

ARDEN MACAULAY FRAMED THROUGH WATER

DESIGN INVESTIGATION
- STAGE 1
CRCWSC D5.1 PROJECT



CRC for
Water Sensitive Cities



An Australian Government Initiative

INTRODUCTION

In this time of uncertainty and ambiguity brought on my increasing openness of economies, culture, and ecologies, we need to re-invent our relationship with water. Should we look to the past, present and future and ask if in seeing water somewhere rather than everywhere we miss opportunities, practices and lessons that could inform and transform the design project? What role does representation and visualization play in confining water to a place on land? Can we look at projects in history and projects emerging today – cities, infrastructures, buildings, landscapes, artworks – with a cultivated eye for waters everywhere? What is it to see water as not within, adjoining, serving or threatening settlement, but as the ground of settlement?” (Mathur and da Cunha, 2014:x)

This booklet records the first stage of the Arden-Macaulay Precinct Design Investigation that involves design research running over an eighteen-month period. The investigation involves an iterative process in three stages: the first was a series of stakeholder design workshops and parallel design synthesis (April-July 2016); the second is an architectural design studio with Masters students with further associated design research (March-July 2017); and the third is a culmination of all of the research in an exhibition and publication (late 2017).

The overall aim of this investigation is to apply a water ‘lens’ to the redevelopment of the old industrial brownfield site of Arden Macaulay on the edge of Melbourne’s CBD. The location is of strategic importance and has been rezoned to enable high-density housing and other mixed uses, and will enjoy significant infrastructure investment, including a new train station. The project is exploring how both the problems and potentials of the area are intimately linked by underlying water issues, which are being addressed by precinct and catchment-scale thinking.

The work documented here represents the outcomes from first stage which includes: a series of layered GIS maps that reveal Arden-Macaulay and its catchment’s variable water conditions from pre-European times to the present day; material about Melbourne’s lowlands in which Arden Macaulay sits as a theoretical framework for exploring this site; and the outcomes of the stakeholder workshops, combined with design synthesis that envisions and analyses potential change scenarios.

The Arden Macaulay Project is one of a suite of projects in Melbourne, Brisbane and Perth that are part of the Co-operative Research Centre for Water Sensitive Cities (CRCWSC). This Program *Urban Intensification and Green Infrastructure: towards a water sensitive city*. The D5.1 Project is exploring how a design-led approach could synthesise a range of complex issues towards delivering best-practice water sensitive urban design for precinct scale, intensified redevelopment of specific sites. By foregrounding water as a primary driver in planning for the future of areas undergoing significant change, the Project is developing a more holistic view of urbanism that unlocks thinking about water systems in place, and reveals processes for developing climate change resilience in cities as they densify. *Swamped: Future Scenarios for Elwood* was the first of these projects that was completed in 2016.

The starting point of the research is that the topography of the city and its natural water movements shape cities in a series of interconnected systems, both built and natural. Much of water’s movement is visible above ground in waterways, streets and parks, but much of it is also invisible in storm water drains and in groundwater. Natural water movements largely go unnoticed except in times of flood and drought, but are none-the-less continuing all the time in an unseen way. This research is interested in understanding how all water behaves in the city, and how this knowledge might be applied to change the way cities are planned and designed.

There is already much attention from government and industry on Arden Macaulay, due to its citywide significance. Our research differs from this work, largely because it is driven by the CRCWSC’s focus on water sensitive cities; this large research organisation facilitates a more speculative development approach that is not immediately limited by the constraints of government and industry imperatives. As an alternative, it provides ‘a safe place’ for parallel research that considers issues with water at their centre, but that is still grounded in reality.

Looking west towards
West Melbourne Swamp
c.1869



William Street looking north west from Lonsdale Street John Noone - 1869. Collection State Library of Victoria

ARDEN MACAULAY FRAMED THROUGH WATER

When looking at the current situation on the ground at Arden-Macaulay, or indeed anywhere in the city, there is a lot that we do not see. When our starting point is water, the natural forces that formed and continue to shape each location, and the human-made forces that combine with these forces, need to be understood to gain a full picture of the limits and opportunities of a given environment. For this reason, our approach to thinking about the future life and regeneration of the Arden-Macaulay precinct has been to first look backwards into the past, to try to better understand why things are the way they are, and what is the underlying nature or environmental ‘personality’ of this place.

Like many sites of contemporary urban development and expansion in Melbourne, Arden-Macaulay sits in low-lying, flood prone land. As Melbourne outgrows its original carefully surveyed subdivisions on firm higher ground, it is expanding into previous areas of intermittently wet, swampy-marsh territory, with a much less stable nature. This is a situation that is not uncommon worldwide. Most of the world’s major cities are coastal, originally founded around rivers or river deltas for water supply and trade. Thousands of acres of wetlands and swamps surrounding river systems have been eradicated or heavily modified across all of the developed world during the recent period of industrialisation, with naturally dynamic water systems pushed underground, standardised, regulated or diverted. The sometimes-wet, sometimes-dry, intermittent condition of swamps is particularly difficult for traditional western cities to accommodate; however over recent decades and with increasing understanding of climate patterns, the importance of these water spaces for their ecological sustenance, their filtering qualities and for their role as environmental ‘shock-absorbers’ has become more understood.

