HOW TO NAVIGATE THE GUIDE

NATURE DESIGN GUIDE

A practical, industry-led resource created to help shape a Country-centred approach to nature-based design in the built environment.

October 2025

NATURE DESIGN GUIDE

> This is not just a guide –
> it is an **invitation to lead**

- **Practical, industry-led resource** to help embed nature-positive and Country-centred approaches into design.
- Developed collaboratively with industry experts, researchers, designers and practitioners, it reflects **shared knowledge and best practice.**
- Responds to **call for stronger nature outcomes** in the built environment from investors, clients, communities and regulators.
- By adopting the Guide, organisations can help **protect and regenerate ecosystems, support communities and deliver climate-resilient places.**
- Intended for anyone involved in shaping the built environment.
- Applicable to both **building and precinct-scale projects.**

Creek Restoration at Bur'uda (Hanlon Park), Coorparoo, Brisbane

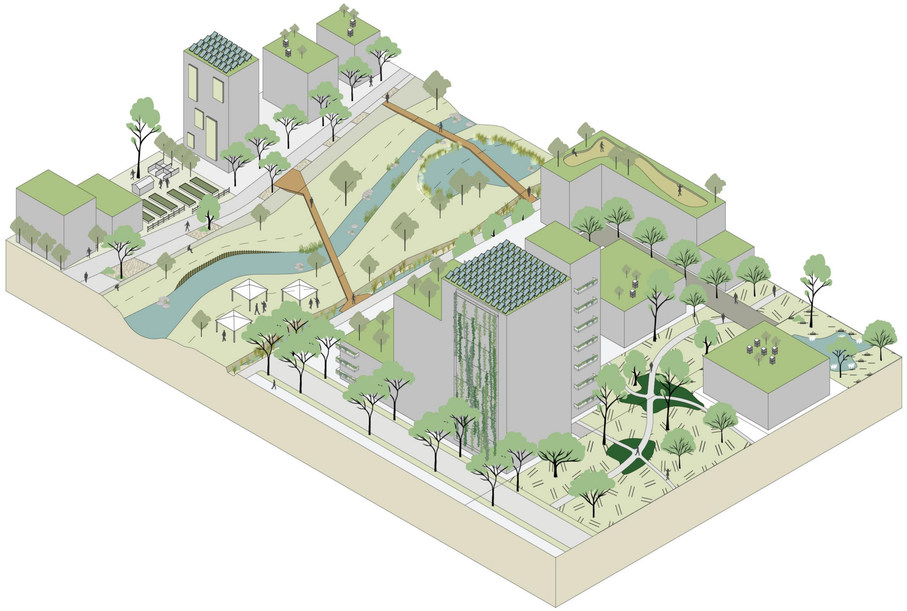
DRIVERS FOR USING THE NATURE DESIGN GUIDE

The Guide equips projects to:

- **Respond to the biodiversity and climate crises** by delivering nature-positive and Country-centred design solutions that also build climate resilience and store carbon.
- Acknowledge responsibility to listen, learn and walk alongside **First Nations peoples** to ensure our actions support their ongoing connection to land, waters, cultures, languages and traditions.
- **Respond** to increasing drivers, including:
  - Community expectations, market and investor forces
  - Industry leadership
  - Policy and regulatory shifts
  - Country and cultural connection
- **Deliver direct benefits and co-benefits** for nature and people across the four nature realms - biodiversity, land, water and atmosphere.

SINGLE BUILDING EXAMPLE

PRECINCT EXAMPLE



How to navigate the guide:

What you'll find inside

INSIDE THE GUIDE YOU WILL FIND

PART 2: BEFORE DESIGN

Implementation guidance to help project teams to embed Country and Nature outcomes from the start.

PART 3 & 4: COUNTRY AND NATURE REALMS

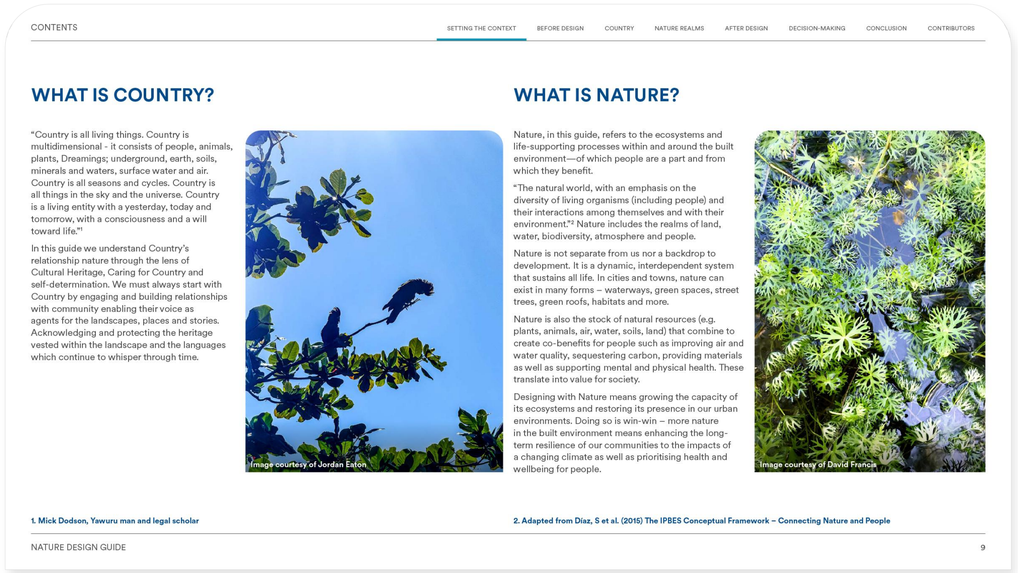
- **Key concepts** including *What is Country? What is Nature? Designing with Country,* and the four nature realms of Land, Water, Atmosphere and Biodiversity.
- **Nature-based design element:** what they are, how they work, the benefits they deliver and key design considerations.
- **Case studies** showcasing real-world examples and measurable benefits achieved through nature-positive design.

PART 5: AFTER DESIGN

Guidance on allowances in design for construction and operation.

PART 6: DECISION-MAKING

A tool to help project teams access opportunities, weigh design considerations and make informed choices for stronger Country and Nature outcomes.



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WHAT IS COUNTRY?

"Country is all living things. Country is multidimensional - it consists of people, animals, plants, Dreamings; underground, earth, soils, minerals and waters, surface water and air. Country is all seasons and cycles. Country is all things in the sky and the universe. Country is a living entity with a yesterday, today and tomorrow, with a consciousness and a will toward life."[1]

In this guide we understand Country's relationship nature through the lens of Cultural Heritage, Caring for Country and self-determination. We must always start with Country by engaging and building relationships with community enabling their voice as agents for the landscapes, places and stories. Acknowledging and protecting the heritage vested within the landscape and the languages which continue to whisper through time.

Image courtesy of Jordan Eaton

WHAT IS NATURE?

Nature, in this guide, refers to the ecosystems and life-supporting processes within and around the built environment—of which people are a part and from which they benefit.

"The natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment."[2] Nature includes the realms of land, water, biodiversity, atmosphere and people.

Nature is not separate from us nor a backdrop to development. It is a dynamic, interdependent system that sustains all life. In cities and towns, nature can exist in many forms – waterways, green spaces, street trees, green roofs, habitats and more.

