Draft for discussion

GREENER PLACES

Establishing an urban Green Infrastructure policy for New South Wales

GOVERNMENT ARCHITECT NEW SOUTH WALES

NSW GOVERNMENT

Design principles for NSW

Four principles help deliver Green Infrastructure in NSW:

Integration
combine Green Infrastructure with urban development and grey infrastructure

Connectivity
create an interconnected network of open space

Multifunctionality
deliver multiple ecosystem services simultaneously

Participation
involve stakeholders in development and implementation

GA

Cover image
Hyde Park, Sydney.

NSW

Minister's Statement

I'm pleased to launch **Greener Places** – a new way of thinking about green space for our State.

Well planned green infrastructure is fundamental to ensuring our communities retain a high quality of life and helping our cities remain sustainable, both now and into the future. Green infrastructure is *essential* infrastructure and should be integrated into all community planning.

We want all suburbs to have an established tree canopy, well-designed parks, and connected open spaces. Green infrastructure does more than just look good; it creates healthier, safer and more prosperous cities.

Greener Places has been developed by the Government Architect to deliver the strategic approach for the planning, design and management of green infrastructure and will deliver connected urban ecosystems across NSW.

We will all need to work together, government, industry and the community. By prioritising green infrastructure now, we will leave a legacy we can be proud of, a legacy of great spaces and greener places.

Anthony Roberts
Minister for Planning

Government Architect's Foreword

As our population grows, the challenge will be to shape the built environment to retain distinctive and liveable cities. Green space is a hallmark of liveability, and by establishing a network of high-quality green areas that join towns, public transport, and residential areas, we aim to maximise quality of life and wellbeing.

Greener Places reflects our collective vision and expectations in planning, designing and creating a sustainable NSW. It is about the creation of a networked urban ecosystem of green space that encompasses parks and open spaces including urban trees, streets, squares and waterways to help create a healthier, more liveable and resilient place to live. We must make landscapes work harder, for many users and improve climate change resilience, through a multifunctional design approach.

To achieve this, Green Infrastructure needs to have a more influential role in the planning of cities and urban environments. It needs to be considered as essential infrastructure at the outset of the design process from strategy, through to concept design, construction and maintenance. It means that our cities, towns and suburbs must reflect values that can only be fully realised if Green Infrastructure is considered at the forefront of the city making process. Design creativity is also needed to deliver a green city ecosystem – from both city-wide strategic projects down to more imaginative uses of space within the layers of a city.

Greener Places is an overarching schema for ensuring connection and integration of our green assets, ensuring their contribution to quality of life, and that the environment and the economy are maximised, rendering a working whole that is far greater than the sum of its parts.

The Government Architect NSW developed this draft Greener Places policy to deliver a greener NSW. Our vision is for a network of well-planned Green Infrastructure that will make NSW more attractive, better connected, healthier and more resilient.

I welcome your comments prior to finalising this framework in early 2018.

Peter Poulet
Government Architect

CONTENTS

The Government Architect NSW acknowledges the traditional custodians of the land and pays respect to Elders past, present and future. We honour Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place and their rich contribution to our society. To that end, Greener Places seeks to uphold the idea that if we care for country, it will care for us.

October 2017

NSW Government

SECTION

INTRODUCING

This chapter outlines the NSW Government's commitment to creating Green Infrastructure.

ONE

GREENER PLACES

Prince Alfred Park Sydney, by Sue Barnsley Design in association with Neeson Murcutt.

Introduction

Greener Places is a draft Green Infrastructure policy produced by the Government Architect NSW to guide the planning, design and delivery of Green Infrastructure in urban areas across NSW. It aims to create a healthier, more liveable and sustainable urban environment by improving community access to recreation and exercise, supporting walking and cycling connections, and improving the resilience of urban areas.

The draft policy is for consultation with the community and stakeholders. It aims to promote discussion about what the final policy should address. All feedback on this draft policy will be considered and a final policy developed in early 2018.

Greener Places explains why a Green Infrastructure policy is needed, and the vision and objectives for its implementation. Green infrastructure should be developed as a network rather than separate elements. Green Infrastructure is essential and needs to be considered as an asset in its own right.

The documents supporting the draft policy include the following draft manuals/toolkits:

— Open Space for Recreation – Green Infrastructure for people
— Bushland and Waterways – Green Infrastructure for habitat and ecological health
— Urban Tree Canopy – Green Infrastructure for climate adaptation and resilience.

Greener Places builds on the Sydney Green Grid - the design-led Green Infrastructure strategy developed to create a network of high quality green areas that connect town centres, public transport networks and major residential areas in Sydney.

Greener Places is a state policy which is assessed against agreed criteria, enabling better opportunities for industry to embed the benefits of a greener approach to projects. This in turn will create better places and landscapes.

1.1 What is Green Infrastructure?

Green Infrastructure is the network of green spaces, natural systems and semi-natural systems including parks, rivers, bushland and private gardens that are strategically planned, designed and managed to support a good quality of life in an urban environment.

Green Infrastructure should be envisioned as a three-dimensional envelope that surrounds and connects buildings, streets and utilities. The concept of landscape as Green Infrastructure provides a framework for integrating the work of designers, planners, developers and policy makers, and leveraging this collaboration to achieve larger local or state goals.

Green Infrastructure is as crucial to the city as transport, cultural and communications infrastructure. It delivers a range of benefits including:

— Healthy living
— Mitigating flooding
— Improving air and water quality
— Cooling the urban environment
— Encouraging walking and cycling and enhancing biodiversity and ecological resilience
— Absorbing and transforming waste.

Green Infrastructure compliments the development of other types of infrastructure projects. Green Infrastructure projects should be collaborative, where infrastructure in general is redefined to include an essential green component. By moving beyond a siloed approach, towards connecting agencies and physical networks of open space, the people of NSW will benefit.

Green Infrastructure is essential infrastructure. It needs to be accounted for in government asset management plans and community strategy plans, and considered as an asset in its own right.

What is well-designed Green Infrastructure?

Green Infrastructure connects vital life support systems for urban environments. Well-designed Green Infrastructure responds to four key principles:

— Integration
— Connectivity
— Multifunctionality
— Participation.

Redfern Park by Spackman Mossop Michaels. Source: John Gollings.

The elements of Green Infrastructure.

Individual components of Green Infrastructure or assets range from residential gardens to local parks and housing estates, streetscapes and highway verges, services and communications corridors, waterways and regional recreation areas. The components can be existing assets or designed to become part of the Green Infrastructure network.

1 Green roofs and walls including roof gardens and living walls.

2 Private and semi private residential gardens including shared spaces around apartment buildings, backyards, balconies, roof gardens and community gardens.

3 Squares and plazas including both public and private courtyards and forecourts.

4 Public residential and other tree lined streets, including road verges.

5 Parks and gardens including regional parks, well-designed urban parks, open space reserves and formal gardens.

6 Greenways including river and creek corridors, cycleways and routes along major transport (road, rail and light rail) corridors.

7 Sports and recreational facilities including ovals, school and other institutional playing fields, and other major parks and golf course.

8 Natural green space including national parks and nature reserves, waterways, wetlands and coastal margins.

9 Agricultural and other productive land and farms including vineyards, market gardens, orchards.

1 and 2. One Central Park, by Jean Nouvel, Patrick Blanc, Turf Design Studio (concept design) & Aspect in collaboration with Oculus. Source: Simon Wood Photography. 3. Parramatta Square, by James Mather Delaney. 4. Bourke Street Cycle Network by Spackman Mossop and Michaels. 5. Civic Park, Newcastle. 6. Parramatta Park. Source: Western Sydney Parklands Trust. 7. Redfern Park upgrade by Spackman Mossop and Michaels with BVN. 8. Narrabeen Lagoon Multiuse Trail, by Aspect Studios. Source: Simon Wood. 9. Source: Milkwood https://www.milkwood.net/2014/11/18/planting-day-at-107-rooftop-garden/

Elements of Green Infrastructure

Diagram indicating individual elements (assets) that can be utilised across a Green Infrastructure network. The diagram below is based on the winning K2K competition entry by Hill Thalis, Bennett and Trimble, James Mather Delaney.

1.2 Why do we need Green Infrastructure?

NSW has a rapidly growing population and we need to ensure that our built environment remains healthy and liveable. As custodians of the future, we need to think about how NSW will be transformed.

The provision of Green Infrastructure will help improve the quality of our urban and rural environments as well as help adapt and mitigate the effects of climate change. Well-designed and planned Green Infrastructure will help absorb flood water, cool the urban environment, clean the air, provide space for local food production and ensure the survival of Sydney's fauna and flora as well as providing space for recreation, sport and leisure.

Green Infrastructure is an essential asset, and should be as integral to NSW as its roads, rail lines and storm water pipes. With proven value, it is an infrastructure asset that requires the same kind of investment and innovation we afford more familiar types of built infrastructure.

Greener Places aims to create a network of attractive new and upgraded city environments, routes, and spaces. The approach would build on existing Green Infrastructure components. Over time this city ecosystem will be capable of generating a substantial range of social, environmental and economic outcomes.

A key component of the design of green space is the promotion of multifunctional design where a range of benefits are provided in one area through careful planning.

Pirrama Park Playground, Pyrmont by Aspect Studios. Source: Florian Groehn

1.2.1 NSW priorities

Greener Places advocates for Green Infrastructure to help respond to challenges for NSW including:

Health

There is a growing recognition of the benefits that green space has on a community's health. It is well documented that the benefits of having access to green space, including increased physical activity, mental health, and access to food, can be harnessed to improve liveability.