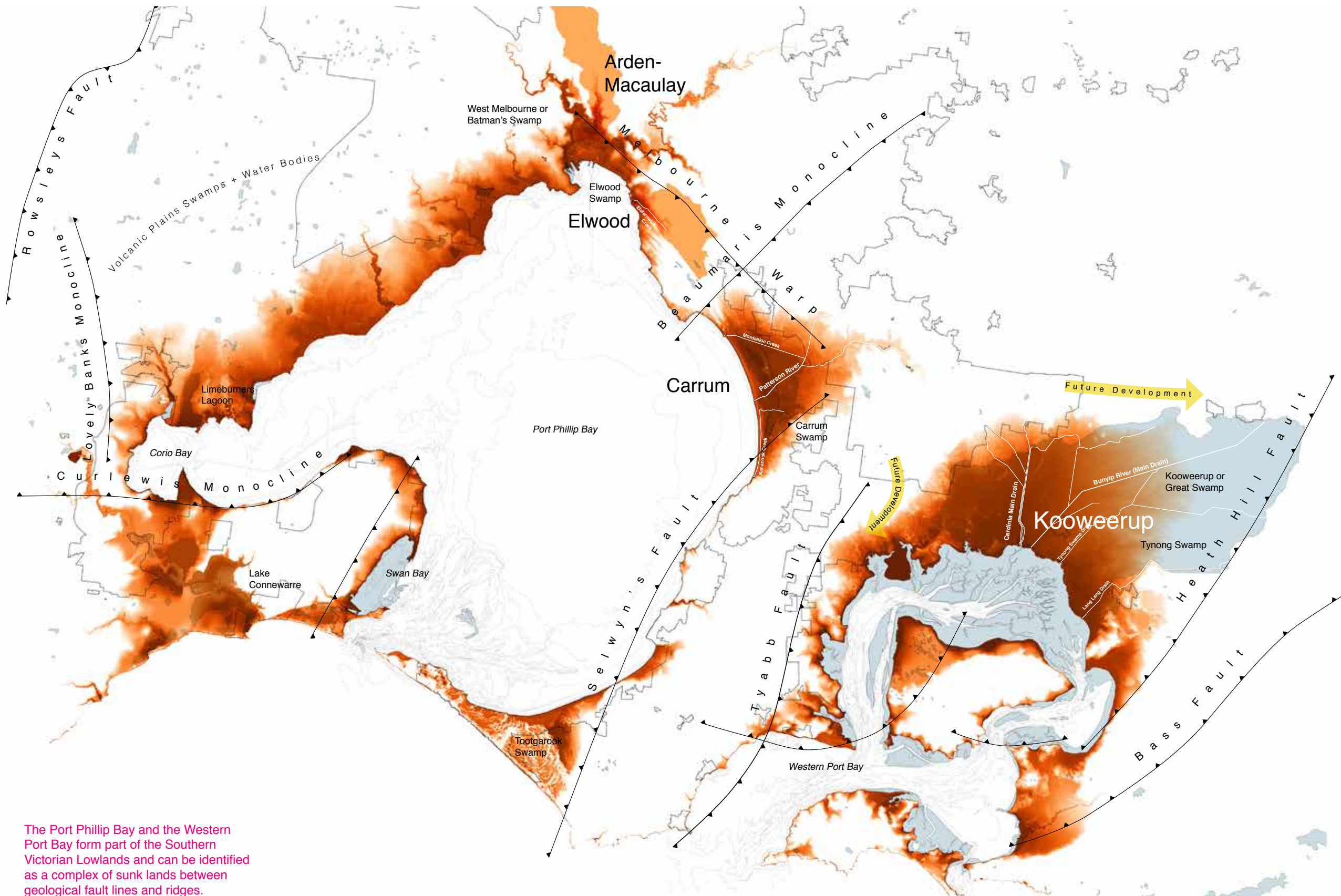
Arden-Macaulay sits at the intersection of two previous water features: the West-Melbourne Swamp (also known as Batman’s Swamp), now largely filled in and reclaimed for railway and port infrastructure; and the ‘Moonee-Moonee Chain of Ponds’, now variously channelised, filled in and known as the Moonee Ponds Creek – its previous floodplain and water bodies the sites of housing towers, parklands and industry. The groundwater table in this area is high and the geology of the delta is largely alluvial silt deposits, now covered by layers of man-made fill. The site is at a geographic hinge – the apex of three geological systems extending west, north-east and south-west – forming a highly mixed and heterogeneous ground condition. Through man-made channels and canals, the Moonee Ponds Creek now discharges directly into the Yarra and Port Phillip Bay. However this was not always the case; the swamp was originally a terminal lagoon, receiving flood waters from the Moonee Ponds catchment and overflowing into the bay only in times of flood. Water has always had a dynamic, vital and strong presence here. The swampland lagoons provided rich plant and animal food sources before the city was founded, when indigenous clans used it as a crossing point between east and west territories, and as an important meeting and gathering place long before the first colonial settlers. Arden Macaulay’s physiographic condition also influences the current web of rail, road and services infrastructure linking the central city through this site to its western hinterland.