Nature is also the stock of natural resources (e.g. plants, animals, air, water, soils, land) that combine to create co-benefits for people such as improving air and water quality, sequestering carbon, providing materials as well as supporting mental and physical health. These translate into value for society.

Designing with Nature means growing the capacity of its ecosystems and restoring its presence in our urban environments. Doing so is win-win – more nature in the built environment means enhancing the long-term resilience of our communities to the impacts of a changing climate as well as prioritising health and wellbeing for people.

Image courtesy of David Francis

1. Mick Dodson, Yawuru man and legal scholar

2. Adapted from Díaz, S et al. (2015) The IPBES Conceptual Framework – Connecting Nature and People

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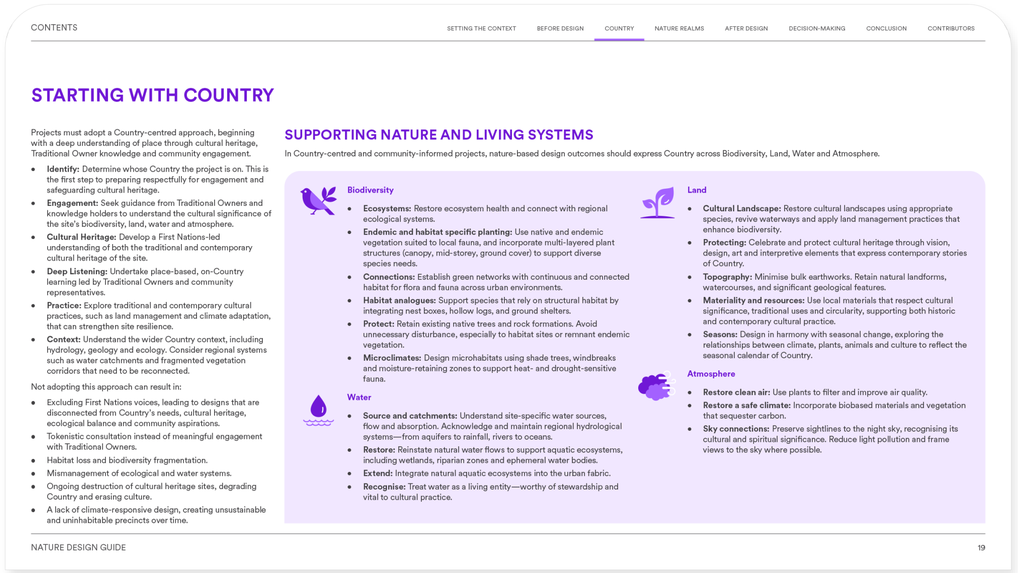

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STARTING WITH COUNTRY

Projects must adopt a Country-centred approach, beginning with a deep understanding of place through cultural heritage, Traditional Owner knowledge and community engagement.

- **Identify:** Determine whose Country the project is on. This is the first step to preparing respectfully for engagement and safeguarding cultural heritage.
- **Engagement:** Seek guidance from Traditional Owners and knowledge holders to understand the cultural significance of the site's biodiversity, land, water and atmosphere.
- **Cultural Heritage:** Develop a First Nations-led understanding of both the traditional and contemporary cultural heritage of the site.
- **Deep Listening:** Undertake place-based, on-Country learning led by Traditional Owners and community representatives.
- **Practice:** Explore traditional and contemporary cultural practices, such as land management and climate adaptation, that can strengthen site resilience.
- **Context:** Understand the wider Country context, including hydrology, geology and ecology. Consider regional systems such as water catchments and fragmented vegetation corridors that need to be reconnected.

Not adopting this approach can result in:

- Excluding First Nations voices, leading to designs that are disconnected from Country's needs, cultural heritage, ecological balance and community aspirations.
- Tokenistic consultation instead of meaningful engagement with Traditional Owners.
- Habitat loss and biodiversity fragmentation.
- Mismanagement of ecological and water systems.
- Ongoing destruction of cultural heritage sites, degrading Country and erasing culture.
- A lack of climate-responsive design, creating unsustainable and uninhabitable precincts over time.

SUPPORTING NATURE AND LIVING SYSTEMS

In Country-centred and community-informed projects, nature-based design outcomes should express Country across Biodiversity, Land, Water and Atmosphere.

Biodiversity

- **Ecosystems:** Restore ecosystem health and connect with regional ecological systems.
- **Endemic and habitat specific planting:** Use native and endemic vegetation suited to local fauna, and incorporate multi-layered plant structures (canopy, mid-storey, ground cover) to support diverse species needs.
- **Connections:** Establish green networks with continuous and connected habitat for flora and fauna across urban environments.
- **Habitat analogues:** Support species that rely on structural habitat by integrating nest boxes, hollow logs, and ground shelters.
- **Protect:** Retain existing native trees and rock formations. Avoid unnecessary disturbance, especially to habitat sites or remnant endemic vegetation.
- **Microclimates:** Design microhabitats using shade trees, windbreaks and moisture-retaining zones to support heat- and drought-sensitive fauna.

Water

- **Source and catchments:** Understand site-specific water sources, flow and absorption. Acknowledge and maintain regional hydrological systems—from aquifers to rainfall, rivers to oceans.
- **Restore:** Reinstate natural water flows to support aquatic ecosystems, including wetlands, riparian zones and ephemeral water bodies.
- **Extend:** Integrate natural aquatic ecosystems into the urban fabric.
- **Recognise:** Treat water as a living entity—worthy of stewardship and vital to cultural practice.

Land

- **Cultural Landscape:** Restore cultural landscapes using appropriate species, revive waterways and apply land management practices that enhance biodiversity.
- **Protecting:** Celebrate and protect cultural heritage through vision, design, art and interpretive elements that express contemporary stories of Country.
- **Topography:** Minimise bulk earthworks. Retain natural landforms, watercourses, and significant geological features.
- **Materiality and resources:** Use local materials that respect cultural significance, traditional uses and circularity, supporting both historic and contemporary cultural practice.
- **Seasons:** Design in harmony with seasonal change, exploring the relationships between climate, plants, animals and culture to reflect the seasonal calendar of Country.

Atmosphere

- **Restore clean air:** Use plants to filter and improve air quality.
- **Restore a safe climate:** Incorporate biobased materials and vegetation that sequester carbon.
- **Sky connections:** Preserve sightlines to the night sky, recognising its cultural and spiritual significance. Reduce light pollution and frame views to the sky where possible.

