Hosted by

Ideas for Sydenham to Bankstown

Workshop Three: Corridor Planning Principles
June 2019

CRC for Water Sensitive Cities

Australian Government
Department of Industry, Innovation and Science

Business Cooperative Research Centres Programme

About this document

This document is the final in a series of workshop outputs that imagine a water sensitive future for the Sydenham to Bankstown Corridor in Sydney (NSW).

This document reviews and refines the draft planning principles that were proposed in report one. These principles relate specifically to the Sydenham to Bankstown corridor, and have been developed as an input into council Local Strategic Planning Statement (LSPS) and Local Environment Plan (LEP).

The principles apply across the corridor, which comprises two local government areas. They provide consistency and a clear vision for water and its role in creating liveable urban places: these principles 'shift the dial' in terms of water cycle outcomes compared with a business as usual approach.

About the workshop

The principles were refined during a workshop on 30 May 2019. Workshop participants reflected upon the two precinct cases studies of this project and how the urban planning typologies developed for each might be implemented in practice..

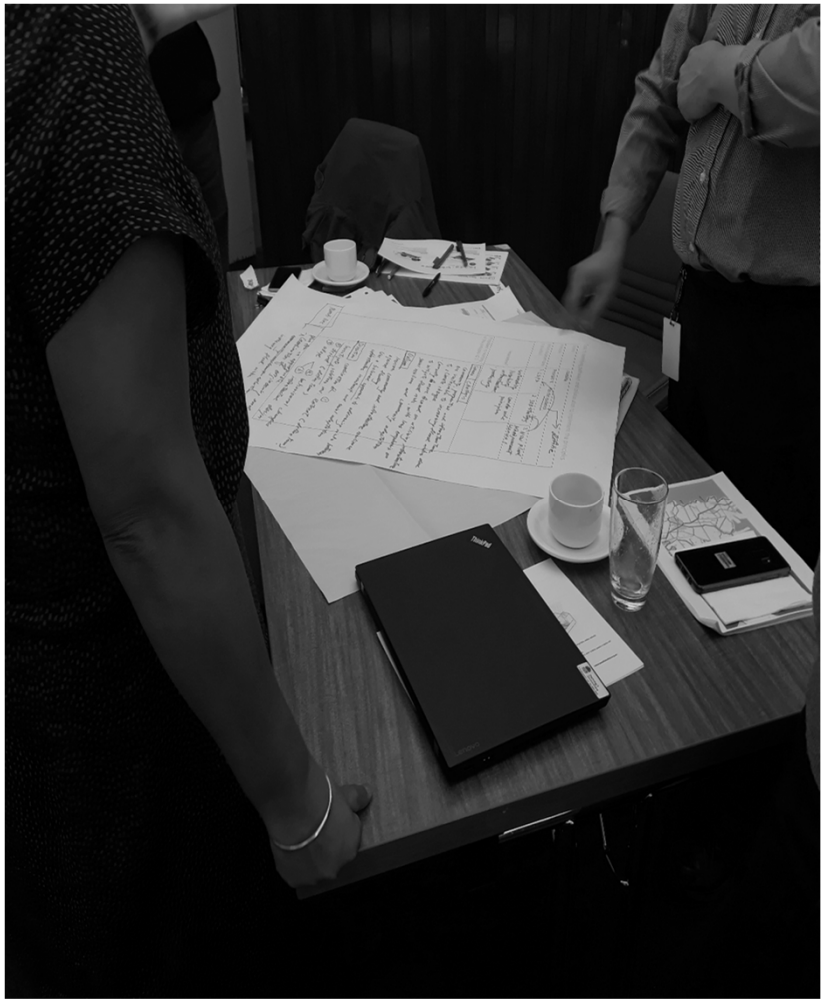
Workshop participants reviewed the principles by asking:

1. Which of the principles "shift the dial" the most?
2. Which can be modified, merged or removed?
3. Are there any gaps in draft principles?