The beautiful but fragile, indistinct and amorphous environments of low-lying swamps and wetlands are so easily erased and forgotten under layers of drainage schemes, pipes, engineered fill, levee banks and plantings. This means that, even after reclaiming, their former nature is almost impossible to remember – except in times of flood – so to grasp their particular nuances we cannot rely on just analysing the existing place, but also should look sideways towards other, parallel landscapes with similar features and underlying structures to help build a deeper knowledge base.

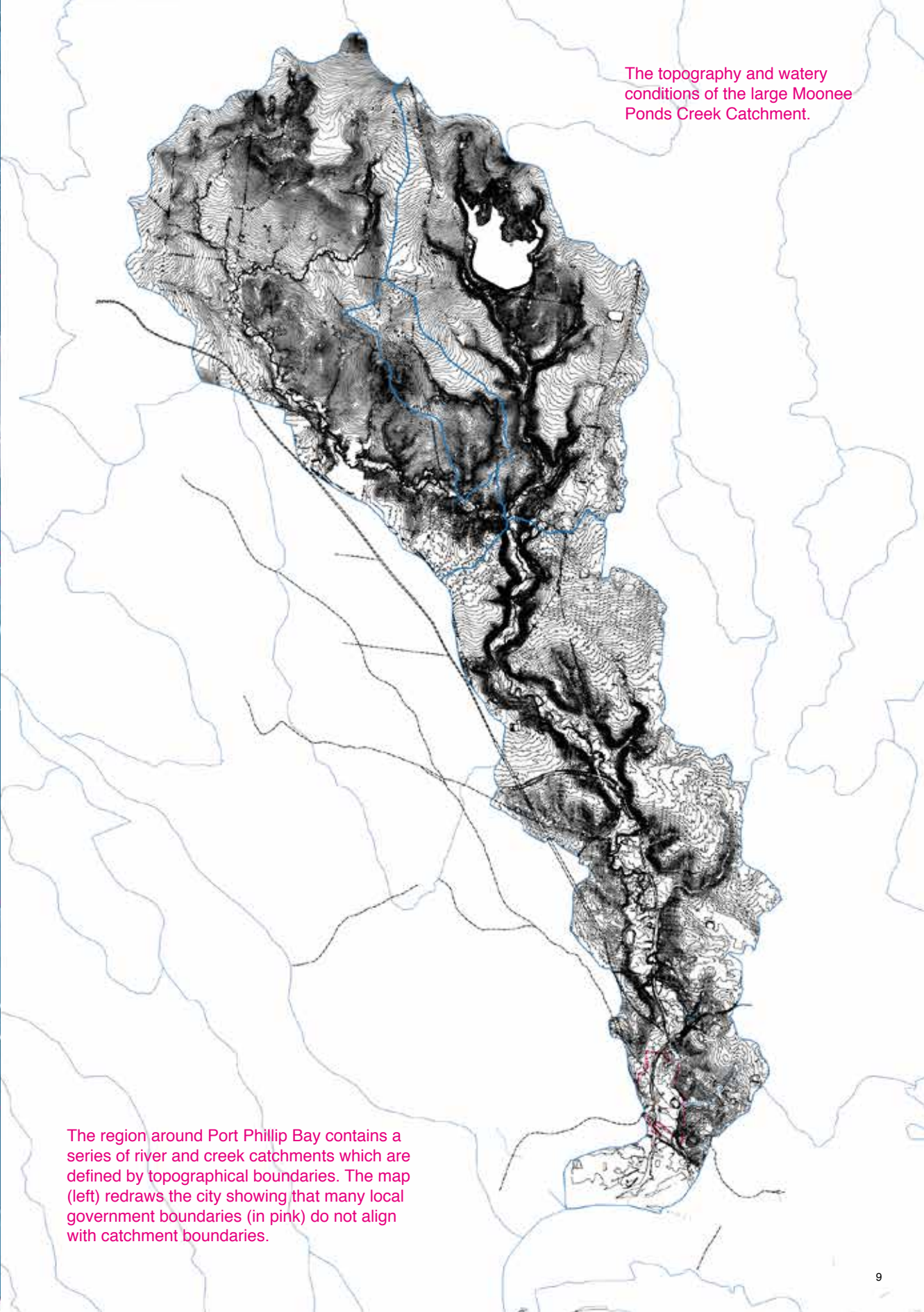
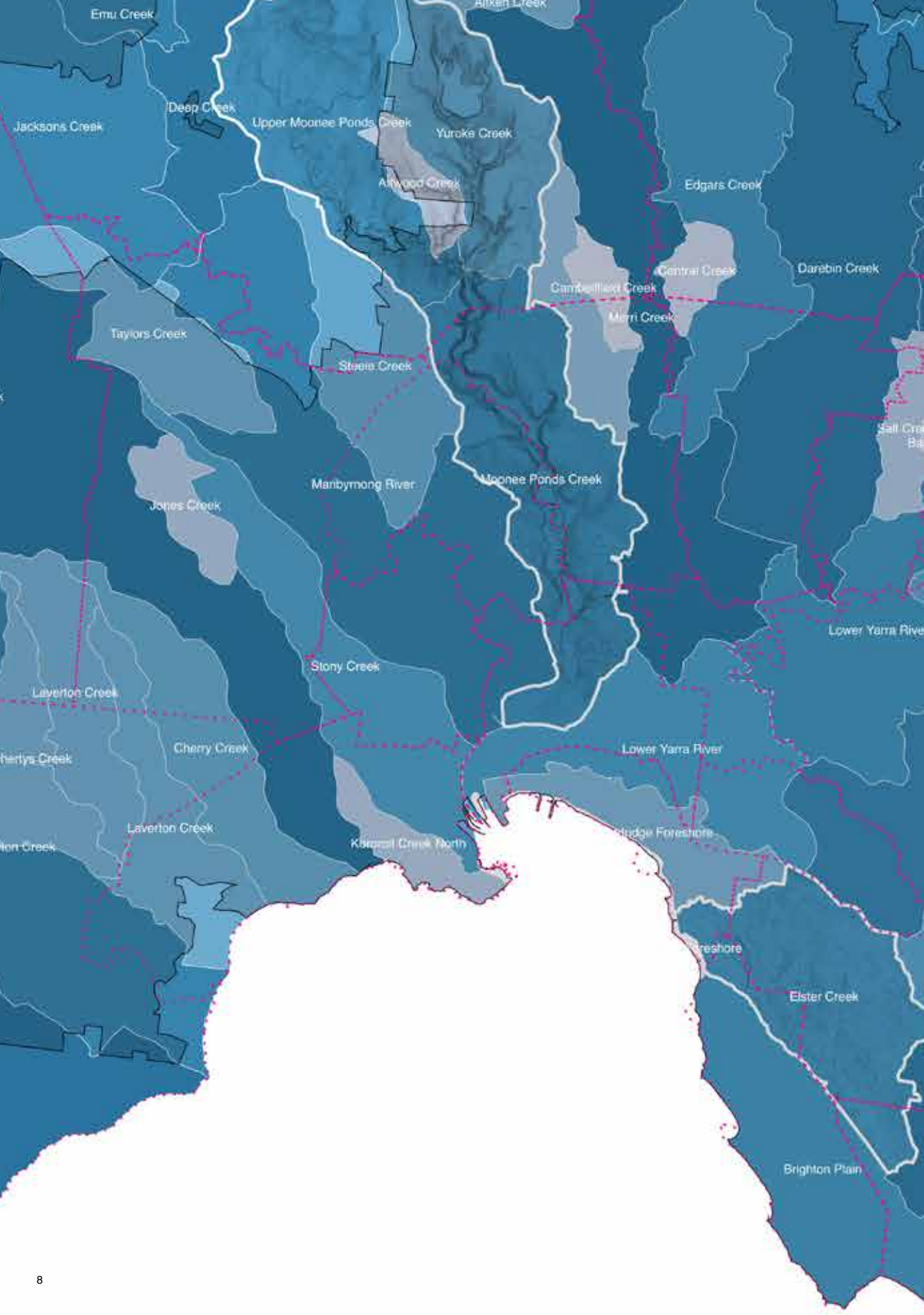
This research project places Arden-Macaulay not only in its relationship to the movement and settlement patterns of contemporary Melbourne, but also, simultaneously, in its relationship to the broader coastal lagoons, ponds and swamps of the Yarra delta and the sunklunds of Port Phillip and Westernport Bays. A sustainable and resilient urban future, particularly one at high density, depends on this understanding, with water at its core. This water moves freely between the underground and the surface, with systemic interrelations between the upper catchment and its lower reaches, and influences outcomes and actions in periods of drought as well as flood.