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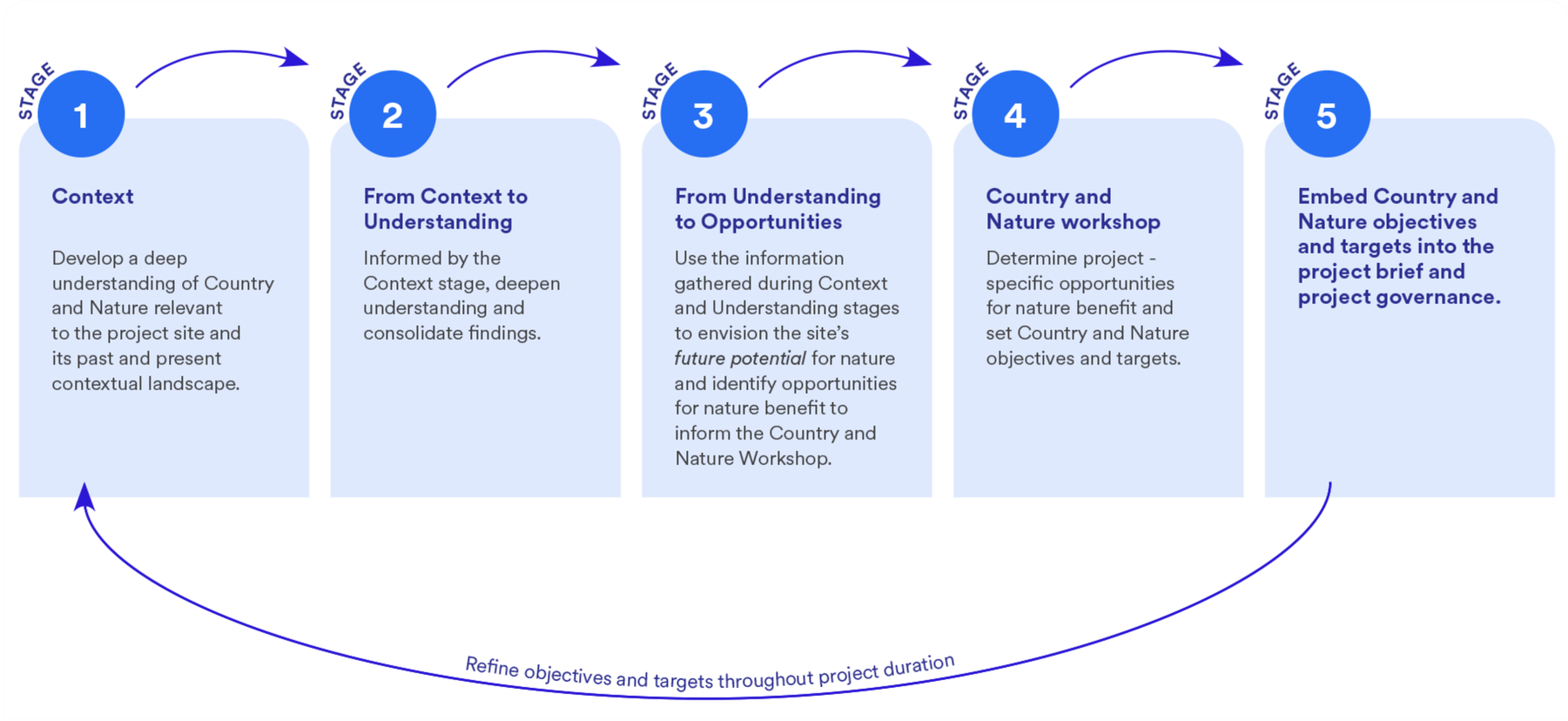
PART 2: BEFORE DESIGN:

EMBEDDING COUNTRY AND NATURE FROM THE START

To strengthen Country and Nature outcomes, the guide outlines an iterative, staged process that embeds these considerations as early as possible in the project lifecycle. It beings with a deep understanding of the project's contextual landscape and future potential for nature, then progresses to identifying opportunities and setting Country and Nature objectives and targets.



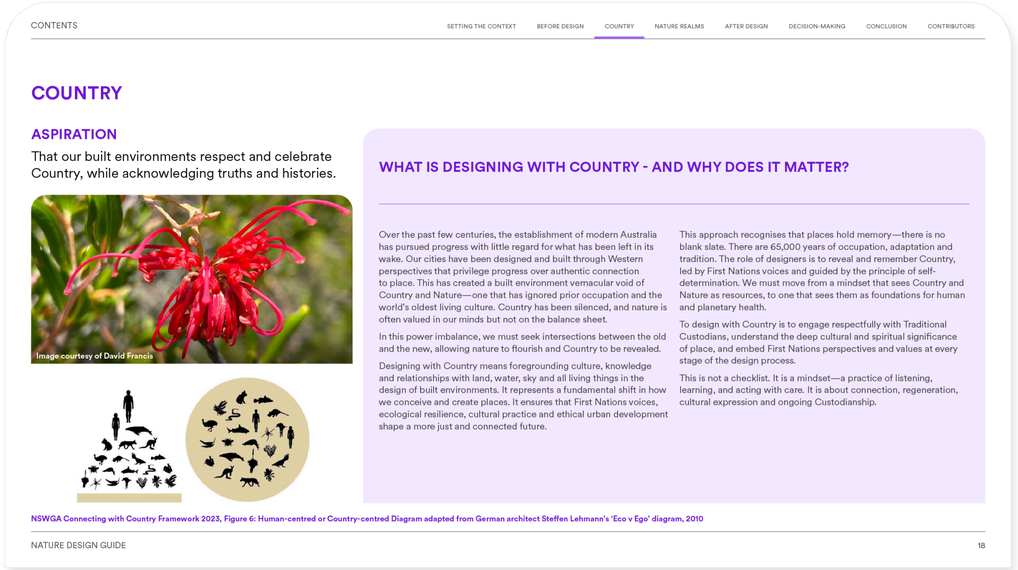
PART 3: COUNTRY AND PART 4: NATURE REALMS

KEY CONCEPTS

Key concepts for Designing with Country and the four nature realms: Land, Water, Atmosphere and Biodiversity

Each concept includes:

- **Aspiration:** A high-level goal for that nature realm
- **Why it matters:** Explanation of its importance to ecological function and human wellbeing
- **Design context:** Integration with Country, community and broader ecological systems
- **Benefits and co-benefits:** Direct impacts and ecosystem services for nature and people
- **Design principles:** Practical considerations to support successful delivery
- **Combined impact:** Opportunities to layer design elements for greater effect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COUNTRY

ASPIRATION

That our built environments respect and celebrate Country, while acknowledging truths and histories.

Image courtesy of David Francis

WHAT IS DESIGNING WITH COUNTRY - AND WHY DOES IT MATTER?

Over the past few centuries, the establishment of modern Australia has pursued progress with little regard for what has been left in its wake. Our cities have been designed and built through Western perspectives that privilege progress over authentic connection to place. This has created a built environment vernacular void of Country and Nature—one that has ignored prior occupation and the world's oldest living culture. Country has been silenced, and nature is often valued in our minds but not on the balance sheet.

In this power imbalance, we must seek intersections between the old and the new, allowing nature to flourish and Country to be revealed.

Designing with Country means foregrounding culture, knowledge and relationships with land, water, sky and all living things in the design of built environments. It represents a fundamental shift in how we conceive and create places. It ensures that First Nations voices, ecological resilience, cultural practice and ethical urban development shape a more just and connected future.

This approach recognises that places hold memory—there is no blank slate. There are 65,000 years of occupation, adaptation and tradition. The role of designers is to reveal and remember Country, led by First Nations voices and guided by the principle of self-determination. We must move from a mindset that sees Country and Nature as resources, to one that sees them as foundations for human and planetary health.

To design with Country is to engage respectfully with Traditional Custodians, understand the deep cultural and spiritual significance of place, and embed First Nations perspectives and values at every stage of the design process.