Well-designed greener places will make it easier for people to be physically and mentally active. Having access to high quality open space within walking distance will encourage healthy activity and connectivity. Diverse spaces and places can also bring work opportunities closer to home. If people can cycle, walk or catch public transport health inequality is reduced. Studies that support this show that:

- Living in areas with higher amounts of green spaces reduces mortality by reducing cardiovascular disease (Gascon: 2016)
- Playing in green outdoor spaces fosters creative play and reduces symptoms of attention disorders in children (Shore: 2017)
- People living in areas without access to nature were 1.27 times more likely to experience symptoms of depression (Gyeong-bok: 2017)
- Patients with views of trees and greenery out their windows heal faster and with need for less medication (Cox: 2017)
- Access to green space reduces stress (Husqvarna: 2013).

Climate resilience

Climate change is expected to result in more extreme weather events, heatwaves, higher risk of bushfires, rising sea level, and drought, as well as threats to native species and ecosystems.

Climate change is also expected to have adverse effects on human health including heat related and extreme weather deaths, increases in water and food borne diseases, and the effects of increased air pollution.

Practices like planting trees and enabling the introduction of green roofs can improve air quality in urban areas, and reduce temperatures. The widespread use of water sensitive urban design practices will reduce the risk of flooding. Biodiversity can also be supported through good Green Infrastructure design.

Rapidly growing population

The population of NSW is expected to grow to 9.9 million people by 2036. Sydney's metropolitan population is projected to grow by more than 2.1 million in the next twenty years to 6.4 million people. A challenge is how we shape the built environment to respond to this growth while ensuring that Sydney and urban areas across NSW remain liveable.

With a growing population and a long-term trend towards higher-density dwellings, more people will require access to green spaces such as parks and sporting grounds for organised sport as well as active and passive recreation. Green public spaces are areas for communities to gather and form meaningful connections with their neighbours. With more people residing in apartments with no backyards, public green spaces are becoming a "shared backyard". Delivering Green Infrastructure to these areas will ensure NSW remains healthy, liveable and sustainable during this time of rapid growth.

Changing lifestyle and Demographics

Our population is not only growing, it is also getting older. By 2036, NSW's population aged over 60 will be more than 2.6 million people, an increase of 56 per cent. Another fast-growing age sector in NSW is the young. By 2036, the number of residents aged 0-19 years will have increased by more than 2.4 million people, an increase of 24 per cent.

Health expenditure is projected to increase as a proportion of GDP until 2055 (Intergenerational Report Australia 2055). With an aging population, the physical and mental benefits to society of regular engagement with the natural environment are well known and documented.

The increase in young and old populations has also shown a demand for a more compact city model, which is denser, better connected and walkable, and benefits from a mix of uses on the doorstep, facilitating better access to employment, public transport, entertainment and other opportunities.

Infrastructure and urban renewal

Government, together with the private sector, is delivering and upgrading infrastructure across NSW including transport projects, education facilities and hospitals, together with a program of urban renewal on major government-owned sites. These projects have the opportunity to create open space and to improve the quality of existing open space.

The benefits of the space between buildings is of equal, if not greater value than the building itself, as this is the connection to where most of us live, work and play. Fresh air, walking, sitting, riding, playing and living in our streets, squares, parks, riverfront, harbours and gardens is a human need.

The NSW Government's infrastructure and urban renewal projects are an opportunity for the delivery of quality Green Infrastructure. A focus on Green Infrastructure can provide efficient, innovative responses that maximise government investment. Continued investment in revitalising existing parks and improved public domains alongside the creation of new open space destinations will play a major role in all development and infrastructure projects.

Biodiversity loss

Biodiversity loss is one of the greatest threats worldwide and needs attention from policy makers at all levels. Despite the pressures of urbanisation on biodiversity, urban areas can be home to significant numbers of species, offering biodiversity protection and nature experiences for people.

Green Infrastructure planning and design seeks to contribute to biodiversity conservation, by providing habitats or establishing connections between habitats and populations. It is imperative that we support biodiversity networks from large ecosystems such as forests to networks of urban systems. Urban biodiversity is more than just threatened species, it is all the plants, animals and microorganisms that live in our cities. Biodiversity exists in our streets, our gardens, in brownfield sites and other unexpected places.

1.3 The benefits of Green Infrastructure

"A compelling body of evidence suggests that green infrastructure is not only beneficial but essential in the design and development of healthy urban environments."

— Dr Martin Ely,
Green Infrastructure Project,
Botanic Gardens of Adelaide

Green Infrastructure is an asset to our built environment that delivers multiple social, environmental, and economic benefits. Green Infrastructure can frame and shape the growth of sustainable communities by promoting access to open space, nature, culture and sport, which will improve the appeal to visitors and the quality of life for all.

ENVIRONMENTAL BENEFITS

- Improved visual amenity
- Enhanced urban microclimate
- Improved air quality
- Reduced flood risk
- Better water quality
- Improved biodiversity
- Reduced ambient noise
- Reduced atmospheric CO_2
- Improved environmental resilience
- Reduced urban heat island effect
- Improved connection and travel time

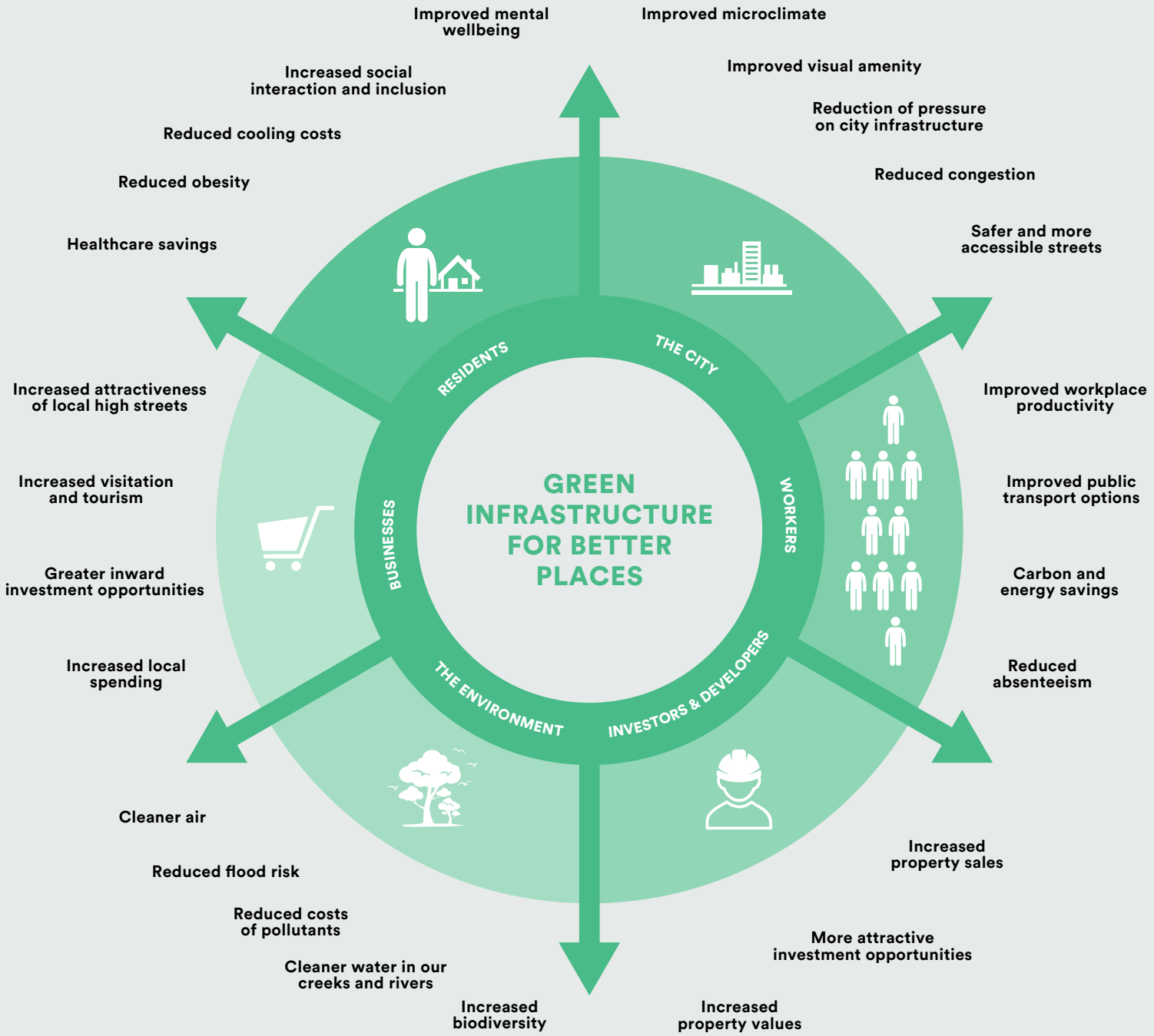
ECONOMIC BENEFITS

- Boosting property values including house prices due to proximity to green space
- Faster property sales
- Encourages inward investment
- Reduced energy costs via microclimate regulation
- Improved chances of gaining planning permission
- Improved tourist and recreation facilities
- Lower healthcare costs

SOCIAL BENEFITS

- Encourages physical activity
- Provides more opportunities and places for children to play
- Improved mental health
- Creates and improves spaces for socialising, interaction and events
- Improved workplace productivity
- Creates opportunities for community participation and volunteering
- Reduction in crime
- Reduces stress
- Improved childhood development
- Improved quality of life and health and wellbeing
- Ease of access to social, recreation and sporting activities
- Improved liveability for NSW
- Increased social cohesion

Who benefits from Green Infrastructure



1.4 What this draft policy will do

Greener Places sets a framework for defining and achieving greener places for the people of NSW by:

— Advocating for greener places, spaces and outcomes
— Supporting industry and government to deliver Green Infrastructure
— Enabling effective outcomes in the planning, design and delivery of Green Infrastructure
— Raising awareness of what the NSW Government means by Green Infrastructure and its importance
— Providing clear, consistent principles to achieve Green Infrastructure throughout the development process
— Providing a framework for examining places and reviewing proposals from a Green Infrastructure perspective
— Establishing key concepts and shared terminology associated with Green Infrastructure.

