurbishments, new buildings and infrastructure, on UNSW’s approach to delivering this vision, in a way that is specific to this institution, and an expression of the unique character and history of the campuses.

The Framework links this larger organisational vision to the Environmental Sustainability Plan 2019-21, which establishes the baseline requirements for projects to report against.

It has also informed UNSW’s Design and Construction Standards, ensuring that the detail of the implementation is powerfully connected to and a direct expression of the UNSW vision.

Supporting this Framework is a suite of templates for projects for use in providing briefs, preparing contracts, and reporting on project progress on sustainable and regenerative design principles and outcomes.

Overview

This Framework has been prepared in consultation with the UNSW Estate Management team and their stakeholders to contribute in realising the vision of becoming ‘Australia’s global university, improving and transforming lives through excellence in research, outstanding education and a commitment to advancing a just society’.
Purpose
The tension between meeting an overall standard which seeks consistency while addressing the unique requirements of every project is a familiar challenge for project teams. The commitment (baseline) performance requirements are defined by relevant building codes and standards, and the Environmental Sustainability Plan 2019-21. The potential of the project as a contribution is expressed in the UNSW Campus Masterplan Framework vision of a 'University City, creating a distinctive, vibrant, mixed use destination set within a learning landscape that connects to its surrounding communities and Partners'.

Sustainability and regenerative design principles have a vital role to play in resolving this tension.

The purpose of this Framework is to:

- provide a detailed articulation of the vision (the 'why') so that project teams have clarity about the desired end state;
- outline the expected performance levels across specified areas of focus; and
- retain the flexibility to allow each project to explore and express what makes it vital and essential to an outstanding campus experience.

Purpose

The Framework provides a pathway to ensure that the unique opportunities and needs of each project are addressed, and satisfying UNSW’s minimum standards. The process will generate a design which is an expression of the project as a contribution to creating ‘outstanding campus environments and experiences’.
Approach
Part of the definition of ‘outstanding’ as outlined in the UNSW 2025 Strategy includes:

- Attract the best minds
- Attract a diverse student and staff body
- Create an accessible campus
- Create a world class campus engaged with partners and the community.

Approach

The role of the physical environment

The physical environment should be designed in a way which:

- Supports the development of individuals (i.e. students, visitors, staff)
- Integrates with place (i.e. ecology, history, larger community)
- Expresses the character of UNSW and its location, its linking past, present and future (design, operation and end of life).

The responsibility of Estate Management is to ensure that this vision is delivered so that each project is fit for its purpose, connected to its place, and forms part of a coherent whole.
A systems approach has been taken in the development of this Framework, in contrast to many current methods which ‘break the design into parts’.

Two fundamental concepts with this approach are Boundaries and Flows.

In systems thinking, we seek to push the boundary out to address the largest whole we can identify, so for example, fitout projects would consider their relationship to global supply chain.

While it is important to focus on specific aspects of the design (i.e. energy use), the intent for UNSW projects is that these aspects are seen more as facets of a whole or lenses to look through, rather than separate considerations.

This is important in the context of UNSW’s ambition to be a ‘global university’ as well as the desire to be successfully integrated into its place in the community and ecosystems of the locality. The opportunity in the design of UNSW’s facilities is to consider them as part of this larger whole, thinking at several scales, from the fitout, through the building, through the campus, through the city, through the state, country, world.
Buildings are not fixed, discrete objects. They are interventions into existing systems (flows) and cycles.

One flow that is commonly considered is the ‘building life cycle’, which considers design, construction and operation.

But what if we think about the building as a rock placed in a stream: what changes does it make in the flow of the patterns and processes currently happening in that location?

Flows

The second key concept is Flows.

In systems thinking, we think about everything as a continuous process – nothing has a ‘start’ or a ‘finish’.

What existing patterns should be reinforced and supported? What patterns should be discouraged? And how can the design make these decisions from a perspective not of control, but of allowing these patterns through the design and operation of the building?

The project team should consider adjacencies for uses (people), travel distances (people), watersheds (water, plants, animals), and other users in the area.
Focus Areas
Focus Areas

This Framework aligns with the Environmental Sustainability Plan 2019-21 Focus Areas, and provides a way to map these areas in a wider context for each project.