Using these insights, and advice on developing planning principles, a second version was developed with input from multiple technical disciplines. This second version of the principles is presented in this report.

No Status

The planning principles in this report are not endorsed by the organisations which participated in the workshops, and require further discussion with stakeholders before they can be adopted.



WHERE ARE WE NOW?

How might we refine the draft principles based on our experience in each case study precinct?


Context

Draft principles from workshop one

A basis for workshop three discussions

Circular Economy

Principle 1: Measure performance (i.e. targets) of the water cycle, rather than its individual elements.

Principle 2: Regenerative design by reframing wastes as resources, co-location of land uses and building design.

Water servicing

Principle 3: Defer future augmentations of centralised water services systems.

Principle 4: Preference local scale options; use centralised infrastructure as a last resort.

Green lines

Principle 5: Green grid delivers both ecosystem services (amenity, cooling, connectivity) and ecological functions (biodiversity, riparian corridor).

Principle 6: Achieving greening outcomes will be pursued where strategically important, whether in private (e.g. setbacks, building design) or public (linear open space) domains.

Waterway health

Principle 7: Prioritise strategic and collaborative waterway and catchment projects.

Principle 8: Connect the community to their waterways

Flooding

Principle 9: Plan for resilience.

Principle 10: Balance infrastructure resilience and social resilience to avoid over reliance on either.

Activating town centres and public realm

Principle 11: Streets are key infrastructure to achieve canopy, infiltration, and cooling targets.

Building Design

Principle 12: All buildings are part of the catchment topography of the corridor – to harvest water and increase greening.

Communities

Principle 13: Increase water literacy, and encourage water sensitive behaviours, by design.

Principle 14: Enable community interaction with waterways.

Principle 15: Make it easy for community to participate.

Governance

Principle 16: Governance is integrated across agencies and disciplines to provide integrated solutions.

Principle 17: Focus on best-for-community solutions rather than best-for-agency.

Principle 18: Governance will be fit-for-purpose.

How to draft planning principles

Suggested by Simon Ip Dept. Planning and Environment

Objectives

1. Ensure the principles are clear, implementable and effective in guiding detailed planning.
2. Is the meaning of the principles clear and understandable to the different user groups?
    - Step into the shoes of the audience: planners, developers, architects, residents, general public.
    - Written in plain English.
    - Technical / special terms are defined and explained.
3. Are the key ideas behind the principles clearly explained?
    - Provide adequate information to elaborate on the ideas.

Structuring the principle

1. Provide an over-arching statement, supplemented by dot points to explain the ideas.
2. What issues are the principles trying to address? Include the reasons behind for the principle.
3. What are the intended strategic outcomes and broad directions to achieve them?

Suggestion

1. Enable a clear line-of-sight from the higher level strategic plans to the proposed principles.
2. Consider grouping the principles into themes that could be related to the broad directions / planning priorities identified in the District Plans:
    - Liveability (e.g. new developments to encourage community access to the riverfront)
    - Productivity
    - Sustainability (would apply to the majority of water sensitive principles)
    - Infrastructure and collaboration

Reviewing the draft principles

Which ones ‘shifting the bar’?

✓✓✓

Principle 1: Measure performance (i.e. targets) of the water cycle, rather than its individual elements.

Principle 2: Regenerative design by reframing wastes as resources, co-location of land uses and building design.

Principle 4: Preference local scale options; use centralised infrastructure as a last resort.

Principle 16: Governance is integrated across agencies and disciplines to provide integrated solutions.

✓✓

Principle 9: Plan for resilience.

Principle 17: Focus on best-for-community solutions rather than best-for-agency.

Principle 18: Governance will be fit-for-purpose.

✓

Principle 3: Defer future augmentations of centralised water services systems.

Principle 5: Green grid delivers both ecosystem services (amenity, cooling, connectivity) and ecological functions (biodiversity, riparian corridor).

Principle 6: Achieving greening outcomes will be pursued where strategically important, whether in private (e.g. setbacks, building design) or public (linear open space) domains.