Photo: Piers Morgan



The Port Phillip Bay and the Western Port Bay form part of the Southern Victorian Lowlands and can be identified as a complex of sunk lands between geological fault lines and ridges.



The region around Port Phillip Bay contains a series of river and creek catchments which are defined by topographical boundaries. The map (left) redraws the city showing that many local government boundaries (in pink) do not align with catchment boundaries.

Early European Settlement Arden Macaulay

For millennia the area was the territory of Aboriginal clans, Woi wurrung and Boon wurrung... these peoples lived in spiritual union with the land, exploiting its abundant resources, and maintaining it... the natural history of the area was a major influence on the occupation and use of the area by humans... the interconnectedness of all elements within the natural world... geology... geomorphic processes that led to the formation of four major physiographic units... topography... climate... hydrology... vegetation.
(Gary Presland, 2016)

Early maps showing the swamp and chain of ponds



Map of part of the colony of Port Phillip
(cartographic material) J Crofts - 1839.
Collection State Library of Victoria



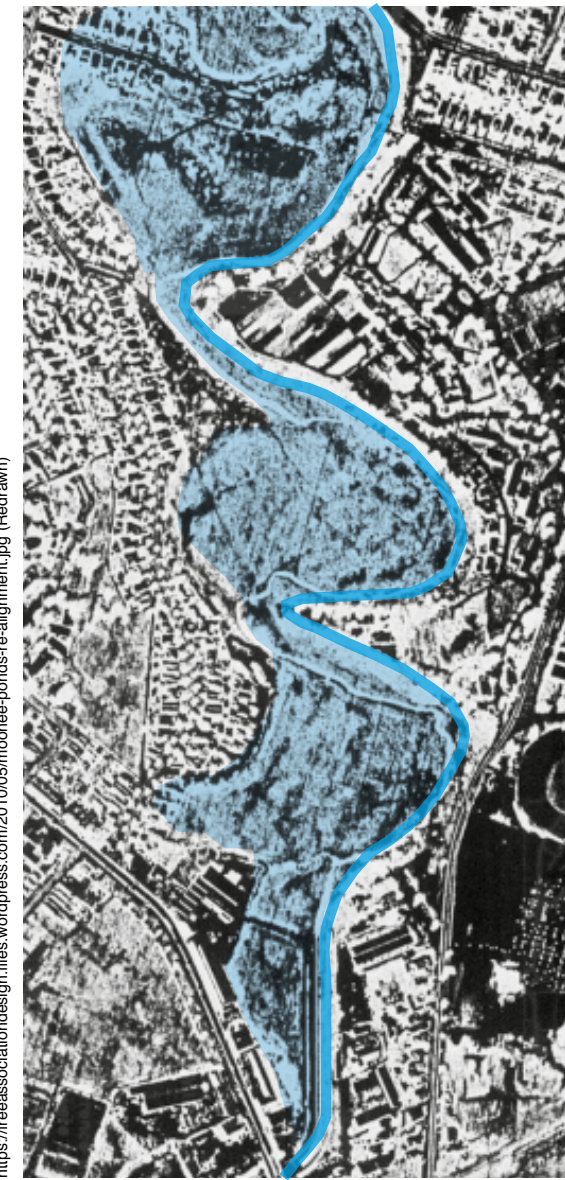
Melbourne and its suburbs (cartographic material)
James Kearney, David Tulloch, James D. Brown -
1855. Collection State Library of Victoria



Doutta Galla no. 15 (cartographic material)
- Author and date unknown.
Collection State Library of Victoria

Robert Hoddle's map of 1837 Moonee Ponds Creek is depicted as a sinuous watercourse with water-holes strung along much of its length... The description of the creek given by Westgarth in 1857 confirms a number of the features noted by Hoddle... "These 'Ponds', as they are called, forming a winding chain of water-holes, afford, close to Melbourne, a genuine specimen of Australian river peculiarities".
(M.M.B.W 1981:16)

20th Century Arden Macaulay



<https://freeassociationdesign.files.wordpress.com/2010/05/moonee-ponds-re-alignment.jpg> (Redrawn)

Reconstructing the environmental history of an urban landscape provides a window into the interaction of natural and social processes through time. This kind of history can be gleaned from historical documents, especially maps and photographs, from verbal descriptions, and from landscapes themselves. Studying environmental change over time helps foster an understanding of urban landscapes as dynamic. It shows how natural processes are significant agents in urban development, and how social and cultural processes are active ingredients of urban ecosystems. (Spirn 2003: 204)

Aerial imagery of Moonee Ponds Creek before and after the alterations to mitigate storm flooding.

Present Day Arden Macaulay

Today Arden-Macaulay is a large urban renewal area of around 144 hectares that is strategically located adjacent to the city of Melbourne. This large area is comprised of a series of precincts that includes a northern precinct rezoned for mixed-use development, a new metro tunnel Arden Macaulay Station that forms part of a precinct at Arden Central, which is predicted to have intensive high-density development around the new station. The area borders the inner-city suburbs of Flemington to the north, Kensington to the west, North Melbourne to the east and West Melbourne to the south and is centred on the path of the Moonee Ponds creek.

Arden Macaulay contains various types of transport infrastructure. The Upfield train line follows the path of the Moonee Ponds Creek while the Broadmeadows train line travels through the western part of the site. The proposal for the new Metro Tunnel locates Arden Station at the southern end of the site. Currently the site has three east-west roads, Arden St, Macaulay Rd and Racecourse Rd that all cross the Moonee Ponds Creek. The elevated CityLink freeway runs north-south through the site predominantly following the path of the Creek.

The recent history of Arden Macaulay's built form is centred on industry, with large sections of the site containing warehouses and other industrial buildings of differing scale, type and quality. Mixed-use urban development is envisaged across the site including high-density development in Arden Central surrounding the new station.

Issues to be addressed include land contamination from previous industrial uses, redevelopment of ageing building assets, the need for new community infrastructure, the ongoing ecological regeneration of the Moonee Ponds Creek system, and the potential impact of major new transport links such as the Metro Tunnel and Westgate road link passing directly through and influencing the area.

The site has both problems and potentials that are intimately linked to macro-scale underlying water issues, which can only be addressed by precinct and catchment-scale thinking.

As seen in the image below, there is already much government and industry focus on Arden Macaulay as evidenced by the numerous reports written. However, none have the particular water focus presented here.