This is not a checklist. It is a mindset—a practice of listening, learning, and acting with care. It is about connection, regeneration, cultural expression and ongoing Custodianship.

NSWGA Connecting with Country Framework 2023, Figure 6: Human-centred or Country-centred Diagram adapted from German architect Steffen Lehmann's 'Eco v Ego' diagram, 2010

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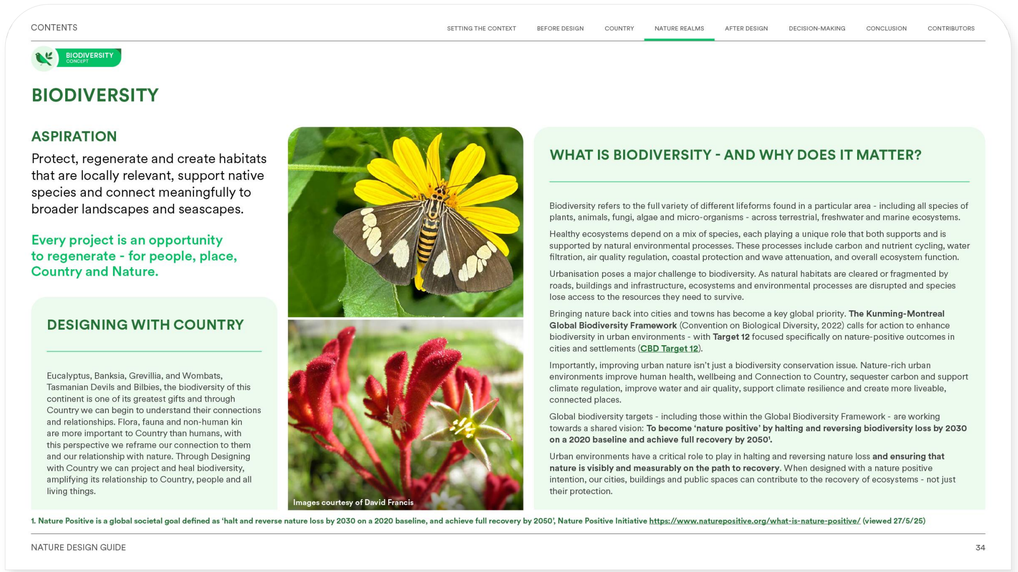
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BIODIVERSITY CONCEPT

BIODIVERSITY

ASPIRATION

Protect, regenerate and create habitats that are locally relevant, support native species and connect meaningfully to broader landscapes and seascapes.

Every project is an opportunity to regenerate - for people, place, Country and Nature.

DESIGNING WITH COUNTRY

Eucalyptus, Banksia, Grevillia, and Wombats, Tasmanian Devils and Bilbies, the biodiversity of this continent is one of its greatest gifts and through Country we can begin to understand their connections and relationships. Flora, fauna and non-human kin are more important to Country than humans, with this perspective we reframe our connection to them and our relationship with nature. Through Designing with Country we can project and heal biodiversity, amplifying its relationship to Country, people and all living things.

Images courtesy of David Francis

WHAT IS BIODIVERSITY - AND WHY DOES IT MATTER?

Biodiversity refers to the full variety of different lifeforms found in a particular area - including all species of plants, animals, fungi, algae and micro-organisms - across terrestrial, freshwater and marine ecosystems.

Healthy ecosystems depend on a mix of species, each playing a unique role that both supports and is supported by natural environmental processes. These processes include carbon and nutrient cycling, water filtration, air quality regulation, coastal protection and wave attenuation, and overall ecosystem function.

Urbanisation poses a major challenge to biodiversity. As natural habitats are cleared or fragmented by roads, buildings and infrastructure, ecosystems and environmental processes are disrupted and species lose access to the resources they need to survive.

Bringing nature back into cities and towns has become a key global priority. **The Kunming-Montreal Global Biodiversity Framework** (Convention on Biological Diversity, 2022) calls for action to enhance biodiversity in urban environments - with **Target 12** focused specifically on nature-positive outcomes in cities and settlements (**CBD Target 12**).

Importantly, improving urban nature isn't just a biodiversity conservation issue. Nature-rich urban environments improve human health, wellbeing and Connection to Country, sequester carbon and support climate regulation, improve water and air quality, support climate resilience and create more liveable, connected places.

Global biodiversity targets - including those within the Global Biodiversity Framework - are working towards a shared vision: **To become 'nature positive' by halting and reversing biodiversity loss by 2030 on a 2020 baseline and achieve full recovery by 2050[1].**

Urban environments have a critical role to play in halting and reversing nature loss **and ensuring that nature is visibly and measurably on the path to recovery**. When designed with a nature positive intention, our cities, buildings and public spaces can contribute to the recovery of ecosystems - not just their protection.

1. Nature Positive is a global societal goal defined as 'halt and reverse nature loss by 2030 on a 2020 baseline, and achieve full recovery by 2050', Nature Positive Initiative https://www.naturepositive.org/what-is-nature-positive/ (viewed 27/5/25)

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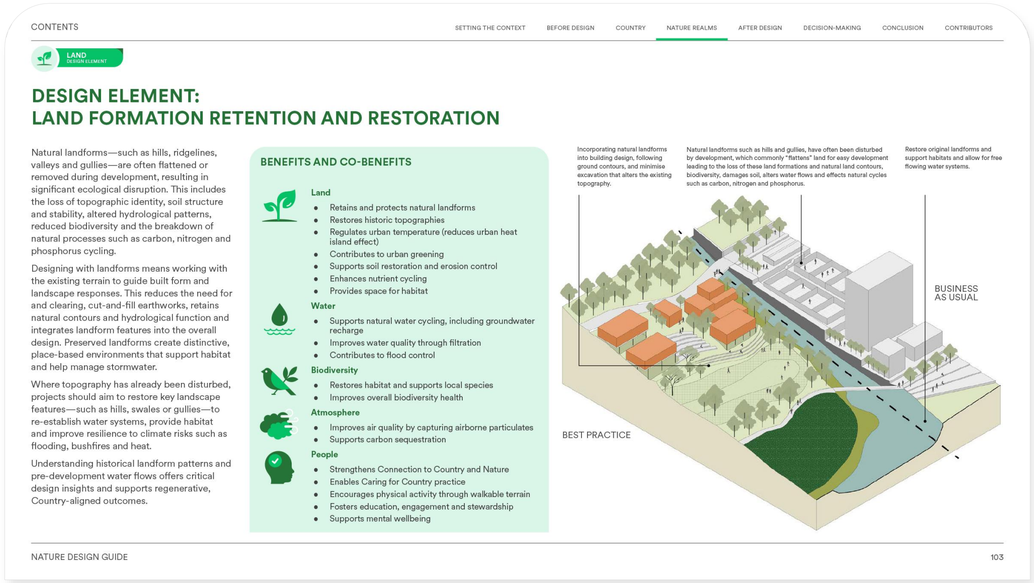
NATURE-BASED DESIGN ELEMENTS

Each design element includes:

- **Description:** What the element is and how it works
- **Benefits and co-benefits:** For nature and people
- **Diagram:** Illustrating key structural components
- **Success factors:** What supports effective implementation
- **Limitations:** Constraints or known challenges
- **Design considerations:** Technical and contextual planning factors
- **Lifecycle integration:** Guidance across planning, design, construction and operation
- **Applicability:** Where the element can be applied (building, precinct, retrofit)
- **Combining elements:** Synergies with other interventions
- **Further reading:** External links and technical references



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LAND DESIGN ELEMENT

DESIGN ELEMENT: LAND FORMATION RETENTION AND RESTORATION

Natural landforms—such as hills, ridgelines, valleys and gullies—are often flattened or removed during development, resulting in significant ecological disruption. This includes the loss of topographic identity, soil structure and stability, altered hydrological patterns, reduced biodiversity and the breakdown of natural processes such as carbon, nitrogen and phosphorus cycling.