Principle 11: Streets are key infrastructure to achieve canopy, infiltration, and cooling targets.

Principle 12: All buildings are part of the catchment topography of the corridor – to harvest water and increase greening.

Principle 13: Increase water literacy, and encourage water sensitive behaviours, by design.

Reviewing the draft principles

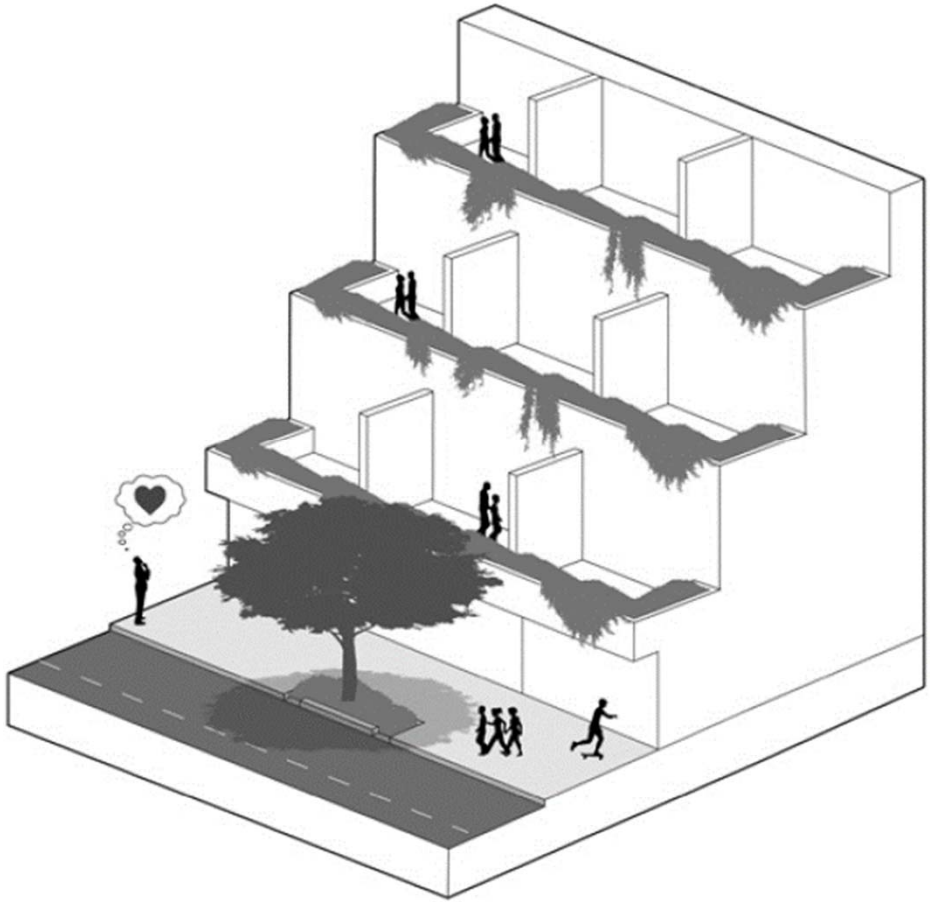
Modifications and evolutions: what's missing?

Modifications

- Expand the definition of resilience beyond flooding.
- Emphasise the activation of public and private realms.
- Water literacy can be achieved by visualising water in the urban landscape - literacy by design.
- Water servicing is presented as a tension between maximising centralised and local outcomes. Solutions exist in the space between these scales.
- Connecting community with their local waterways will enhance participation, and waterway interaction.
- Integrated governance includes the community, rather than needing separate principles for each.

Gaps

- Recognising the natural resource management approaches of Traditional Aboriginal Custodians.
- Waterway health- opportunities for daylighting hidden waterways.
- Social equity - everyone deserves to live in a liveable place.
- The ordering in which strategic planning occurs – start with water, then add roads, built form and density.
- Expanding the definition of public realms to include parks, malls and public squares as well as streets.
- Raising the capacity and capability of the development sector to deliver these principles and typologies.
- Supporting novel proposals by developers that deliver the vision but don't fit current planning rules.
- Shared funding models.