Objectives of the draft policy

Greener Places aims to establish and communicate a clear NSW Government position on Green Infrastructure by establishing benchmarks for the future of our built environments. The policy will expand awareness of Green Infrastructure principles and encourage discussion of the public benefits.

The objectives are:

1. To protect, conserve and enhance NSW's network of green and open natural and cultural spaces
2. To secure a network of high quality, high performing and well-designed green space, establishing a crucial component of urban infrastructure to address the environmental challenges of the twenty-first century
3. To promote healthy living, encouraging physical activity, social cohesion, and enhancing wellbeing by providing liveable places for the NSW community
4. To create a more strategic approach to planning for Green Infrastructure, encouraging early and integrated investment through statutory planning
5. To deliver better tools for the delivery of Green Infrastructure across NSW.

Lizard log playground, Western Sydney Parklands, by McGregor Coxall. Source: Simon Wood

1.5 Where Greener Places fits

Greener Places is positioned in a range of policies, at national, state, city and local government level that reference sustainable development.

At a national level, policy directions include **Smart Cities Plan 2016**, which advocates for green sustainable cities including tree coverage, green spaces and high quality urban design. This plan is important but currently have limited impact in the NSW planning system.

At a State level, while a range of State Environmental Planning Polices (SEPPs), Local Environment Plans (LEPs) Development Control Plans (DCPs) and specific public domain guides provide policy and advice on sustainable development, there is no overarching document outlining the NSW Government's position on Green Infrastructure.

Greener Places fills this gap.

Greener Places inaugurates Green Infrastructure as a fundamental consideration in the strategic planning process from a regional to local scale. This means a connection between metropolitan, district and local plans. Each plan must recognise and value assets such as National Parks, public bushland and waterways. District and local plans must value and support large and small parks, open spaces and streetscapes as integral components to Green Infrastructure

Greener Places promotes stewardship of place to ensure that nature is fully integrated into the urban fabric of any town or city. This creates a unique sense of place that enables nature to become part of everyone's daily experience.

Park and public art at Honeysuckle precinct, Newcastle by Zenscapes Landscape architects and Milne & Stonehouse.

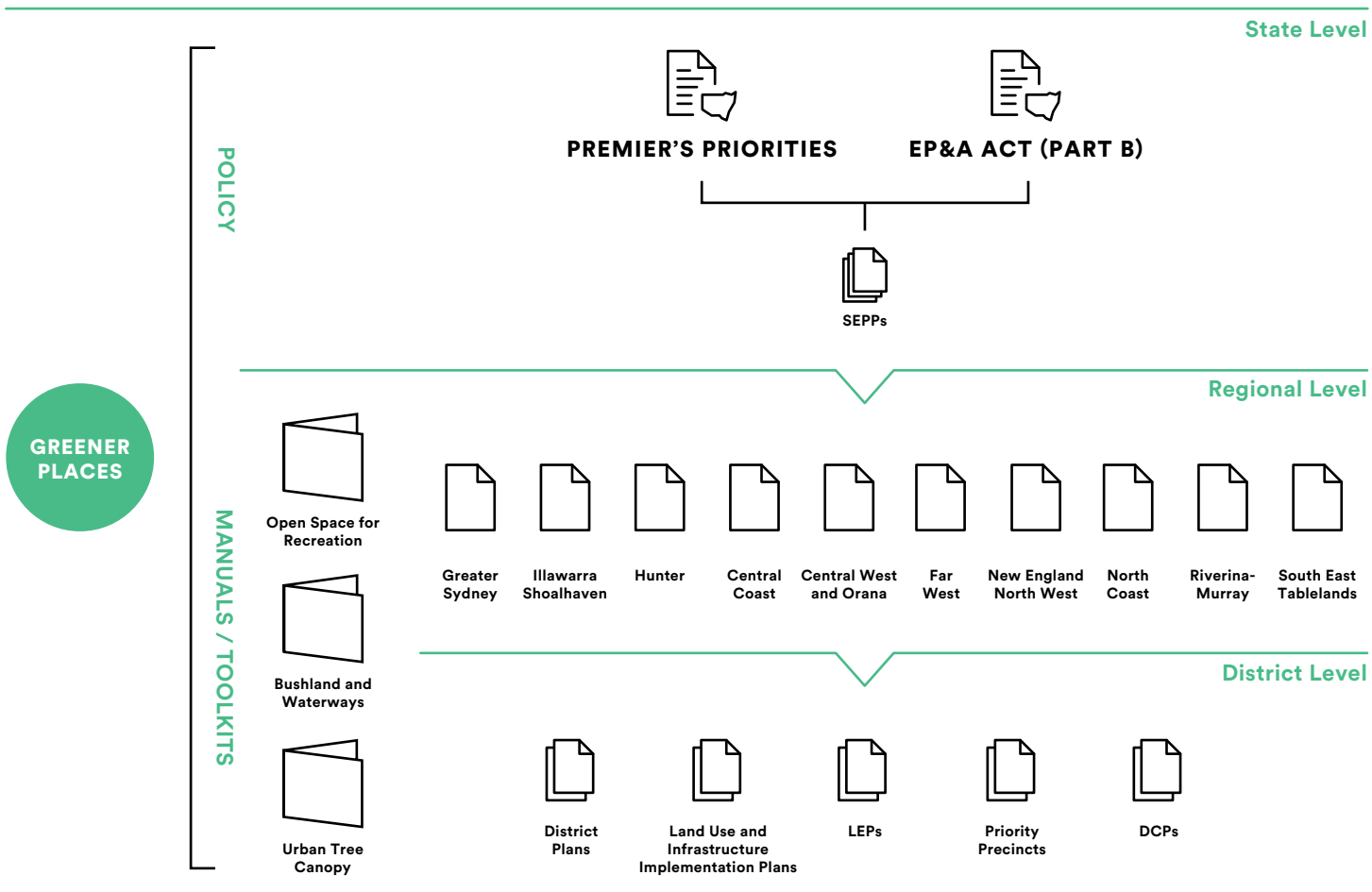
Greener Places sits alongside the strategic design policy Better Placed and provides an overarching policy context for future policies and guidelines.

Greener Places will inform a range of policies and approaches including project formation and development.

Greener Places will inform and be integrated into Regional plans and State Infrastructure Contributions strategies.

Greener Places will be useful in preparing project briefs and serve as a reference for strategic frameworks, master planning urban design, landscape architecture and architectural projects.

Strategic planning framework in NSW



1.6 How Greener Places will help

Greener Places advocates for early integration and collaboration between design, planning, funding and governance. It fosters long-term, coordinated decision-making in planning problems and processes.

It sets out principles and measurable outcomes intended to be adopted by industry and government agencies, as well as by communities who inhabit the places and spaces of NSW. The principles in this document can help guide the determination of planning applications.

Greener Places seeks to use the Green Infrastructure components that lie within our city environments and perform essential ecosystem services to create a network of healthy and attractive new and upgraded city environments, sustainable routes and spaces that build on and strengthen existing Green Infrastructure components.