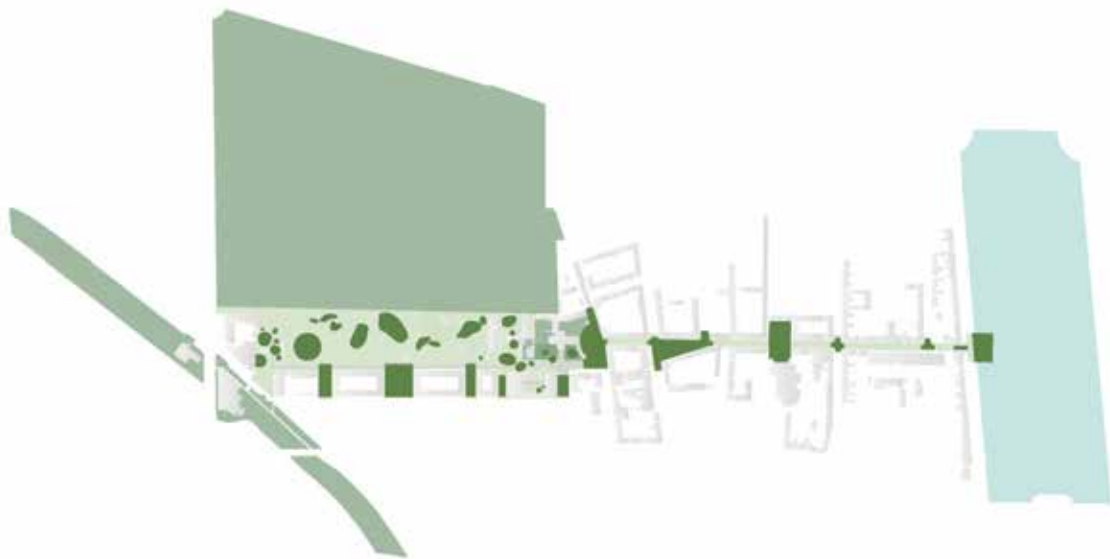
Precedents

These two case study examples show imaginative and resourceful approaches that could be adapted for integrated water approaches in Australian cities.

Hans Tavsens Park, Copenhagen 2016 (SLA Architects)

A new series of public spaces are designed to provide natural protection against flooding and to improve amenity for the entire neighbourhood. Drainage solutions, focused around the Hans Tavsens Park, are designed to re-direct runoff to an adjacent lake via street drainage channels. This combined technical and social solution has a number of strategies:

- The park acts as a large-scale rainwater catchment area with a network of sunken basins.
- A variety of sports courts and fields serve as retention areas during flooding.
- Introduction of water purifying plants to naturally purify water.
- A series of community gardens are established alongside bicycle pathways.
- By allowing water to be drained through street drainage channels as opposed to underground pipes, new micro climates are created.
- Drainage is directed through a school to provide irrigation for its gardens and play spaces.



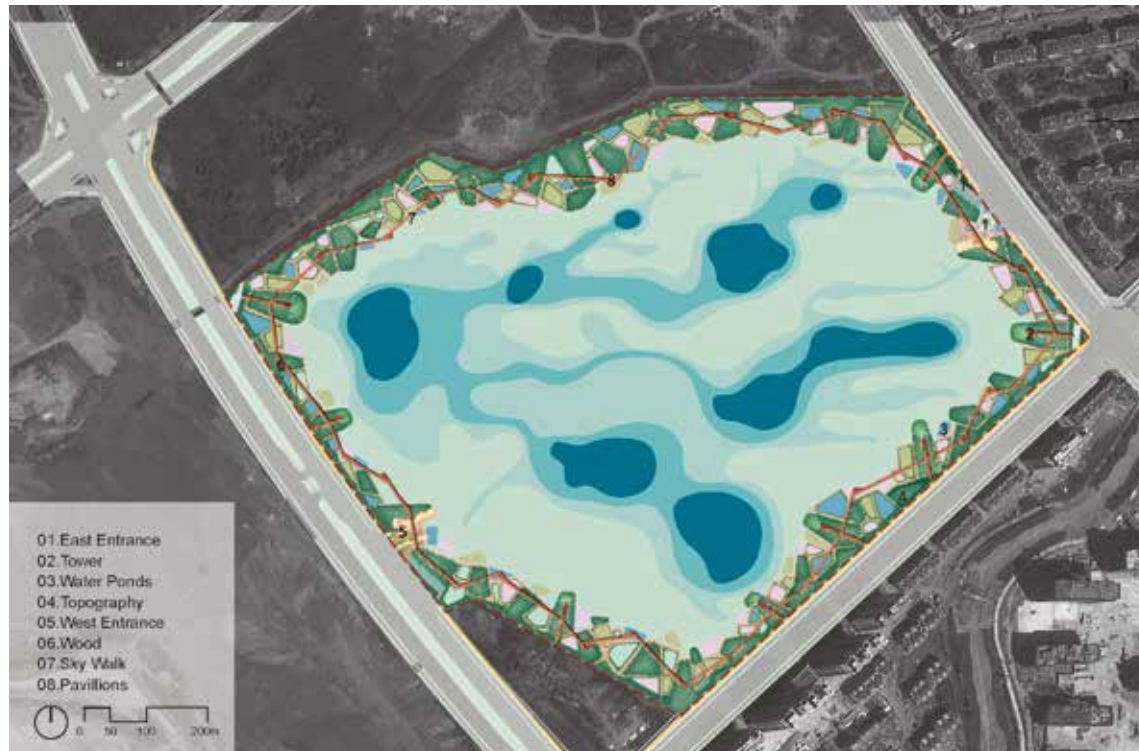
Qiaoyuan Wetland Park, China 2008 (Turenscape - Landscape Architects)

This park is located on a former shooting range and garbage dump with a mix of alkaline and saline soils. The space provides a mediating element between high-density housing, located on the south and east sides, and the highway and overpass on west and north sides. Further benefits include:

- Purification of storm water and improvement to the saline-alkaline soil
- Increased habitat value of the site
- Increased carbon sequestration in the plants and trees
- A reduction in noise level from the highway
- Access to green space for the high number of residents living in close proximity
- Increased economic activity through destination visitors
- Improved ecological awareness and environmental consciousness for users with direct educational opportunities for children from nearby schools.