Reflection on the principles and modifications to be made			
		Suggested changes	**Further remarks**
Circular economy	Principle 1	integrate the principle of circular economy into policy frameworks	• currently silo effect between individual elements of the water cycle • need for targets based on evidence for best practice
	Principle 2	clarify the meaning of regenerative design	
Water servicing	Principle 3	define regional strategies for integrated water management, maximising opportunities	
	Principle 4		• preference local scale options
Green lines	Principle 5	change the terminology to "living-corridors" for green and blue corridors, emphasising the multi-functional aspect	
	Principle 6		
Waterway health	Principle 7	reformulate the principle to make it clearer and more understandable	
	Principle 8	add the notion of accessible and valued waterway	• engage and connect communities to waterways

Reflection on the principles and modifications to be made			
		Suggested changes	**Further remarks**
Flooding	Principle 9	conceive resilience as a whole to which urban heat, floods, pollution peaks, social crises belong	• - long-term planning
	Principle 10	articulate resilience around its three fundamental components: communities, ecosystems and infrastructure	
Activating town centres and public realm	Principle 11	link public and private domain for better performance and more comprehensive outcomes	• covering streetscapes • link to green lines principles • providing community link to waterways
Building design	Principle 12		• link to circular economy principles
Communities	Principle 13	clarify the term water literacy	
	Principle 14	give greater importance to the role of communities	• engage and connect communities to waterways
	Principle 15		
Governance	Principle 16		• leads to achieving 17&18 • includes communities 15 • includes projects waterways health
	Principle 17		
	Principle 18		

Planning principles V2

1. Water (blue lines) is the base layer of urban planning

Scale:	Catchment
Challenge:	To let green and blue lines in the landscape influence strategic planning before adding built form, green lines and density.
Benefit:	Regeneration of ecological function and ecosystem services upon which the community relies.
Action:	Identify the water balance, water flow paths and green/ blue assets. Set objectives for these assets. Then add the green systems before progressively adding the built form and density to create the community that aligns with the vision for a place.
Key terms:	Regeneration of ecological function Ecosystem services Water balance Flow paths

2. Make water visible in the urban landscape

Scale:	Local and regional
Challenge:	Poor water literacy is a barrier to community participation and reinforces poor water management practices by individuals. Literacy is low (partly) because water is hidden from sight in urban environments.
Benefit:	Water sensitive behaviours can be achieved "by design' if the urban landscape shows the flow of water, the changes with the seasons and water's role in creating comfortable local environments.
Action:	Landscaping features, information about water and local scale water supplies such as rainwater tanks can be incorporated into urban design. Regional waterways can be daylighted and overland flow paths regenerated with water sensitive urban design.
Key terms:	Water sensitive behaviour Daylighting

3. Community participates in planning, design and creation of their valued places

Scale:	Local
Benefit:	Community understands the link between water sensitive design and liveability. Water literacy increases Citizens implement water sensitive behaviours
Action:	Community engagement includes conversation about water. Engagement teams are equipped with skills and resources to have discussion about water.
Key terms:	Water literacy

4. Land use and infrastructure support the mobilisation of resources in a circular economy

Scale:	Region and precinct
Challenge:	Integrating the consumption of materials, energy, water and food into a cycle rather than a linear input/output system. Circular economy opportunities can be enhanced through the co-location of compatible industries.
Benefit:	Sustainability, economic productivity, jobs, innovation.
Action:	Measure the performance of the water cycle rather than individual elements. Strategic planning identifies industries that support a circular economy.
Key terms:	Circular economy
Targets:	Targets may be set for water reuse, GHE emissions, waste generation or similar. For a land areas such as a catchment or precinct, targets can be based on the resource 'footprint'.
Key terms:	Circular economy