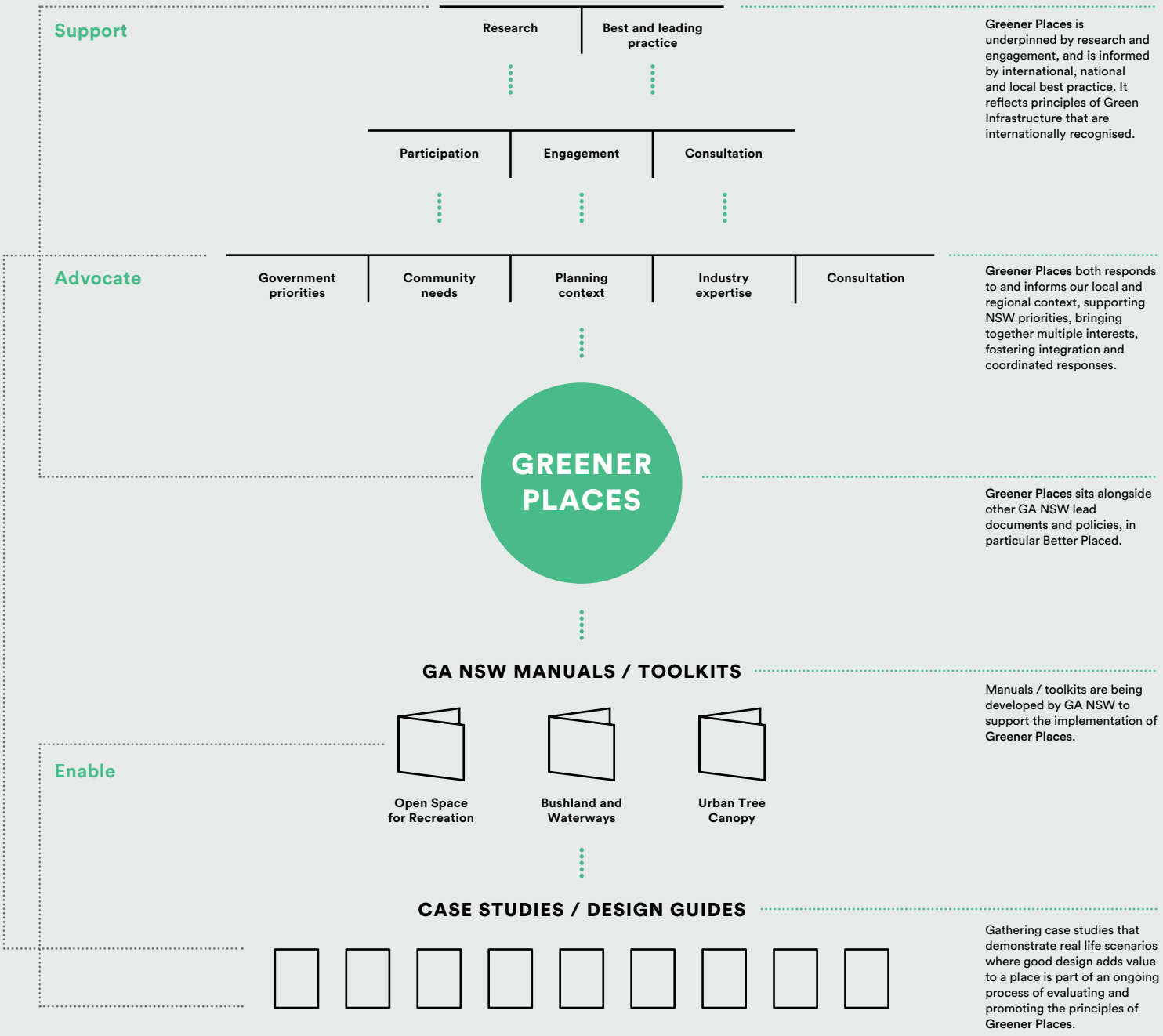
This approach will generate a range of benefits while also providing protection against the effects of climate change. They will also create an enduring legacy for future generations.

Three manuals/toolkits will describe the operational processes to implement the policy:

— Open Space for Recreation – Green Infrastructure for People
— Bushland and Waterways – Green Infrastructure for habitat and ecological health
— Urban Tree Canopy – Green Infrastructure for climate adaptation and resilience.

Greener Places

Greener Places is part of a suite of documents that are all about supporting and enhancing the quality of our built environment.



Greener Places is underpinned by research and engagement, and is informed by international, national and local best practice. It reflects principles of Green Infrastructure that are internationally recognised.

Greener Places both responds to and informs our local and regional context, supporting NSW priorities, bringing together multiple interests, fostering integration and coordinated responses.

Greener Places sits alongside other GA NSW lead documents and policies, in particular Better Placed.

Manuals / toolkits are being developed by GA NSW to support the implementation of **Greener Places**.

Gathering case studies that demonstrate real life scenarios where good design adds value to a place is part of an ongoing process of evaluating and promoting the principles of **Greener Places**.

1.7 How to use Greener Places

Prince Alfred Park Meadow creating biodiversity, Surry Hills by Sue Barnsley Design Landscape Architects in association with Neeson Murcutt.

Greener Places advocates for shared responsibility for Green Infrastructure in NSW. The Government Architect envisages its adoption by multiple users in NSW. It is anticipated that:

State Government can use **Greener Places** as the framework to champion Green Infrastructure across all sectors. It will provide the policy framework and tools to ensure sustainable design of State Significant Developments. The document will support strategic planning at the city scale and urban regeneration and shape planning through Regional Plans, Land use and Infrastructure Implementation Plans and Priority Precincts

Local Government can use **Greener Places** to help structure their own Green Infrastructure design and assessment policies, initiatives and toolkits

The community can use **Greener Places** to understand Green Infrastructure and how it will deliver benefits to their neighbourhoods, streets, cities and towns. They will be equipped to participate in the creation of greener spaces

Landscape architects, urban designers and design professionals can use **Greener Places** to promote the importance and value of Green Infrastructure with clients and communities. They can use the policy to support the creation of green networks in the urban environment

Developers can use **Greener Places** as a framework to support and integrate Green Infrastructure that will help create, evaluate and deliver better projects with short and long term benefits, and create value

Planners can use **Greener Places** to build skills and advocate for Green Infrastructure through both statutory and strategic planning processes

Engineers can use **Greener Places** to create stronger collaborations for engineering solutions that embody green outcomes

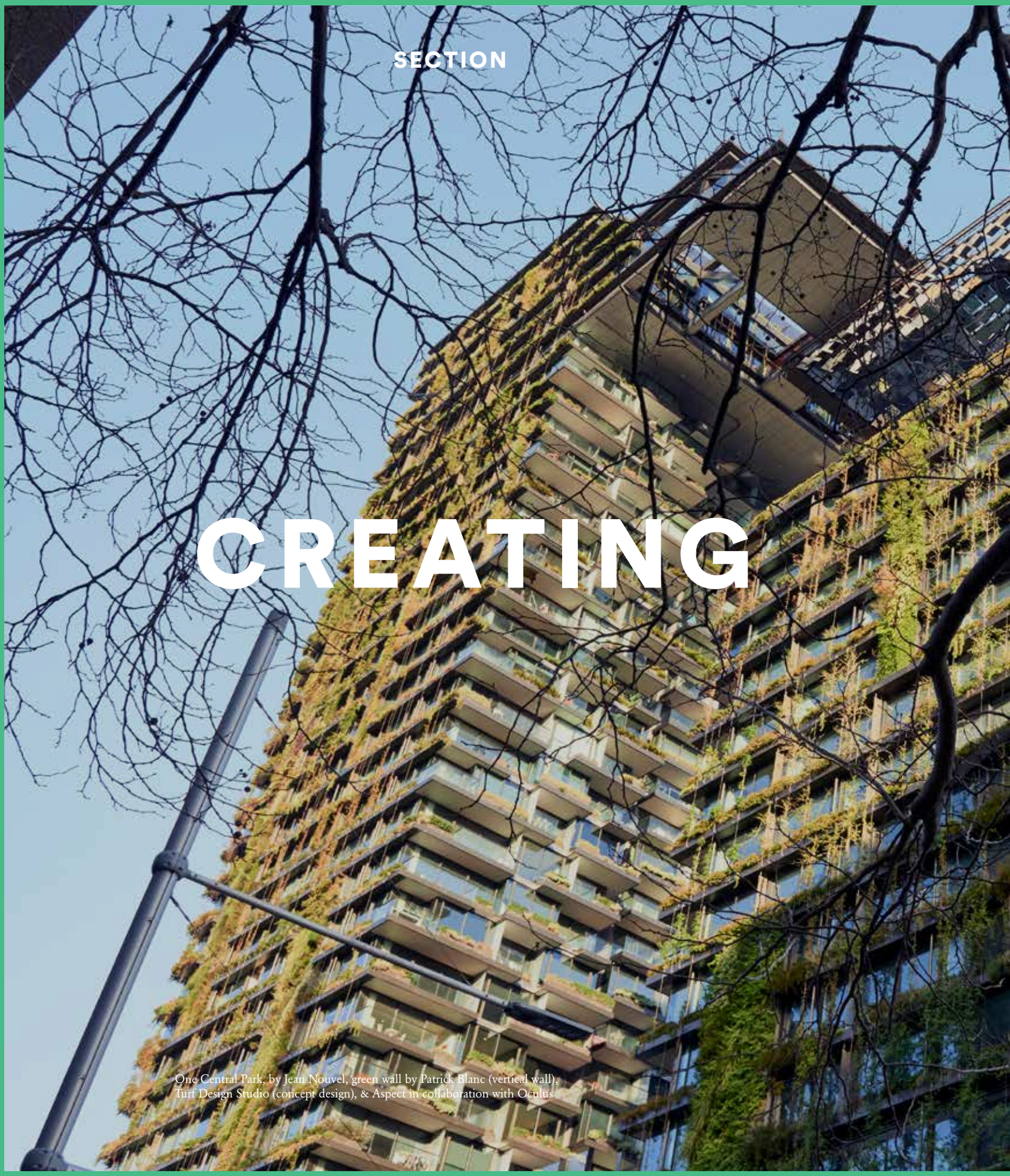
Builders can work with design teams to deliver effective project goals

Businesses can use it to understand, support and seek Green Infrastructure components for their commercial facilities, and contribute to maintaining and looking after local Green Infrastructure interventions

Land and asset owners and managers can use **Greener Places** to understand the benefits to enhancing, maintaining and investing in new and existing green networks.

SECTION

CREATING



One Central Park, by Jean Nouvel, green wall by Patrick Blanc (vertical wall), Turf Design Studio (concept design), & Aspect in collaboration with Oculus

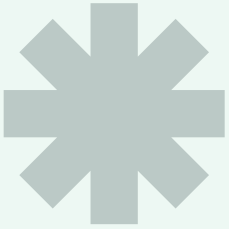
TWO

GREENER PLACES

This chapter outlines the design principles needed to best deliver Green Infrastructure and the outcomes and benefits this will achieve.

2.1 Principles of Green Infrastructure

The key to better management of landscape values in cities lies in understanding how Green Infrastructure strategies can enhance the places and spaces of NSW. Greener Places makes a case for the importance of green space, how integration is essential and how greener thinking can make our cities healthier and more successful places.