Designing with landforms means working with the existing terrain to guide built form and landscape responses. This reduces the need for and clearing, cut-and-fill earthworks, retains natural contours and hydrological function and integrates landform features into the overall design. Preserved landforms create distinctive, place-based environments that support habitat and help manage stormwater.

Where topography has already been disturbed, projects should aim to restore key landscape features—such as hills, swales or gullies—to re-establish water systems, provide habitat and improve resilience to climate risks such as flooding, bushfires and heat.

Understanding historical landform patterns and pre-development water flows offers critical design insights and supports regenerative, Country-aligned outcomes.

BENEFITS AND CO-BENEFITS

Land
- Retains and protects natural landforms
- Restores historic topographies
- Regulates urban temperature (reduces urban heat island effect)
- Contributes to urban greening
- Supports soil restoration and erosion control
- Enhances nutrient cycling
- Provides space for habitat

Water
- Supports natural water cycling, including groundwater recharge
- Improves water quality through filtration
- Contributes to flood control

Biodiversity
- Restores habitat and supports local species
- Improves overall biodiversity health

Atmosphere
- Improves air quality by capturing airborne particulates
- Supports carbon sequestration

People
- Strengthens Connection to Country and Nature
- Enables Caring for Country practice
- Encourages physical activity through walkable terrain
- Fosters education, engagement and stewardship
- Supports mental wellbeing

Incorporating natural landforms into building design, following ground contours, and minimise excavation that alters the existing topography.

Natural landforms such as hills and gullies, have often been disturbed by development, which commonly "flattens" land for easy development leading to the loss of these land formations and natural land contours, biodiversity, damages soil, alters water flows and effects natural cycles such as carbon, nitrogen and phosphorus.

Restore original landforms and support habitats and allow for free flowing water systems.

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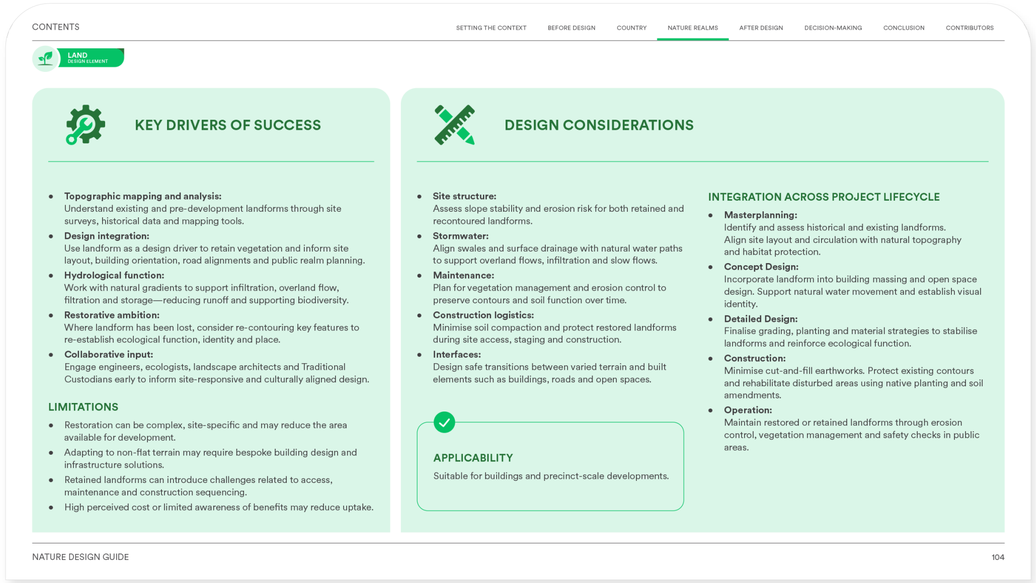

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LAND DESIGN ELEMENT

KEY DRIVERS OF SUCCESS

- **Topographic mapping and analysis:** Understand existing and pre-development landforms through site surveys, historical data and mapping tools.
- **Design integration:** Use landform as a design driver to retain vegetation and inform site layout, building orientation, road alignments and public realm planning.
- **Hydrological function:** Work with natural gradients to support infiltration, overland flow, filtration and storage—reducing runoff and supporting biodiversity.
- **Restorative ambition:** Where landform has been lost, consider re-contouring key features to re-establish ecological function, identity and place.
- **Collaborative input:** Engage engineers, ecologists, landscape architects and Traditional Custodians early to inform site-responsive and culturally aligned design.

LIMITATIONS

- Restoration can be complex, site-specific and may reduce the area available for development.
- Adapting to non-flat terrain may require bespoke building design and infrastructure solutions.
- Retained landforms can introduce challenges related to access, maintenance and construction sequencing.
- High perceived cost or limited awareness of benefits may reduce uptake.

DESIGN CONSIDERATIONS

- **Site structure:** Assess slope stability and erosion risk for both retained and recontoured landforms.
- **Stormwater:** Align swales and surface drainage with natural water paths to support overland flows, infiltration and slow flows.
- **Maintenance:** Plan for vegetation management and erosion control to preserve contours and soil function over time.
- **Construction logistics:** Minimise soil compaction and protect restored landforms during site access, staging and construction.
- **Interfaces:** Design safe transitions between varied terrain and built elements such as buildings, roads and open spaces.

APPLICABILITY

Suitable for buildings and precinct-scale developments.

INTEGRATION ACROSS PROJECT LIFECYCLE

- **Masterplanning:** Identify and assess historical and existing landforms. Align site layout and circulation with natural topography and habitat protection.
- **Concept Design:** Incorporate landform into building massing and open space design. Support natural water movement and establish visual identity.
- **Detailed Design:** Finalise grading, planting and material strategies to stabilise landforms and reinforce ecological function.
- **Construction:** Minimise cut-and-fill earthworks. Protect existing contours and rehabilitate disturbed areas using native planting and soil amendments.
- **Operation:** Maintain restored or retained landforms through erosion control, vegetation management and safety checks in public areas.