5. Water servicing strategy maximises community benefit before deciding on scale (centralised or local solutions)

Scale:	Multi scale. City scale (centralised), catchment (decentralised) and local (lot)
Challenge:	Water servicing (water supply and wastewater) may comprise solutions at a range of scales. Objectives may include deferring centralised infrastructure upgrades, least cost and/or reusing stormwater and treated wastewater. The best solution is context specific and that which provides the highest community benefit.
Benefit:	Water security which includes reliable supply, safe disposal of wastes, costs and sustainability.
Action:	Planning identifies water servicing (water supply and wastewater) opportunities simultaneously across a number of scales.
Key terms:	Centralised infrastructure

6. A functioning ecosystem is a prerequisite for liveability of place.

Scale:	Catchment/precinct. Living corridors (blue and green) combine into a grid at these scales to shape
Challenge:	Connecting corridors of blue (water) and (green) vegetation at catchment and local scale. The concept of a grid emphasises the interconnections, hierarchy and coverage; the concept of corridors describes the assets themselves which support ecological functions as well as providing ecosystems services.
Benefit:	Healthy ecosystems, liveable neighbourhoods, active transport is encouraged, flood management.
Action:	Incorporate a blue/green gird in strategic planning – to enhance linkages, protect remnant areas and manage edge effects. Use opportunities across private or public domains to create local scale connectivity.
Key terms:	Ecosystem services

7. Plan for engineering and social resilience.

Scale:	Catchment.
Challenge:	Community, property and infrastructure are vulnerable to increasing flood risks, drought and heat waves. Currently, mitigation of these effects focuses on infrastructure with less emphasis on social resilience and community adaptation. Resilience can be achieved more cost effectively using a balance of infrastructure investment and community preparedness.
Benefit: from	Reduced social and economic costs heat waves, droughts, floods.
Action:	Apply a framework such as retreat / defend /adapt through strategic planning. Promote resilient building design. Investment in community awareness and preparedness programs.
Key terms:	Resilience

8. Streets are community spaces. Communities want more from these spaces than providing for cars.

Scale:	Local. The terms 'streets' also refers to public squares, malls, forecourts.
Challenge:	Streets make up a large percentage of the total land area of a precinct, and are already arranged in grids. How then can this land area be harnessed for co-location of green and blue lines while still supporting the primary function of carrying vehicles?
Benefit:	Urban cooling, water quality, active transport.
Action:	Building capacity in local governments by prioritising works in green and blue grid (tree pits, specifications, water quality, health)
Key terms:	Green and blue lines

9. Buildings are part of the catchment topography – providing opportunities to treat, slow, store or harvest water.

Scale:	Local.
Challenge:	Adapting building codes and guidelines to achieve more productive and sustainable buildings
Benefit:	Productivity and environmental efficiency. Catchment water cycle outcomes if applied at scale.
Action:	Apply the principle in urban renewals and defined priority areas. Influence policies to set water and energy targets for buildings and produce incentives for green and blue outcomes
Key terms:	Catchment Topogrpahy

10. Community just sees the solution. Integrated governance ensures this solution is holistic and community focused.

Scale:	Local and regional
Challenge:	Urban development has a silo effect that isolates the different components of the water cycle. It is about delivering holistic solutions, for which the whole is more beneficial than the sum of the parts.
Benefit:	Shared costs and same importance given to green and blue grids as to major urban issues (transport, housing).
Action:	Influence policies and planning documents by integrating typologies and objectives in terms of liveability, sustainability, productivity and infrastructure.
Key terms:	

Key terms

Catchment:
area where water is collected by both natural and urban landscape.

Centralised infrastructure:
designates the water and energy networks implemented throughout the metropolis.

Circular economy:
values resources by keeping products and materials in use for as long as possible.

Daylighting:
restoration a watercourse that has been buried during urbanisation in order to restore its ecosystem and its natural benefits.

Ecosystems services:
benefits provided to human through the transformation of resources or environmental assets into a flow of essential goods and services (Such as clean air, flood control or shade).

Flow paths:
paths taken by water within a space during its runoff.