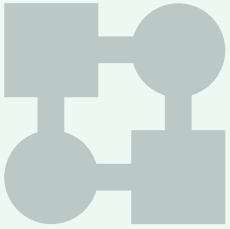


PRINCIPLE 1.

Integration

combine Green Infrastructure with urban development and grey infrastructure

There is a global transition away from single purpose 'grey infrastructure' to more multi-purpose infrastructure that mimics nature, provides critical ecosystem services and promotes healthy and active living. The principle of integration proposes to combine green space with urban development and grey infrastructure.



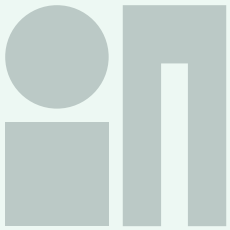
PRINCIPLE 2.

Connectivity

create an interconnected network of open space

Greener Places promotes the creation of a network of high quality open spaces that connect with town centres, public transport hubs, rivers, creeks and employment and residential areas – creating a network of open space. The network includes physical and functional connections that benefit people and wildlife.

Greener Places proposes a design approach for urban environments that promotes nature as a driver, resulting in high performing, quality design. Designing and maintaining Green Infrastructure means a new way of thinking about urban environments. There are four principles that will help deliver Green Infrastructure in NSW:

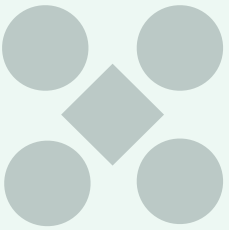


PRINCIPLE 3.

Multifunctionality

deliver multiple ecosystem services simultaneously

Multifunctional green spaces should be high quality and high performing, producing ecological, social, environmental and economic benefits. Multifunctionality represents the ability of Green Infrastructure to deliver multiple ecosystem, environmental and other services simultaneously.



PRINCIPLE 4.

Participation

involve stakeholders in development and implementation

Participation relates to a planning process that is open to all and incorporates the knowledge and needs of diverse parties. It involves stakeholders in the development and implementation of neighbourhood, local, district and regional Green Infrastructure policies and actions.

PRINCIPLE 1.

Integration

There is a global transition away from single purpose 'grey infrastructure' to more multi-purpose infrastructure that mimics nature, provides critical ecosystem services and promotes healthy and active living. The principle of integration proposes to combine green space with urban development and grey infrastructure.

Why is this important?

Greener Places considers Green Infrastructure as being integrated with other urban infrastructure such as built form, transport infrastructure and water management systems to create high quality urban environments.

Major infrastructure projects can be a catalyst for enhanced landscapes through Green Infrastructure investment. Integrated Green Infrastructure planning can contribute positively to air and water quality, energy use and biodiversity.

Design actions

a. Ensure and facilitate the integration of green and grey infrastructure to create urban communities that deliver quality of life to residents and the community

b. Combine green-grey aims by understanding physical and functional synergies between urban green space and other infrastructure (eg: built form, water supply, transportation, waste water)

c. Understand and implement wider environmental, social, and economic benefits from green-grey integration

d. Use knowledge from different disciplines and sectors, and cooperate to deliver integrated green-grey approaches

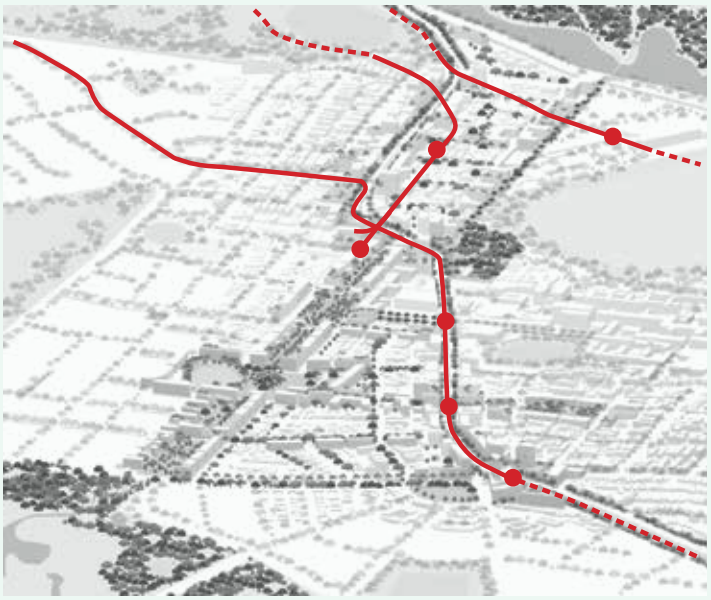
e. Balance recreational and functional requirements of parks with greening objectives to increase canopy cover

Integration

Diagram indicating components that can be integrated across a Green Infrastructure network. The diagram below is based on the winning K2K competition entry by Hill Thalis, Bennett and Trimble, James Mather Delaney.

Stormwater Harvesting - Rejoin Ponds and Wetlands

Green Links, Parks and Street Tree Planting



Public Transport Infrastructure

Public Spaces Cycleways Pedestrian

PRINCIPLE 2.

Connectivity

Greener Places promotes the creation of a network of high quality open spaces that connect with town centres, public transport hubs, rivers, creeks and employment and residential areas – creating a network of open space. The network includes physical and functional connections that benefit people and wildlife.

Why is this important?

Achieving connectivity will ensure that the contributions of green spaces are optimised. This network aims to anchor sustainable development while maximising health and wellbeing.

Linkages are fostered through enhancing existing assets, creating green spaces that will keep the city cool, encourage healthy lifestyles, enhance biodiversity and ensure ecological resilience.

Connectivity will provide access between places, encourage walking and cycling, highlight landscape and heritage, and support local economies. By providing informal places for people to visit and interact, social capital is created. Future investment in parks and recreation will play a vital role in Sydney's ability to attract business and create jobs.

Design actions

a. Consider green space networks at multiple scales – including regional, city and local

b. Investigate and enhance physical and functional connections between different green spaces to create an interlinked system – the whole is greater than the sum of its parts

c. Design networks that serve humans and wildlife. Link physical sites that support ecological and social connectivity

d. Enhance ecological connectivity through the restoration and conservation of urban ecology through regulating water flow or climate functions

e. Enhance connections to recreational trails, particularly in and around high-density precincts

f. Increase planting along stormwater, gas and power easements, main roads and rail corridors

g. Enhance streets by planting alongside all available footpath locations

Connectivity

Disused railroads have provided an opportunity for new public space in many cities around the world. Rail lines have been transformed into urban parks with multifunctional uses that provide new spaces in the city, as well as connecting people along a pathway.

The High Line, New York City by James Corner Field Operations, with Diller Scofidio + Renfro

An elevated linear park created on a disused railroad. The success of this project has pushed cities to re-imagine obsolete infrastructure as public space. Source: Novak Hunsky. www.flickr.com/. https://creativecommons.org/licenses/by-nc/2.0/au/legalcode.

The Goods Line, Ultimo by Aspect Studio

A green open space connection utilising a disused rail line from Central Station through to Chinatown and Darling Harbour as well as connecting to UTS, The ABC and Sydney TAFE. Source: Florian Groehn.

The 606, Chicago, by Michael Van Valkenburgh Associates

The 606 is a former east-west railway line known as the Bloomingdale line, Chicago. The new design brings together arts, history, trails for cyclists, runners and walkers, event spaces, alternative transportation avenues and green open space for the community. Source: John Zacherle. www.flickr.com/photos/jkz/18533188342 https://creativecommons.org/licenses/by-sa/2.0/legalcode.

The West Toronto Rail Path, Toronto by Scott Torrance Landscape Architect Inc. with Brown+Storey Architects Inc.

Phase 1 of a multi-use trail utilising a disused rail line, developed and funded by the City of Toronto, for bicycle and pedestrian use by local area residents. Source: Sam Carriere. www.flickr.com/. https://creativecommons.org/licenses/by-nc/2.0/legalcode.

PRINCIPLE 3.

Multifunctionality

Multifunctional green spaces should be high quality and high performing, producing ecological, social, environmental and economic benefits. Multifunctionality represents the ability of Green Infrastructure to deliver multiple ecosystem, environmental and other services simultaneously.

Why is this important?

Green Infrastructure projects can deliver multiple objectives; they can frame and shape the growth of sustainable communities to strengthen their image and identity; they help cities to adapt to climate change by reducing flood risk and overheating; they promote access to open space, nature, culture and sport, improving the offer to visitors and quality of life for all.

Design actions

a. Understand and support the development of multifunctional landscapes that offer ecological, socio-cultural and economic benefits

b. Determine a clear understanding of user needs and demands to understand the requirements for multifunctionality

c. Design spaces that foster interaction and stewardship, community identity, sense of connectedness and community capacity

d. Recognise the value of existing landscape performance via improved connectivity, stormwater management, flood mitigation, biodiversity, and environmental quality

e. Ensure that the parks within our cities contribute to the value and understanding of place

f. Create open space as part of urban renewal that connects and enhances the new project through high quality, high performing green space

g. Use the value of public art by integrating public art into green projects

Multifunctionality

Sydney Park is an exemplar for multifunctional design, incorporating water re-use initiatives, recreation activities, public art, biodiversity, and community gardens into the wider masterplan, and also in each individual area as designated below.

Sydney Park Water Re-Use Project by Turf Design Studio & Environmental Partnership

One of City of Sydney's largest environmental projects to date, built in partnership with the Australian Government through the National Urban Water and Desalination Plan. This project showcases water re-use, recreation, biodiversity and habitat all integrated within the physical fabric of Sydney Park. Source: Ethan Rohloff Photography.