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ARDEN MACAULAY DESIGN WORKSHOPS

Three design workshops were undertaken in April, May and July 2016. Each of these workshops was attended by around 20 people, who represented CRCWSC Industry Partners and stakeholders including; City of Melbourne, City of Moonee Valley, City West Water, Department of Environment, Land, Water and Planning, Melbourne Water and Victorian Planning Authority, as well as researchers from the CRCWSC. The three workshops moved towards developing a vision for Arden Macaulay by prioritising water issues.

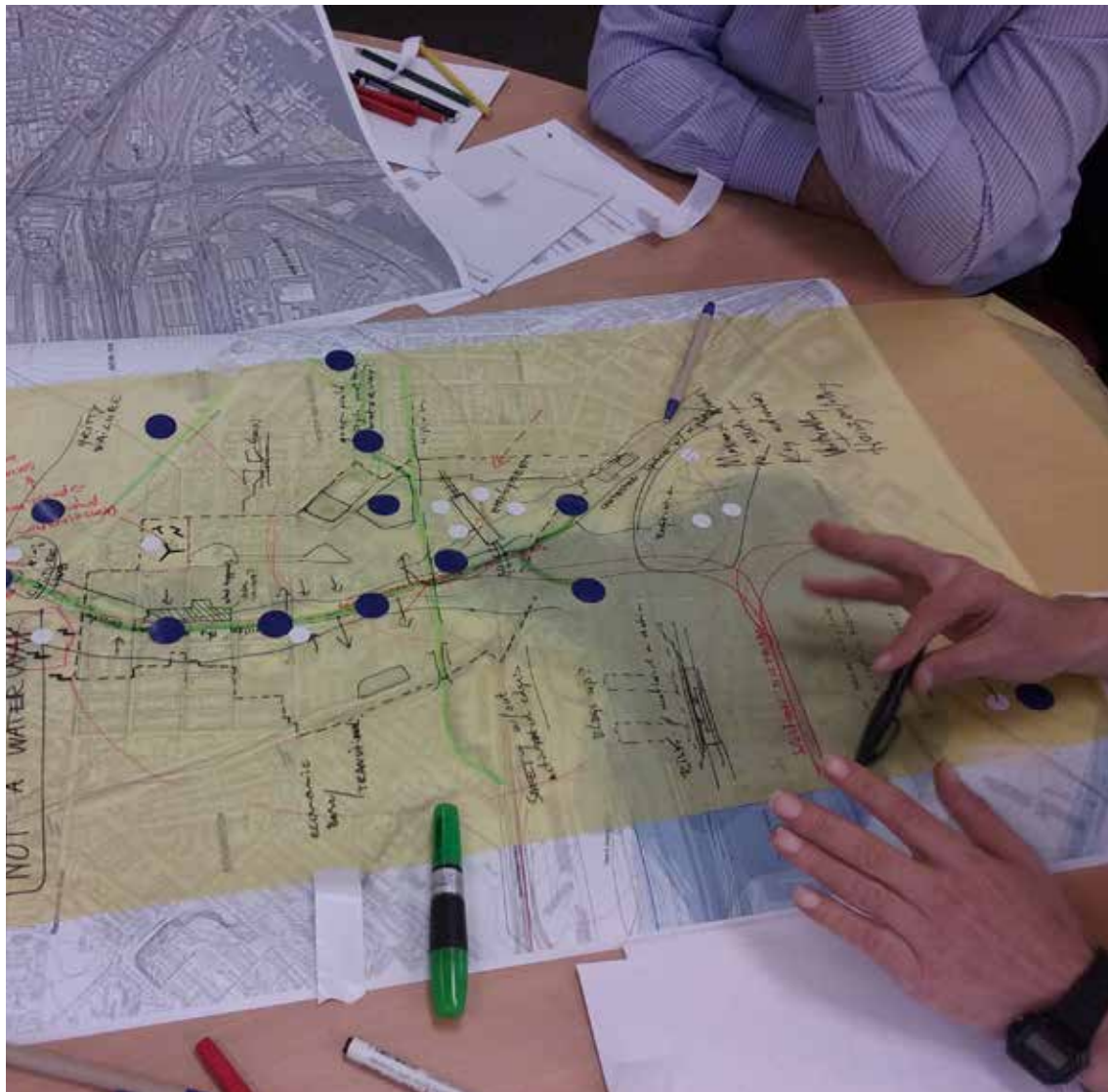


Photo: Gyongyi Engloner

Workshop 1

An alternative 50-year vision for Arden-Macaulay as a water sensitive city in 2066