Green and blue pines:
corridors, patches and nodes of green (vegetation) and blue (waterbodies, waterways) in a strategic plan. Connectivity is critical to ecological function and community benefit, thus emphasising 'lines'.

Regeneration of ecological functions:
restoration, renewal or revitalization of resources that play a role in the functioning of ecosystems.

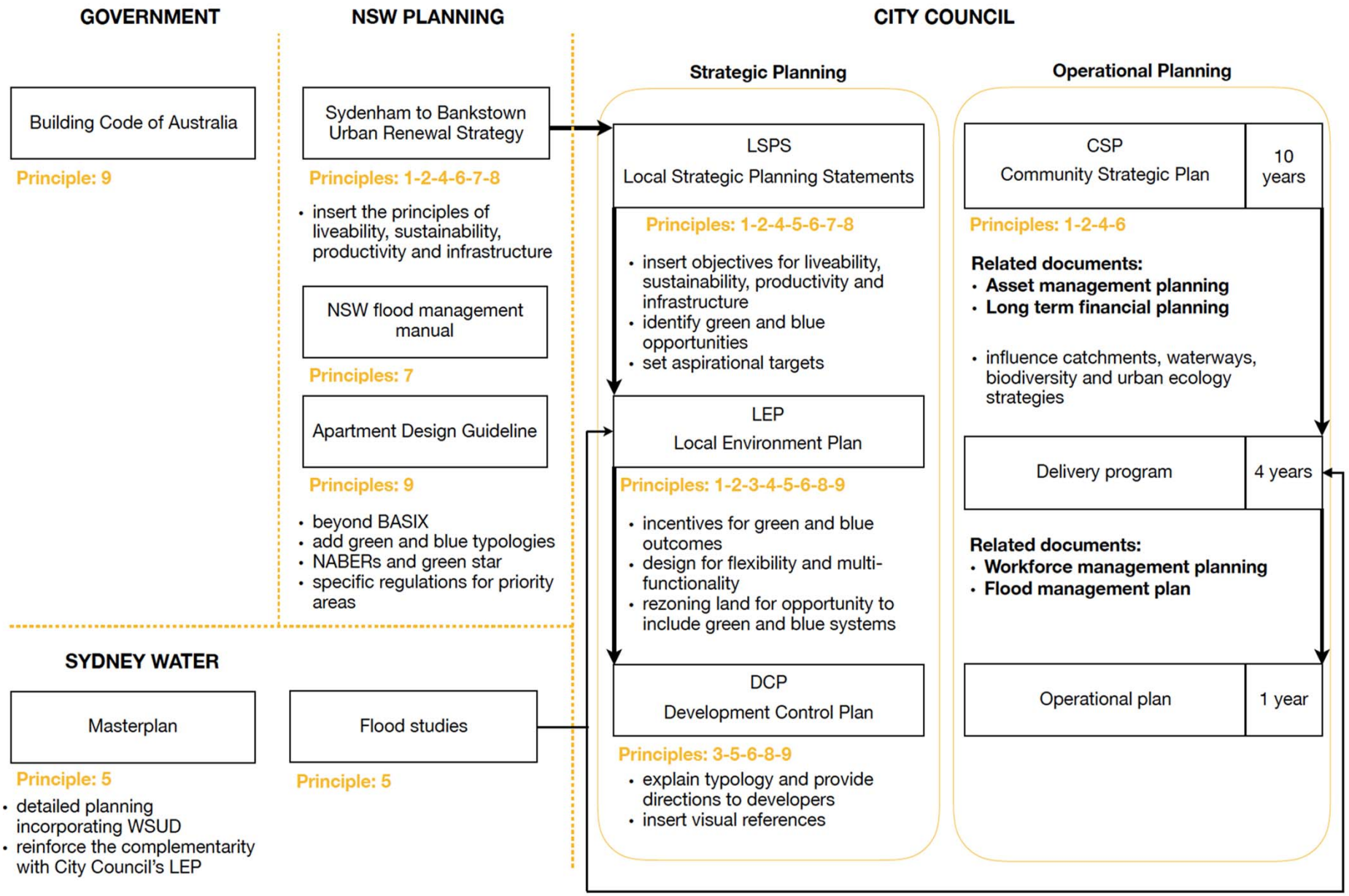
Resilience:
abilisystem and its inhabitants to cope with shocks while adapting positively

Topography:
The horizontal and vertical arrangement of features in a catchment.