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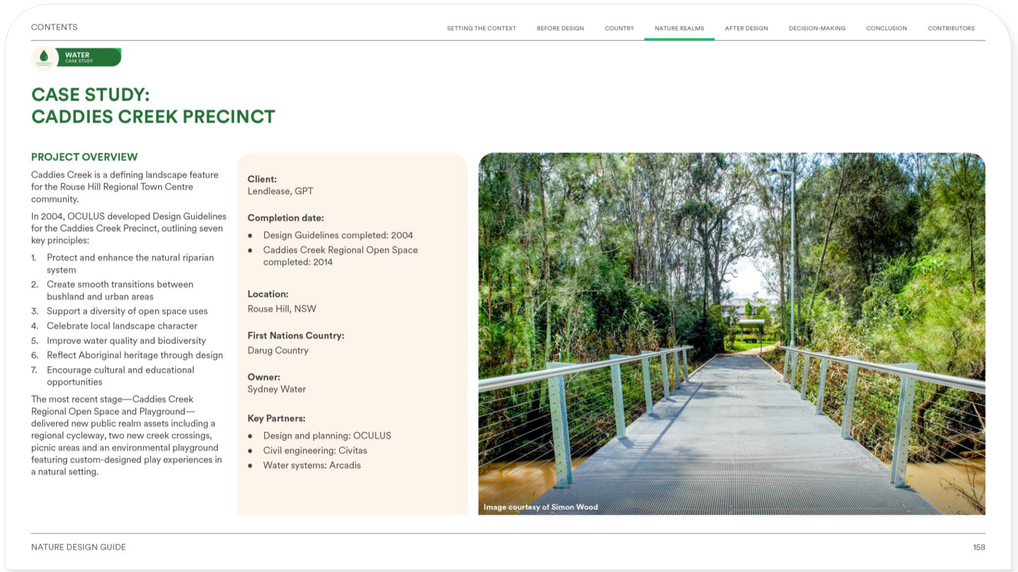
PART 3: COUNTRY AND PART 4: NATURE REALMS

CASE STUDIES

Each design element is paired with a case study to showcase real-world examples and the measurable benefits of nature-positive design.

Each case studies highlights:

- Project context and partners
- Benefits and co-benefit outcomes delivered
- Key design considerations
- Construction and operational insights
- Links to more detailed project information



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WATER CASE STUDY

CASE STUDY: CADDIES CREEK PRECINCT

PROJECT OVERVIEW

Caddies Creek is a defining landscape feature for the Rouse Hill Regional Town Centre community.

In 2004, OCULUS developed Design Guidelines for the Caddies Creek Precinct, outlining seven key principles:

1. Protect and enhance the natural riparian system
2. Create smooth transitions between bushland and urban areas
3. Support a diversity of open space uses
4. Celebrate local landscape character
5. Improve water quality and biodiversity
6. Reflect Aboriginal heritage through design
7. Encourage cultural and educational opportunities

The most recent stage—Caddies Creek Regional Open Space and Playground—delivered new public realm assets including a regional cycleway, two new creek crossings, picnic areas and an environmental playground featuring custom-designed play experiences in a natural setting.

Client:
Lendlease, GPT

Completion date:
- Design Guidelines completed: 2004
- Caddies Creek Regional Open Space completed: 2014

Location:
Rouse Hill, NSW

First Nations Country:
Darug Country

Owner:
Sydney Water

Key Partners:
- Design and planning: OCULUS
- Civil engineering: Civitas
- Water systems: Arcadis

Image courtesy of Simon Wood

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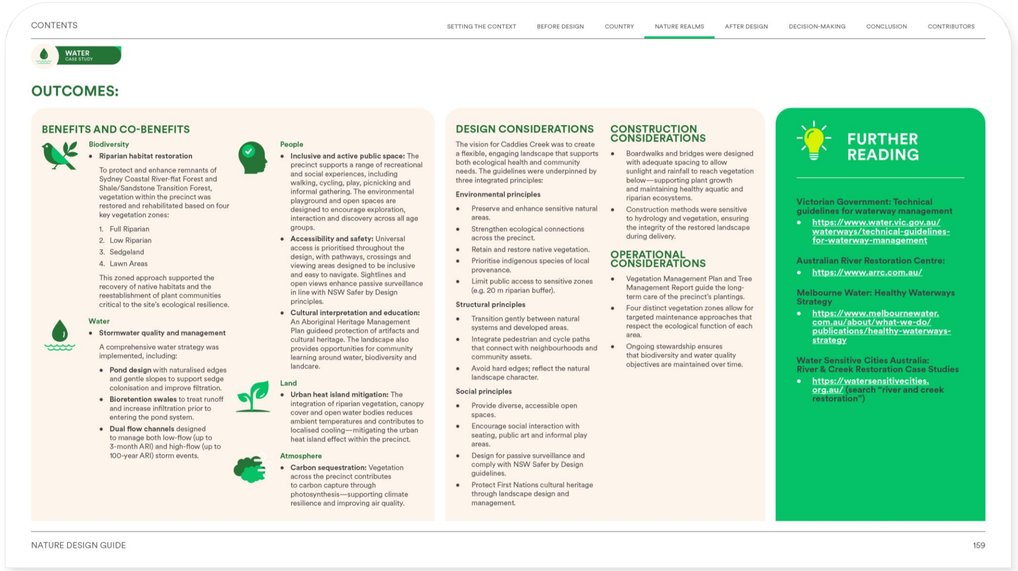

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WATER CASE STUDY

OUTCOMES:

BENEFITS AND CO-BENEFITS

Biodiversity
- **Riparian habitat restoration**

To protect and enhance remnants of Sydney Coastal River-flat Forest and Shale/Sandstone Transition Forest, vegetation within the precinct was restored and rehabilitated based on four key vegetation zones:

1. Full Riparian
2. Low Riparian
3. Sedgeland
4. Lawn Areas

This zoned approach supported the recovery of native habitats and the reestablishment of plant communities critical to the site's ecological resilience.

Water
- **Stormwater quality and management**

A comprehensive water strategy was implemented, including:
- **Pond design** with naturalised edges and gentle slopes to support sedge colonisation and improve filtration.
- **Bioretention swales** to treat runoff and increase infiltration prior to entering the pond system.
- **Dual flow channels** designed to manage both low-flow (up to 3-month ARI) and high-flow (up to 100-year ARI) storm events.

People
- **Inclusive and active public space:** The precinct supports a range of recreational and social experiences, including walking, cycling, play, picnicking and informal gathering. The environmental playground and open spaces are designed to encourage exploration, interaction and discovery across all age groups.
- **Accessibility and safety:** Universal access is prioritised throughout the design, with pathways, crossings and viewing areas designed to be inclusive and easy to navigate. Sightlines and open views enhance passive surveillance in line with NSW Safer by Design principles.
- **Cultural interpretation and education:** An Aboriginal Heritage Management Plan guideed protection of artifacts and cultural heritage. The landscape also provides opportunities for community learning around water, biodiversity and landcare.

Land
- **Urban heat island mitigation:** The integration of riparian vegetation, canopy cover and open water bodies reduces ambient temperatures and contributes to localised cooling—mitigating the urban heat island effect within the precinct.

Atmosphere
- **Carbon sequestration:** Vegetation across the precinct contributes to carbon capture through photosynthesis—supporting climate resilience and improving air quality.

DESIGN CONSIDERATIONS

The vision for Caddies Creek was to create a flexible, engaging landscape that supports both ecological health and community needs. The guidelines were underpinned by three integrated principles:

Environmental principles
- Preserve and enhance sensitive natural areas.
- Strengthen ecological connections across the precinct.
- Retain and restore native vegetation.
- Prioritise indigenous species of local provenance.
- Limit public access to sensitive zones (e.g. 20 m riparian buffer).

Structural principles
- Transition gently between natural systems and developed areas.
- Integrate pedestrian and cycle paths that connect with neighbourhoods and community assets.
- Avoid hard edges; reflect the natural landscape character.