The Capital Projects Sustainability Framework provides an alignment with the Environmental Sustainability Plan 2019-21 Focus Areas which define the commitments set out by UNSW.

These have been mapped to provide a sense of understanding in a wider context and impact within specific boundaries.

To achieve an ‘outstanding’ outcome, project teams can exceed any of the commitments, in collaboration with the Estate Management teams.

Right: The figure represents the commitments and potential opportunities in regards to boundaries only. Projects should consider all Focus Areas equally with consultation with Estate Management.
UNSW has set current objectives in the Environmental Sustainability Plan 2019-21 that addresses the **global challenges** and issues relating to climate. There is the opportunity for development projects to explore **resilience and adaptation** measures in the decision making process to reduce irreversible outcomes to the climate, future-proof assets and infrastructure and provide outstanding environments.

Projects should assess their impact against their efforts made at global scale to reduce anthropogenic emissions and irreversible effects to the climate without compromising efforts carried out at local level (i.e. in NSW and Australia).

Project teams should consider a complete carbon model including embedded carbon assessment of asset and infrastructures and potential opportunities for offsetting emissions in collaboration with programs within UNSW.
The vision of the UNSW campus is to provide the basis of an outstanding University City which sits in cohesion with the surrounding community. The campus should provide a **sense of place** and celebrate the existing topography and natural land. Any design response should take into consideration an appreciation of the existing ecosystems without compromising functionality and operational excellence. Protecting, maintaining or restoring nature would provide more cost effective and efficient ecosystems.

Spaces should be fully integrated and form part of the building ecosystem with natural land celebrated and the existing environment acknowledged and restored. **Natural flows** such as air, light, sound and soil should be utilised at their full potential to provide a passive system design approach. Opportunities to explore the benefits of a productive land that provides a sense of community and healthy food options should be considered.

The campus should inherently bring people and nature together to support **wellness and learning**. The journey in the campus should be a seamless experience providing a natural flow with ease and excitement.

The campus including the buildings and infrastructure should aspire to address global challenges and be the beacon for sustainability and consider a **regenerative approach** in all aspects of design to implementation and construction stages. Materials and resources should be considered against their **impact to health** and their life cycle.
The intent of energy and water efficiency is to encourage projects in adopting an integrated thinking approach that considers both efficient **resource consumption** and opportunities for **energy production**.

An energy and water life-cycle approach would provide a holistic understanding of the connection to place, enhance any restorative opportunities and inspire thoughtful consumption.

Indigenous knowledge and traditional methods for land management can provide a **restorative balance** especially to the hydrological condition of the campus.

Other opportunities for water recycling and reuse and avoidance of ‘once-through’ water uses should be reviewed to ensure appropriate matching of treatment level to use, and responsible management of the aquifer.

Opportunities to eliminate impacts from construction activities should be explored together as a team. Lessons learned can then be shared as part of the project legacy for the wider construction industry and culture through awareness and training of the workforce.

Because energy and water have been key challenges for projects for decades, game-changing **innovations** developed on UNSW projects have the potential to be global exemplars.

Showcasing such opportunities would also provide an important **awareness and educational opportunity** for the students, staff and the wider community.
Resource efficiency and circular economy are considered a priority by UNSW. Innovative approaches during design, construction and operation phases should be considered to eliminate demand and wastage of materials.

Waste should be embraced as a resource and utilised where appropriate in the physical and visual fabric of the campus to enhance the messaging for future generations.

A whole of life approach should be adopted to assess the efficiency and viability of technologies and processes including construction methods as a platform to reduce further reliance to virgin resources and materials.

Project teams should investigate appropriate infrastructure solutions to address operational waste and practices in line with UNSW Environmental Sustainability Plan 2019-21 and its mission for an outstanding campus.
Sustainable and active transport choices are considered within the campus together with mass transport options (i.e. Light Rail) provided by government. The campus is an open and safe environment which encourages walking habits due to the proximity of community services and other diverse uses within the campus including accommodation and healthcare.

Such accessibility encourages wider community integration and makes the campus a destination for exploring new ideas and its relation to history.