Sydney Park Playground by JMD Design

The playground design enhances passive and active play and learning opportunities within the park, while also considering the park's overall ecological and hydrological function. Source: Brett Boardman.

Sydney Park Children's Bike Track by Turf Design Studio & Environmental Partnership

This adventure-style bike track moves away from the conventional bike track layout and shifts the focus towards play and learning to ride. It incorporates barbecue and picnic areas, a refueling station, new trees and planting areas. Source: Turf Design Studio.

Water Falls, by Turpin + Crawford Studio

Part of the Sydney Park upgrade, water falls in an integrated environmental artwork, and part of the Sydney Park Stormwater Harvesting plan. The artwork recycles water throughout the wetlands, piping water through the sculpture and into the pond below. Source: Ian Hobbs Media.

PRINCIPLE 4.

Participation

Participation relates to a planning process that is open to all and incorporates the knowledge and needs of diverse parties. It involves stakeholders in the development and implementation of neighbourhood, local, district and regional Green Infrastructure policies and actions.

Why is this important?

Better solutions often appear when a diverse set of people participate. Embracing diversity and collecting knowledge, opinions and perspectives from a wide range of users such as community, workers, and visitors will provide more balanced, and inclusive solutions for communities.

Greener Places advocates for community involvement as well as participation across government agencies including at state and local levels. Creating a network of Green Infrastructure requires collaboration from multiple agencies and user groups. Shared knowledge and resources will benefit the long-term planning of green networks throughout NSW.

Design actions

a. Enable as many different government and community groups as possible to contribute in design and planning processes for Green Infrastructure projects

b. Discover and balance the interest of many different stakeholders to maximise the benefits of proposed green space

c. Improve equity of access to green space services by considering the needs, values, motivations, uses and barriers to engagement with various cultures and user groups

d. Encourage the use of currently underutilised open space corridors for local community use

e. Create accessible spaces for all members of our community, such as inclusive playgrounds. Inclusive playgrounds are designed to respond to the need for recreational opportunity for all people regardless of differences in abilities, age, gender or culture. Each playground represents a unique opportunity to enhance outdoor recreational experience for the whole community

Participation

There are many ways participation can be incorporated in planning for Green Infrastructure, including creating places for community gathering, stakeholder workshops, community facilities and community consultation.

Creating places for community gathering

Spaces that promote equity of access create community value.
Civic Park, Newcastle.

Stakeholder workshops

Embrace diversity and collect knowledge, opinions and perspectives from a wide range of user groups. The best solutions often appear when a diverse set of people with disparate views collaborate. Source: NSW ARB.

Community facilities

Engage the community and observe culture, habits, and lifestyles.
Lizard Log Playground, Western Sydney Parklands, by McGregor Coxall.
Source: Simon Wood.

Community consultation

Involve relevant stakeholders and communities, and consult widely within a variety of disciplines.

2.2 Outcomes

What will an integrated, connected and multifunctional Green Infrastructure network look like?
The following projected outcomes will assist in the assessment of design proposals and are applicable at any scale, from and address the range of issues and considerations that should be taken into account when making decisions about development.

Conservation of the natural environment

— Protection and enhancement of natural resources and biodiversity by improving the quality of watercourses, creating green habitat corridors and protecting endangered ecological communities
— Promotion of social, cultural, recreational and educational opportunities within natural, cultural and heritage landscapes.
— Restoration and enhancement of wetland habitats and increased accessibility to them
— Creation of new ecologies that support biodiversity such as constructed wetlands and green roofs.

Increased access to open space

— Improved connections to regional destinations, foreshores, beaches and bays and continued investment in major parks and associated Green Infrastructure
— New open space allocation forms a part of urban renewal projects, infill development and infrastructure projects
— Equitable distribution of open space forms the basis for a well-connected and accessible network as well as ongoing investment in high quality parks and public domain
— Quantity, quality, distribution and accessibility of green space enables the delivery of multifunctional open spaces that promote healthy lifestyles
— Provision of a diverse range of outdoor space for cultural, educational and community activities, including productive landscapes
— Provision of high performing open spaces which foster synergies between recreation, climate change adaptation and biodiversity conservation.

Improved connectivity to promote active living

— Improvements to the public domain that promote exercise and alternative modes of transport such as walking, cycling and jogging
— Protection of priority green corridors that create a network of walking trails, cycle paths and open spaces along river and creek corridors
— Enhanced connections to the Green Grid, particularly in and around high-density precincts.

Increase urban greening to ameliorate climate extremes

— Resilient built environments created through co-ordinated planning and design of green cover strategies including street trees, green walls and roofs, canopy trees, cool pavements and water sensitive urban design
— Green cover to keep our cities cool while providing benefits such as improved amenity, comfort, health, reduced stormwater runoff, improved air and water quality and energy and resource efficiency
— Promotion of the development of underused open space corridors for local community use such as community gardens.

Civic Park, Newcastle

SECTION

IMPLEMENTING

This chapter outlines the approach and methods needed for the successful implementation of Green Infrastructure design principles.

THREE

GREENER PLACES

Prince Alfred Park Sydney, by Sue Barnsley Design in association with Neeson Murcutt.

3.1 Implementation

An integrated, connected and multifunctional Green Infrastructure network is a complex system of parts. Effective delivery requires a clear implementation plan which involves all stakeholders and identifies statutory requirements, actions and funding streams.

Integrating Green Infrastructure into the NSW strategic and statutory planning framework is considered essential, but this alone will not ensure delivery of outcomes. A collaborative and appropriately funded approach is needed.

Effective implementation will require:

— **Statutory measures –** the final **Greener Spaces** policies should operate within the strategic planning framework established in the **Environmental Planning and Assessment Act 1979**. Its consideration should be an early and mandatory component of the strategic growth and infrastructure planning undertaken by State agencies and local councils

— **Collaborative action –** a collaborative approach between government, stakeholders and communities will ensure greater understanding of the importance of Green Infrastructure, ownership of the policy and commitment to delivery of its intended outcomes

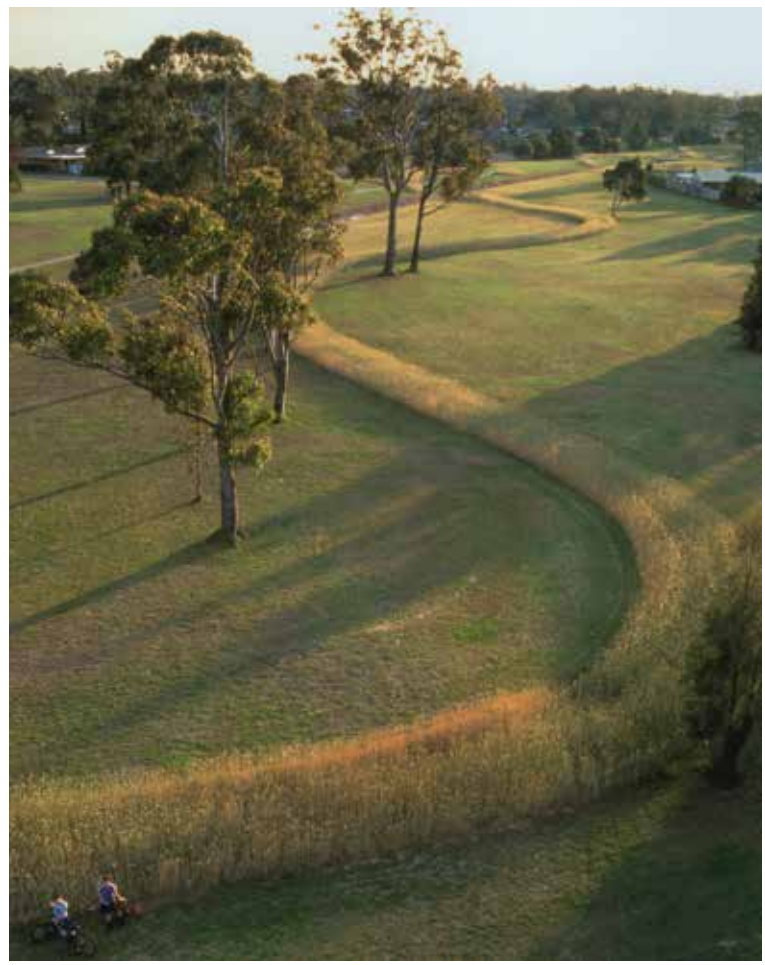
— **Funding –** existing and future funding mechanisms need to be linked and enhanced as required to ensure identified actions are delivered in a coordinated manner by the most appropriate stakeholder.

It is important to note that **Greener Places** is not a 'one-size-fits-all' approach. While it seeks to mandate integrated planning for sustainable Green Infrastructure outcomes, it also provides the tools for local government, relevant agencies and other stakeholders to develop strategies, in collaboration with their communities, that are appropriate to location and circumstance. This will build on the very substantial amount of work already undertaken by many NSW councils.

Restoring the Waters Creek Restoration by Schaffer Barnsley Landscape Architects with Turpin Crawford Studio

The reinstatement of a natural creek system through the removal of a concrete storm water channel has vastly improved the waterway's ecological value and amenity for the local community while still providing flood protection.

The existing concrete storm water channel.



The 'Memory Line', a three kilometer living land art installation that followed the original line of Clear Paddock Creek. As an analogy for the waterway, the community could watch it grow and change over time to build appreciation for natural processes and the benefits of their reinstatement.

Three years on, the Clear Paddock Creek restoration area appears close to its original natural state.