Social principles
- Provide diverse, accessible open spaces.
- Encourage social interaction with seating, public art and informal play areas.
- Design for passive surveillance and comply with NSW Safer by Design guidelines.
- Protect First Nations cultural heritage through landscape design and management.

CONSTRUCTION CONSIDERATIONS
- Boardwalks and bridges were designed with adequate spacing to allow sunlight and rainfall to reach vegetation below—supporting plant growth and maintaining healthy aquatic and riparian ecosystems.
- Construction methods were sensitive to hydrology and vegetation, ensuring the integrity of the restored landscape during delivery.

OPERATIONAL CONSIDERATIONS
- Vegetation Management Plan and Tree Management Report guide the long-term care of the precinct's plantings.
- Four distinct vegetation zones allow for targeted maintenance approaches that respect the ecological function of each area.
- Ongoing stewardship ensures that biodiversity and water quality objectives are maintained over time.

FURTHER READING

Victorian Government: Technical guidelines for waterway management
- https://www.water.vic.gov.au/waterways/technical-guidelines-for-waterway-management

Australian River Restoration Centre:
- https://www.arrc.com.au/

Melbourne Water: Healthy Waterways Strategy
- https://www.melbournewater.com.au/about/what-we-do/publications/healthy-waterways-strategy

Water Sensitive Cities Australia: River & Creek Restoration Case Studies
- https://watersensitivecities.org.au/ (search "river and creek restoration")

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PART 5: AFTER DESIGN

ALLOWANCES IN DESIGN FOR CONSTRUCTION AND OPERATION

Key design stage steps to enable success in construction and operation:

1. Plan for long-term maintenance
2. Monitor, evaluate and adapt
3. Knowledge sharing and capacity building
4. Prioritise building long-term partnerships

AFTER DESIGN:
ALLOWANCES IN DESIGN FOR CONSTRUCTION AND OPERATION

KEY STEPS INCLUDE:

STEP 1

PLAN FOR LONG-TERM MAINTENANCE

Plant maintenance

Maintenance requirements for post-establishment phases of vegetation must be identified and budgeted for during the design and planning stage, and incorporated into a project-specific Maintenance Plan. Ensure maintenance is considered in both the design process and facility management planning. The building owner and operator must understand their responsibilities in caring for Nature and Country.

Capacity building

Maintenance strategies may need to be revisited over time to improve outcomes. For example, is your maintenance team struggling with a design because it's unfamiliar? Could training be provided or the maintenance approach be adapted? Ongoing care is essential for achieving Nature outcomes.

Project planning, design, and budgeting must include provisions for long-term maintenance of nature-based elements such as:

- Irrigation
- Weed control
- Monitoring plant health and growth
- Replacing plants when needed

This should be addressed through:

- Thoughtful planting design that matches maintenance capability.
- Early engagement with facility managers to ensure alignment on scope, skills, and budget.
- Inclusion of project objectives in any Landscape Management Plans (where required through planning approvals).

Design with maintenance in mind

What types of maintenance are appropriate to your ecology? Can habitat types be selected to reduce intensive maintenance needs? Align your planting strategy with the expected availability of maintenance resources.

Cultural maintenance and engagement:

- Traditional Owners must be engaged in maintenance to ensure ongoing alignment with Caring for Country principles.
- Community-led site management supports intergenerational knowledge sharing.
- Culturally significant practices—such as cultural burns—should be enabled and supported.
- Ensure continued access and stewardship by Indigenous communities through culturally significant site upkeep.
- Provide training and employment opportunities for Indigenous people to support long-term involvement.

Image courtesy of Abigail Heywood

STEP 2

MONITOR, EVALUATE AND ADAPT

Embed monitoring and evaluation strategies for all Nature realms to ensure design elements deliver the intended benefits and co-benefits. Projects that aim to achieve Country and Nature outcomes must go beyond implementation—allocating both scope and budget to monitor outcomes post-construction and allow for timely intervention if targets are not met.

Performance review

Designers and developers should evaluate the performance of nature-based elements after completion to:

- Confirm outcomes
- Build knowledge
- Share lessons across the industry
- Improve future initiatives

Biodiversity-specific monitoring

- Monitoring should be planned from the outset and resourced accordingly.
- Aim to measure ecologically meaningful metrics (e.g. species richness, habitat condition, or ecological function), rather than simply inputs like plant counts.
- If priority species were part of the strategy, biodiversity surveys should be designed to track these.
- Data should be collected across seasons and years—consider referencing First Nations seasonal calendars rather than Western seasonal frameworks.
- Engage ecologists to document species presence, biodiversity health, and related findings.

Participatory monitoring

- Involve Traditional Owners and local communities in monitoring outcomes.
- Encourage collaborative partnerships with local universities or research institutions for data analysis and knowledge sharing.
- Explore alternative methods of recording habitat health—through art, storytelling, and songlines—to reflect cultural knowledge and support intergenerational learning.
- Support collaborative research involving Indigenous scientists and knowledge holders.

Adaptive management

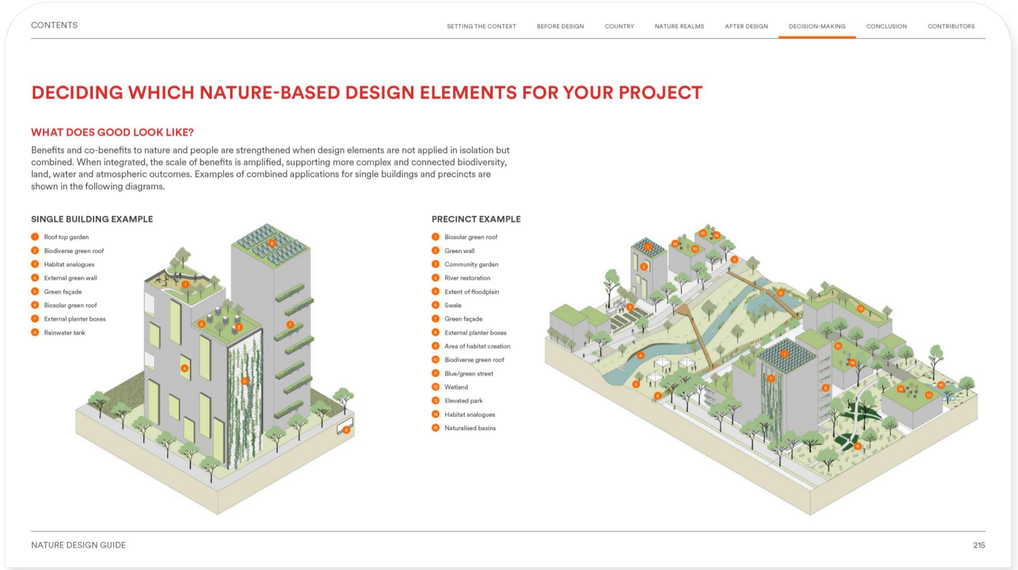
Be prepared to make changes if nature-based design elements are not performing as intended. Use monitoring insights to guide adjustments and continue tracking progress.