Water balance:
accounting for the stocks and flows of water through a system or landscape to identify opportunities with a water cycle.

Water literacy:
community knowledge and understanding about water sources, management and issues

Water sensitive behaviours:
actions and habitats which act to protect water resources in the daily lives of individuals.


GOVERNMENT
NSW PLANNING
CITY COUNCIL
Strategic Planning
Operational Planning
Building Code of Australia
Principle: 9
Sydenham to Bankstown Urban Renewal Strategy
Principles: 1-2-4-6-7-8
• insert the principles of liveability, sustainability, productivity and infrastructure
NSW flood management manual
Principles: 7
Apartment Design Guideline
Principles: 9
• beyond BASIX
• add green and blue typologies
• NABERs and green star
• specific regulations for priority areas
LSPS
Local Strategic Planning Statements
Principles: 1-2-4-5-6-7-8
• insert objectives for liveability, sustainability, productivity and infrastructure
• identify green and blue opportunities
• set aspirational targets
LEP
Local Environment Plan
Principles: 1-2-3-4-5-6-8-9
• incentives for green and blue outcomes
• design for flexibility and multi-functionality
• rezoning land for opportunity to include green and blue systems
DCP
Development Control Plan
Principles: 3-5-6-8-9
• explain typology and provide directions to developers
• insert visual references
CSP
Community Strategic Plan
10 years
Principles: 1-2-4-6
Related documents:
• Asset management planning
• Long term financial planning
• influence catchments, waterways, biodiversity and urban ecology strategies
Delivery program
4 years
Related documents:
• Workforce management planning
• Flood management plan
Operational plan
1 year
SYDNEY WATER
Masterplan
Principle: 5
• detailed planning incorporating WSUD
• reinforce the complementarity with City Council's LEP
Flood studies
Principle: 5

Next steps

Finalising the principles

Revising the principles is a priority to finalise the Sydenham to Bankstown workshop series. Given the number of agencies that are in 'planning mode' over the next 18 months, it is critical that a strong and universally accepted suite of water sensitive principles is available to present water outcomes in planning language. If available and endorsed, these can be readily incorporated into the planning instruments that are currently in development.

The third workshop provided a framework for finalising the principles. This refinement task is iterative and should continue with broader engagement with planners with each Council. Next steps may include:

- Convene a working group to further review and finalise the principles. The CRC for Water Sensitive Cities' NSW Regional Advisory Panel, together with the Cooks River Alliance, can lead this process.
- Briefings to Councils and Executives to gain agency agreement on the draft principles.
- Seek agreement to adopt the principles in the Corridor Strategy by Canterbury Bankstown Council, Inner West Council and Department of Planning and Environment.

Imagine if the principles were endorsed across Sydney …

If a broader discussion can be initiated on the applicability to other planning processes identified in the Greater Sydney Commission's district plans, the principles and typologies could become the basis for water sensitive planning responses to district plans across Sydney. Next steps to advance this include:

- Engage with Greater Sydney Commission to promote the principles as the common water sensitive response to district plans.
- Lead a process to consider what the principles mean across sectors e.g. what it means for developers, planners, engineers. This could be achieved through a workshops series run by the CRCWSC Regional Advisory Panel.
- Structured advocacy for the adoption of the principles in planning policy and practice in NSW more broadly.

Proposed working group participation

- Cook River Alliance (as convener)
- A strategic planner from each council
- A catchment planner from each council
- Sydney Water
- Department of Planning and Environment
- CRC for Water Sensitive Cities