3.2 Statutory measures

It is proposed to implement Greener Places through a package of reforms to existing strategies and policies.

Fundamental to the success of implementation is a shift in thinking so that Green Infrastructure is considered essential infrastructure making it part of up-front strategic land-use and infrastructure planning undertaken by the Department of Planning and Environment, Greater Sydney Commission, other agencies and councils.

Proposed statutory reforms include:

— Inclusion of Green Infrastructure strategic planning outcomes and requirements in regional plans (including the Greater Sydney Regional Plan) and district plans with Green Infrastructure considered as essential infrastructure

— Inclusion of Green Infrastructure in Land Use and Infrastructure Plans, Priority Precincts and with funding though Special Infrastructure Contributions (SICS) where appropriate

— Issue of manuals, toolkits, planning circulars and planning practice notes providing advice to councils and other stakeholders about the requirements for preparing open space strategies, urban bushland and waterway strategies and urban canopy cover strategies, in accordance with Green Infrastructure, and providing advice about preparation of planning proposals and LEPs to give effect to regional and district plans

— Monitoring and reporting of **Greener Spaces** outcomes and projects through the Department's People and Places dashboard, using State and local government data and ongoing audits of open space, urban bushland, waterway health and urban canopy cover

— Development of model council DCP clauses regarding Greener Places requirements to assist councils in implementing the requirements of the policy and related guidelines at the local level.

Civic Park, Newcastle.

3.3 Collaborative government action

Collaborative action will be required to ensure Green Infrastructure is integrated, connected and multifunctional, and that all affected stakeholders participate in implementing the policy.

Green Infrastructure outcomes must be accessible and protect and enhance environmental assets and build resilient communities. Collaborative action will facilitate these outcomes. Indicative, high level actions are set out based on the four principles of Green Infrastructure. These will be refined with more detailed actions through the consultation process.

A series of workshops with government agencies, peak bodies and all relevant stakeholders will be held in order to:

- **Finalise the key actions for implementation of the Greener Places policy**
- **Assign relevant outcomes for each action in order to measure and evaluate**
- **Assign lead agencies to instigate policy actions**
- **Identify partners who will work with lead agencies to instigate collaborative change.**

3.4 Enacting Principles

As highlighted in Section 2.1, there are four principles that will help deliver Green Infrastructure in NSW and these are supported by detailed actions.

PRINCIPLE 1.

Integration - combining Green Infrastructure with urban development and grey infrastructure.

Develop a design led approach that facilitates multi-agency cooperation.

Develop legal and political mandates for grey and green integration.

Integrate the Green Infrastructure policy framework into the NSW Strategic Planning Framework including Regional, District and Land Use and Infrastructure and Strategic Implementation Plans.

Align the Green Infrastructure network with NSW infrastructure and urban renewal initiatives, particularly longer-term transport plans.

Collaborate with water authorities to maximise the opportunity to deliver Green Infrastructure benefits along waterways and stormwater channels.

Work across government agencies to incorporate Green Infrastructure in all major urban renewal plans and priority growth areas.

Ensure that strategic plans recognise and support natural assets such as National Parks, public bushland and waterways.

Minimum ISKA rating for federally and state funded projects to encourage a global standard of integration of natural and physical infrastructure.

PRINCIPLE 2.

Connectivity – creating an interconnected network of open space

Ensure co-operation with all stakeholders to deliver equitable access to regional, district and local open space.

Encourage alternative modes of transport such as walking, cycling and jogging both in urban areas and along river and creek corridors through improvements in the public domain and priority green corridors.

Protect and improve priority green corridors.

Parramatta Park.
Source: Parramatta Council

PRINCIPLE 3.

Multifunctionality – delivering multiple ecosystem services simultaneously, as well as providing added value, and improved health and wellbeing.

Work with state agencies, local councils and other stakeholders to combine different Green Infrastructure functions to enhance the capacity of urban green space to deliver multiple benefits for humans and wildlife.

Ensure that the quantity, quality, distribution and accessibility of green space enables the delivery of multifunctional open spaces that meet community needs, promote active and passive recreation, flood and stormwater management and biodiversity improvements.

Ensure that urban renewal facilitates 'multifunctional thinking' to improve green space quantity and quality in dense areas, to meet multiple needs such as ecological functions, and social needs.

PRINCIPLE 4.

Participation – the involvement of stakeholders in the development and implementation of neighbourhood, local, district and regional Green Infrastructure policies and actions.

Develop design led planning processes that empower communities through collaborative design processes and public participation design.

Develop consultation processes which engage a broad section of the community, with a special emphasis on vulnerable communities including young people, women and minority groups.

Develop open space strategies in every local government area to ensure equity of access to green space for all social groups.

Encourage community involvement with projects at a neighbourhood level to engage citizens to take action in their direct surroundings and strengthen social cohesion.

3.5 Funding

Identification, integration and coordination of funding streams from federal, state and local government sources will be essential to deliver a Green Infrastructure network for NSW.

Existing Green Infrastructure funding sources include:

- **Grant programs**
- **Council Section 94 contributions plans**
- **Special Infrastructure Contributions (SIC)**

There are multiple grant programs for differing purposes (acquisition of land for open space and linkages, embellishment of open space, sporting facilities, cycleways, biodiversity enhancement, water quality enhancement, bush regeneration etc) run by state government agencies, local councils and NGOs.

The Department will conduct an audit of all existing funding programs to understand their extent, purpose, triggers and timing to identify potential opportunities for coordination, and gaps.

Embedding Green Infrastructure as essential infrastructure in the NSW Strategic Planning Framework facilitates improved coordination of funding programs across regions and districts.

New or enhanced funding streams will be investigated. The Department will work with state agencies and service providers to re-direct existing grey infrastructure funding to Green Infrastructure alternative solutions, where they can be shown to be better performing by providing multiple benefits.

In conjunction with the Office of Environment and Heritage, the Greater Sydney Commission and selected councils, the Department will undertake pilot urban canopy projects and greenspace linkage projects, with a view to rolling similar projects out across Greater Sydney and other regions.

Stakeholders for Green Infrastructure funding include:

- State government agencies
- Councils
- Industry and peak bodies
- Private sector.

Key existing NSW Government funding programs include:

- The Metropolitan Greenspace Program
- Environmental Trust grants program
- Sydney's Walking future and Sydney's Cycling Future programs.

3.6 Monitoring and reporting

Monitoring and reporting of policy outcomes is essential. Monitoring and reporting will be achieved through mandatory reporting on implementation of regional and district plans and LEPs, and through the Department's People and Places dashboard.

Embedding Green Infrastructure delivery into the NSW strategic planning framework means it becomes part of the regular and mandatory monitoring and reporting of strategic plans. For example, standard review mechanisms for regional plans include:

— **An Annual Monitoring Report –** to report progress on goals, directions and actions

— **Regional plan review –** every 5 years or as necessary, to review goals, directions and actions. The Reviews are informed by the annual monitoring reports

— **An annual implementation plan update.** Every regional plan has an associated implementation plan that identifies priorities and timing for actions - and immediate, short, medium and long term.

Similar monitoring and reporting mechanisms are being developed by the Greater Sydney Commission for the district plans, to be finalised by the end of 2017.

The Environmental Planning and Assessment Act 1979 1979 (EP&A Act) requires that LEPs give effect to district plans. When district plans are finalised, each local council in Greater Sydney must prepare a report identifying what planning proposals will be prepared for relevant district actions and priorities. The NSW Government has recently exhibited proposals for amendments to the EP&A Act that will require review of LEPs every 5 years at a minimum. Therefore, new zonings of land for Green Grid and Green Infrastructure purposes will be monitored as council LEPs are updated to give effect to finalised regional plans and district plans.

Data to be displayed on the Department's People and Places dashboard could include:

— Live Green Grid mapping of information displayed in **A Plan for Growing Sydney and District Plans**

— Known urban canopy coverage and changes and trends in open space provision urban bushland and waterway health and urban canopy coverage by LGA, district and region

— Information on priority and other projects identified in the District Plans, as they are delivered to form linkages and extend the Green Grid

— Monitoring and reporting on grant allocations from multiple Green Infrastructure funding programs.

The Greater Sydney Commission has responsibility for monitoring and reporting on the Greater Sydney regional plan and district plans.

3.7 Next steps

Delivering on this draft policy.

The Government Architect NSW has been charged with leading and delivering initiatives and strategies that will promote well planned Green Infrastructure for NSW.

This work includes:

- Establishing a Green Infrastructure design policy for NSW (**Greener Places** is the draft for consultation) that will provide framework, principles and guidelines for open space and recreation, bushland and waterways and the urban canopy
- Establishing a range of design standards, design guidance and design manuals to support good design practice and outcomes for Green Infrastructure
- Working across government to embed the principles of this draft policy into all relevant policy areas and decision-making processes.

The Government Architect will consult with a range of stakeholders on this draft of **Greener Places** and will review the feedback before finalising the policy in early 2018.

The final policy will include a detailed plan for implementation with actions, timelines and responsibilities and evaluation and monitoring measures and will address a range of funding options with recommendations to ensure the delivery of **Greener Places.**

Civic Park, Newcastle

SECTION FOUR

GLOSSARY

Greener Places sets a standard for the whole of NSW. Key terms of this policy have been defined to ensure consistent language of Green Infrastructure for NSW.