Images courtesy of Abigail Heywood

PART 6: DECISION-MAKING

DECIDING WHICH NATURE-BASED DESIGN ELEMENTS FOR YOUR PROJECT

- **What good looks like**: When design elements are combined and integrated, the scale of benefits are amplified - supporting more complex and connected outcomes across biodiversity, land, water and atmosphere.
- **How to decide which design elements to use**: Key steps guide project teams to identify a shortlist of nature-based design elements for further exploration during design development and delivery. This process is supported by long-form cross-reference tables and a beta version of the Country and Nature design tool in Excel format.



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DECIDING WHICH NATURE-BASED DESIGN ELEMENTS FOR YOUR PROJECT

WHAT DOES GOOD LOOK LIKE?

Benefits and co-benefits to nature and people are strengthened when design elements are not applied in isolation but combined. When integrated, the scale of benefits is amplified, supporting more complex and connected biodiversity, land, water and atmospheric outcomes. Examples of combined applications for single buildings and precincts are shown in the following diagrams.

SINGLE BUILDING EXAMPLE

1. Roof top garden
2. Biodiverse green roof
3. Habitat analogues
4. External green wall
5. Green façade
6. Biosolar green roof
7. External planter boxes
8. Rainwater tank

PRECINCT EXAMPLE

1. Biosolar green roof
2. Green wall
3. Community garden
4. River restoration
5. Extent of floodplain
6. Swale
7. Green façade
8. External planter boxes
9. Area of habitat creation
10. Biodiverse green roof
11. Blue/green street
12. Wetland
13. Elevated park
14. Habitat analogues
15. Naturalised basins

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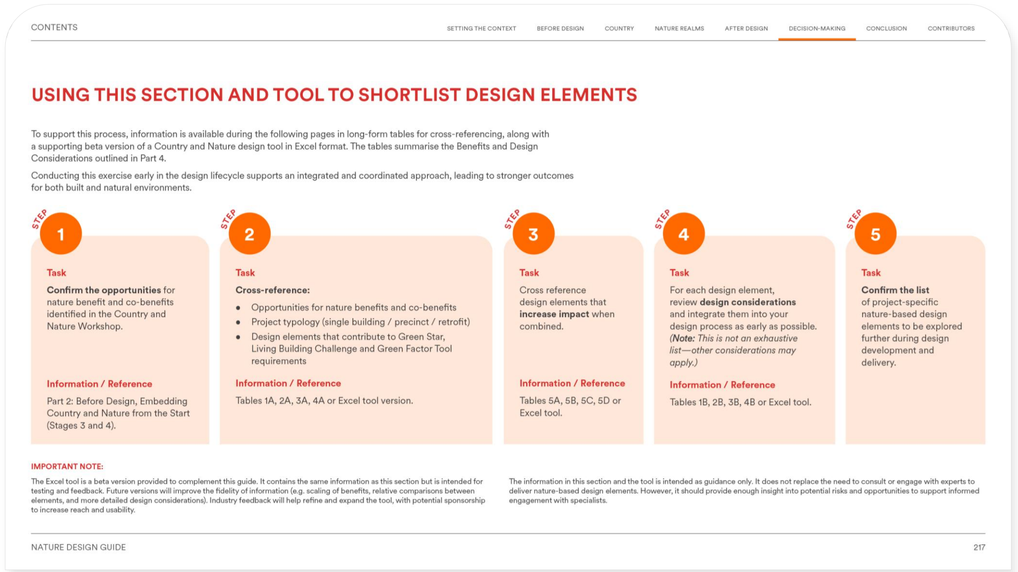

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USING THIS SECTION AND TOOL TO SHORTLIST DESIGN ELEMENTS

To support this process, information is available during the following pages in long-form tables for cross-referencing, along with a supporting beta version of a Country and Nature design tool in Excel format. The tables summarise the Benefits and Design Considerations outlined in Part 4.

Conducting this exercise early in the design lifecycle supports an integrated and coordinated approach, leading to stronger outcomes for both built and natural environments.

STEP 1

Task

Confirm the opportunities for nature benefit and co-benefits identified in the Country and Nature Workshop.

Information / Reference

Part 2: Before Design, Embedding Country and Nature from the Start (Stages 3 and 4).

STEP 2

Task

Cross-reference:

- Opportunities for nature benefits and co-benefits
- Project typology (single building / precinct / retrofit)
- Design elements that contribute to Green Star, Living Building Challenge and Green Factor Tool requirements

Information / Reference

Tables 1A, 2A, 3A, 4A or Excel tool version.

STEP 3

Task

Cross reference design elements that **increase impact** when combined.

Information / Reference

Tables 5A, 5B, 5C, 5D or Excel tool.

STEP 4

Task

For each design element, review **design considerations** and integrate them into your design process as early as possible. ***(Note:** This is not an exhaustive list—other considerations may apply.)*

Information / Reference

Tables 1B, 2B, 3B, 4B or Excel tool.

STEP 5

Task

Confirm the list of project-specific nature-based design elements to be explored further during design development and delivery.

IMPORTANT NOTE:

The Excel tool is a beta version provided to complement this guide. It contains the same information as this section but is intended for testing and feedback. Future versions will improve the fidelity of information (e.g. scaling of benefits, relative comparisons between elements, and more detailed design considerations). Industry feedback will help refine and expand the tool, with potential sponsorship to increase reach and usability.

The information in this section and the tool is intended as guidance only. It does not replace the need to consult or engage with experts to deliver nature-based design elements. However, it should provide enough insight into potential risks and opportunities to support informed engagement with specialists.

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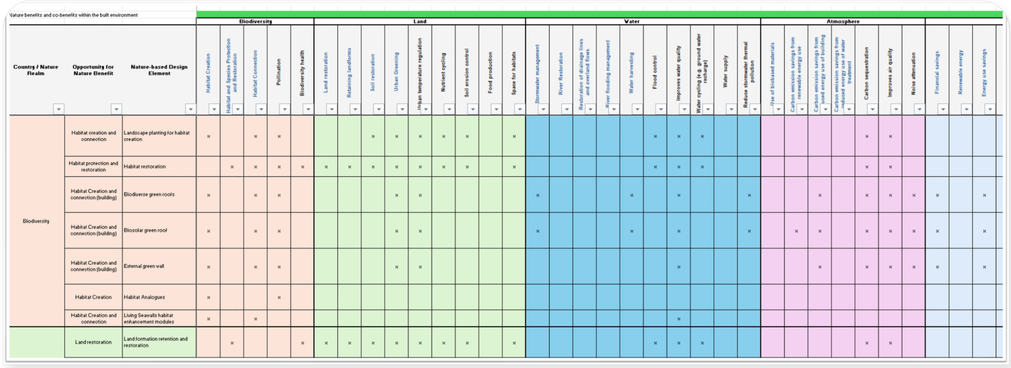
Conclusion

NEXT STEPS AND CALL TO ACTION

- **The future of the built environment depends on how well we learn from, design with and care for Nature.**
- We invite everyone - designers, developers, planners, policymakers and communities - to join us in reshaping the built environment through Nature.
- Use the **Nature Design Guide** and supporting beta version of the **Country and Nature design tool** (Excel format) to deliver outcomes that benefit both Country and Nature. These resources can be found on **the websites of these partners** that created the guide.

Nature Design Guide document (pdf)



Country and Nature Design Tool (Excel)

Thank You