The form of the urban environment should enable the flow of universal access and the opportunities for agile, resilient and attractive travel options to support the functionality of buildings and open spaces with a sense of exploration and wonder.
The purpose of **sustainable and ethical procurement** for UNSW is to provide the basis to reduce environmental impacts and enhance economic and social benefits. Local and global systems exist to provide the basis for ethical and environmentally sensitive choices that align with UNSW’s vision and ethos. Procurement for goods and services should align with UNSW’s vision and set an example for the industry by providing a transparent and robust process of selection.

Projects should be the catalysts for **economic growth** at regional level as well as opportunities to accelerate business growth in disadvantaged areas and cultures. Materials and services should be sourced with a **sense of place** and inclusion to provide cohesion with the existing ecosystem and environment.
The campus provides an opportunity for engagement and integration with the surrounding communities. The urban context and its components (i.e. buildings and infrastructure) should provide the platform for such engagement with any interior and exterior barriers dissolved.

The purpose of openness and direct availability of place and space shall be evident and clear to the wider community to explore opportunities of further learning and celebrate interaction. Such places should be flexible with a clear and open awareness messaging. The community should be able to identify and appreciate the history of place and its connection to the cultural values that bound the community together.

Projects should embrace the value of internal and external community members to identify opportunities in design and construction and provide a common understanding on purpose and pride. This would enable a cohesive and integrated approach to create outstanding diverse spaces and places for use by all.
Learning & Teaching

The campus and its ecosystem inherently provides a unique opportunity for learning and teaching. Buildings and infrastructure should be learning tools and play a pivotal role in shaping the messaging for future generations.

Spaces should be interactive and intuitive, and showcase a sense of place, transparency and belonging. Buildings and the natural environment should foster adaptive, collaborative and stimulated spaces to facilitate learning for everyone. Technology should be used as an enabler to support teaching and learning.

The flow of information and learning through the physical environment should be apparent and accessible to enable a clear understanding of benefits and awareness to the community.
The intent of research and advocacy is to identify opportunities where projects could benefit from the application of **knowledge and innovation** situated within the physical boundaries of UNSW. Open collaboration with students/faculty and industry would benefit both sides of the spectrum and provide a platform for integration of ideas and innovation.

Projects should engage with academia at suitable project stages, to explore the immense opportunities available for the creation of spaces and identify potential **forward thinking processes** to achieve excellence and outstanding environments.
Places and spaces within the campus should be inspirational and evoke a sense of beauty, happiness, delight, harmony and inspiration. The internal and external environments should be welcoming and agile with their physical form and adaptable to senses and seasonal changes.

The design and construction process should identify opportunities (i.e. biophilia, art) to integrate spaces and places with the natural environment and cultural heritage of the campus. This will provide a direct connection to the community for an inclusive and inspirational campus environment with a sense of celebration and achievement.
The intent of spirit is to provide outstanding places that inspire and elevate the spirit of the occupants and the community. The physical form should exude a sense of place and evoke excitement and wonder. Internal and external spaces should emanate a sense of vitality, abundance and thrift for occupants and the community.

Projects should explore the connection to the indigenous history and express it in the physical environment by providing a sense of empathy for the past and its relation to place.
Process
Success using this Framework relies on intense collaboration between the members of the project team, and unified commitment to producing extraordinary results.

As an example of this approach, the Agile method of project management is based on collaboration for enhanced results. The higher the level of alignment within the team, the greater the potential for results that meet UNSW’s definition of ‘outstanding’.

**Mindset/Values** = move towards learning organisation, learn through discovery, fail early, strive for continuous delivery, focus on value

**Principles** = requires structural and cultural change, do just enough documentation/ team could be co-located

**Methodologies/Tools** = can be adopted in command and control situation and used within this context.

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‘The Agile Onion’
Process

**Traditional** sequential, linear processes deliver an *outcome at the end*

**This Framework** proposes the team structures their work based on *incremental delivery of outcomes*
The intent is that the design team’s process for working together is in keeping with the systems design outcomes the projects should deliver. It is based on the belief that the most robust processes are created with a variety of stakeholders, and even though it seems counterintuitive, seeking out different perspectives early – and often - will increase the chances of a robust solution which reconciles numerous considerations into a coherent whole.

### ‘The Agile Manifesto’

- **Individuals and interactions** over **Processes and tools**
- **Customer collaboration** over **Contract negotiation**
- **Responding to change** over **Following a plan**

That is, while there is value in the items on the right, we value the items on the left more.
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