B	
Built environment	comprises the extent of our human-made environment, as distinguished from the natural environment. It includes all aspects of our surroundings made by people that provide the place for human activity. The built environment can be understood to include cities and towns, neighbourhoods, parks, roads, buildings and even utilities like water and electricity.
C	
Case study	a specific building, place or space that has been researched and analysed in order to demonstrate and evaluate its worthiness. A case study can assist in the design of new spaces by understanding best practice as well as lessons learned.
Connectivity	creating an interconnected network of open space
Context	the physical, social, cultural, economic, environmental and geographic circumstances that form the setting for a place or building.
Contextual	a building, place or space that responds to the context in which it is designed.
E	
Equitable	a built environment that is fair and accessible for all citizens.

G	
Greater Sydney Dashboard	is an interactive digital tool that will provide access to key indicators that measure and monitor change across Greater Sydney. It will provide a dynamic view of the current state of play for Greater Sydney on key issues such as jobs and housing to help us understand how we are performing against the directions and strategies in the Greater Sydney Regional Plan and the priorities and actions in the District Plans.
Greater Sydney	is defined as the 33 local government areas of Bayside, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, Northern Beaches, North Sydney, Parramatta, Penrith, Randwick, Ryde, Strathfield, Sutherland, and The City of Sydney.
Green Grid	strategic planning document for the greater Sydney region, and a precursor to the Greener Places policy comprising a cohesive map of green assets across metropolitan Sydney.
Green infrastructure	describes the network of green spaces and water systems that deliver multiple environmental, economic and social values and benefits to urban communities. Refer to Section 1.1 of this document for entire definition.
Green space	an area of grass, trees, and other vegetation set apart for recreational or aesthetic purposes in an urban environment.

Glossary

Grey infrastructure	refers to the human-engineered infrastructure for water resources such as water and wastewater treatment systems, piped drainage and reservoirs.
H	
Healthy	a place or space that promotes positive social, emotional and physical health for its people.
High performing green space / high quality green space	are multifunctional spaces designed to produce concurrent ecological, social, environmental and economic benefits.
I	
Integration	combining green space with urban development and grey infrastructure.
L	
Liveable	a built environment which supports and responds to people's patterns of living, and is suitable and appropriate for habitation, promoting enjoyment, safety and prosperity.
M	
Manual	an instructive document to direct how an action is best performed.
Master plan	a framework document showing how development will occur in a given place and includes building parameters like height, density, shadowing and environmental concerns. It is a visual document that details a clear strategy or plan for the physical transformation of a place, supported by financial, economic, and social policy documents which outline delivery mechanisms and implementation strategies.
Mitigating flooding	the planning, management and control of flood water movement by redirecting flood run-off, that can include physical structures as well as utilising natural assets for landscape retention and catchment management.
Multifunct-ionality	the ability of Green Infrastructure to deliver multiple ecosystem services simultaneously, providing added value, and improved health and wellbeing.
O	
Open space	land that has no buildings or other built structures, which is accessible to the public, including green space.
P	
Participation	the involvement of stakeholders in the development and implementation of neighbourhood, local, district and regional Green Infrastructure policies and actions.
Place	is a social and a physical concept –a physical setting, point or area in space conceived and designated by people and communities. In this sense, place can describe different scales of the built environment – for example, a town is a place, as well as a building can be a place.
Place-making	proposes a multi-faceted approach to the planning, design and management of public spaces. 'Place-making' looks at understanding the local community with the intention of creating public spaces that promote health and wellbeing.
Precinct	a designated area within real or perceived boundaries of a specific building or place. A precinct can be of different scales and usually responds to a study area of a particular place.
Priority Growth Areas	The Priority Growth Areas Greater Sydney are identified by the NSW Government as major greenfield development areas. Information about Priority Growth Areas is available at http://www.planning.nsw.gov.au/
Priority Precincts	areas that have a wider social, economic or environmental significance for the community or have redevelopment potential on a scale that is important in implementing the State's planning objectives. Priority Precincts are envisaged as larger areas, usually made up of multiple land holdings, capable of delivering significant additional growth and requiring coordination from State and local governments to realise their potential.

Glossary

Public realm	is the collective, communal part of cities and towns, with shared access for all. It is the space of movement, recreation, gathering, events, contemplation and relaxation. The public realm includes streets, pathways, rights of way, parks, accessible open spaces, plazas and waterways that are physically and visually accessible regardless of ownership.
Q	
Quality	the standard of something, measured comparatively against things of a similar kind.
R	
Resilient	place or space that can withstand or recover from difficult conditions.
S	
Scale	the relative size or extent of something – scale is a device used to quantify objects in a sequence by size; for example a city scale, or a building scale. In architecture, scale is also used to describe a ratio of size in a map, model, drawing, or plan.
Spatial framework	is a design and research document that is produced to provide background understanding and analysis to a particular area or place. It is completed prior to traditional design stages or master plan phases of a project. The framework follows a process of analysis, data collection and reporting in order to propose a delivery strategy and vision for the area being analysed.
State Environmental Planning Policy (SEPP)	is a statutory plan, typically prepared by the Department of Planning and Environment and endorsed by the Minister for Planning. It can be a spatial plan for particular land in NSW, and/or it can set policy which applies to particular land or all land in NSW.
Strategic plan	document that guides the implementation of a strategy for a particular area.
Statutory plan	is part of the planning process that is concerned with the regulation and management of changes to land use and development.
Sustainable	relates to the endurance of systems, buildings, spaces and processes – their ability to be maintained at a certain rate or level, which contributes positively to environmental, economic and social outcomes.
U	
Urban canopy	the layer of leaves, branches, and stems of trees that cover the ground when viewed from above.
Urban forest	the layer of trees and tree populations that exist in urban settings.

SECTION FIVE

GOVERNMENT ARCHITECT NEW SOUTH WALES

The Government Architect provides strategic design leadership in architecture, urban design and landscape architecture. In this role, the Government Architect supports the NSW Government in delivering quality, managing risk and fostering innovation to maximise public value in the built environment.

The role of the Government Architect is critical in helping deliver good design and planning outcomes across all projects in NSW. This strategic advisory role provides an opportunity to work across government, the private sector and the community to improve social, environmental and economic outcomes for NSW and its communities.

The Government Architect is charged with championing the **Greener Places** initiatives and supporting government agencies and local government to create and deliver high quality architecture and design outcomes..

The responsibilities of the Government Architect are to:

Champion good design and the importance of great places.

Establish policy and practice guides for achieving good design.

Champion design excellence processes for government.

Provide independent, professional and impartial strategic advice particularly for the delivery of public projects, to:

— Cabinet and senior government executives
— Government departments and agencies
— Local government
— Industry and community.

Promote and advocate the value and benefits of good design by:

— Ensuring government has the ability to make informed design decisions
— Developing, supporting and leading design-led processes and building capability
— Strategic commissioning, including ongoing management of the **Government Architect's Pre-qualification Scheme for Strategy and Design Excellence**
— Working to support and better educate industry on the value of design
— Providing advice on performance, procurement and commissioning
— Publishing design guides, case studies and other supporting documents
— Partnering with others to ensure that the objectives of good design are reflected in their processes, policy and project delivery
— Leading the Design Review for important public urban renewal, precincts and buildings.

Undertake research and provide thought leadership on design and the built environment.

Communicate the benefits of good design and design-based processes.

Foster collaborative approaches to improving design across government, with industry and academia.

Support and promote the development of pilot projects that demonstrate the benefits of good design.

Create a culture of learning and share global best practice that tackle design challenges facing NSW.

Support and nurture a culture of good design and great places together with the sharing of local and global best practice.

Government Architect NSW is supporting:

Good design in the built environment

Enabling built environment interventions and developments to contribute to greener places for NSW cities and towns through improved design standards and quality in urban precincts, buildings and spaces.

These projects will be:

— **Healthy** for all members of our communities
— **Responsive** to local context
— **Integrated** with the place, public realm, natural environment and use patterns
— **Equitable,** welcoming and accessible for all
— **Resilient** and adaptable to future change.

Better design processes for projects

Encouraging all new interventions to employ good design, through application of the design objectives outlined in this policy, and effective design and procurement methodologies by:

— Providing a framework to influence creation, governance, appraisal and assessment of projects
— Providing guides for delivery including methodologies (e.g. strategic frameworks), as well as building upon existing design review and advisory processes
— Fostering design thinking, reframing problems, identifying opportunities, and testing scenarios and options early in project and planning processes.

Capacity building

Creating enhanced awareness of the role and value of design, and equipping local authorities and communities with the tools, guidance and references to encourage and demand well-designed urban environments by:

— Fostering a change in design culture – design is not an 'optional extra', but essential from vision to conception to project completion
— Creating a common language for design understanding, review and advice in consistent terms
— Empowering others to champion design and influence the creation of great places.

A stronger design culture and active engagement

Encouraging community interest, participation and investment in better design, planning and development, raising awareness and expectations relating to design, facilitating better design, and supporting advocacy for better outcomes by:

— Encouraging the building industry to communicate and collaborate with local communities
— Providing an informative website where information about design and processes are accessible to all
— Surveying communities to understand their thoughts on design, and to raise awareness about design
— Providing case studies where successful design processes and outcomes have been achieved, so the NSW community can be proud of their great places.

Through a series of collaborative events and conversations, Government Architect NSW promotes public conversations about the value of good design.

SECTION SIX

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For more information on the references used in this document, please see below.

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NSW

Establishing an urban Green Infrastructure policy for New South Wales

Integration
combine Green Infrastructure with urban development and grey infrastructure

Connectivity
create an interconnected network of open space

Multifunctionality
deliver multiple ecosystem services simultaneously

Participation
involve stakeholders in development and implementation

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