Based on an engagement model developed by the CRCWSC A4.2 Program (Rogers, 2015), the first workshop asked the participants to develop media headlines for Arden-Macaulay in 2065. The main aim of this session was to get stakeholders to think beyond the current constraints and issues, as they exist today, and to imagine new ways of thinking about this place in the future. Participants worked in groups to develop both dystopian and utopian headlines, which were then collated and summarised around the following five themes (a collection of the headlines are in the brackets):

Theme 1: Infrastructure/planning

- Reacting to rising sea levels (sea walls get higher; barrier in the Bay saves Melbourne; modelling shows that flood risk will continue to increase)
- New forms of quiet transport (port; bikes; electric vehicles; kayaks; car free roads)
- Flood prevention measures working (weirs and levies; Arden weathers downpour; 1/100 year storm does not impact on Arden)
- Regular failure of infrastructure (Melbourne metro 'swamped'; roads down due to floods; Arden goes under; swamp returns and floods)
- Bottlenecks (traffic grid-lock; station exceeding capacity)

Theme 2: Liveability and adapting behaviour

- Growing tolerance and adaptation to flooding (children play in flooding streets)
- Garden suburb (green rooftops for kitchen gardens and cooling; green lung of Melbourne; temperatures 5 degrees cooler; green heat refuge after 5 day heatwave)
- Flexible building types (accommodate flooding; buildings blend into ground)
- New ways to get around (waterfront suburb brings transport modes to the new fore)
- Last sites in Arden Macaulay released (eco/work/live development)
- Most liveable suburb in Melbourne (young filmmakers choose to live here)
- Waterways provide recreation (rowing club wins competition; kayak to shops; sailing regatta; locals go swimming; roads become waterways for motor sports)
- Old systems redundant (roads down and nature returns; old City Link overpass pulled down)
- Intermittent bad flooding (Arden devastated by floods again; residents up in arms; why didn't they plan for this; how many more floods before everyone leaves)
- Health issues (water born contamination)
- Homelessness in Arden (people living under Bridge)
- Big events draw crowds (motor sports to water sports)

Thematic 3: Emerging economies

- New industries leave heavy industries behind (food production breaks records; urban asparagus profits rising; fish farm produces 5% of local needs; academia course in integrated planning; Cancer Research Centre finding cures)
- Adapting past industries through innovation (City West Water sewer mining; flour mill becomes metropolitan bread maker; green concrete production)
- Second generation housing boom (top housing price in most liveable suburb)
- Heritage value-adding (visiting the remnants of old racecourse)
- Suburb is adaptable to new industry demands (investments into WSUD innovation pay off)

Theme 4: Urban ecologies

- Swamp brings rich habitats (bracken and mangroves grow again in salty water; black swan numbers up; highest urban bird population; new frog species; nest of rare bird)
- Water is everywhere (reconstructed swampy backyards; new lake)
- Moonee Ponds Creek is a series of ponds (creek daylighted; natural flooding solutions in large creek area; last of concrete removed after 40 years; Moonee Ponds Creek is at the heart of the community)

Theme 5: Catchment governance

- Moonee Creek Catchment Authority (new government delivery method uses water a lever; upstream works impact on downstream; Arden is engine for clean water)

The visions from these were summarised in the following narratives:

The overall positive vision for 2065 was:

Arden-Macaulay is a beautiful garden suburb to live, work and play in. The area is known for its local urban ecology: wetlands, full of plants and birds, are in the swamp and around the Creek. The widened Moonee Ponds Creek is busy with water transport and other recreational activities. Arden Macaulay is a connected, booming community, with a strong technological economy including local food production, health and tourism. The buildings are weather proofed with gardens on their roofs and floodable ground floors. The green roads are full of bikes and electric cars, and the busy station moves people around the city. The Moonee Ponds Catchment Authority ensures water is clean and recycled.

On the other hand, the negative vision for 2065 was:

The area has had too many bad floods and no one wants to live here anymore. People are leaving in droves, while squatters are moving in to occupy empty apartments. There are health issues that are due to the deteriorating environment and the poor water quality. The damaged streets are barely drivable and the Arden Macaulay station is often closed because of ongoing underground water issues. The old muddy and smelly swamp is back and the Creek often breaks its banks and floods houses. Some roads have completely broken down and are now being taken over by weeds. The regular floods have damaged all of the buildings and there is not enough money to fix the numerous problems. Only 50 years ago no one would have thought this possible.

The positive vision was adopted as a pre-design brief for the next workshop.



Photo: Catherine Murphy



Photo: Gyongyver Engloner



Photo: Gyongyver Engloner

Workshop 2

Connecting the vision to real sites and development opportunities

The second workshop asked participants to consider how the positive vision developed in the last workshop might relate to the constraints and opportunities for Arden Macaulay. Participants worked in three groups that were asked to consider: what will still be there in 50 years; what might be gone; what could be removed/changed? It then focused on the key sites for unlocking the potential of the site, driven by water considerations. From the discussion three scenarios were developed as follows:



Photo: Gyongyver Engloner

Group 1



Photo: Gyongyver Engloner

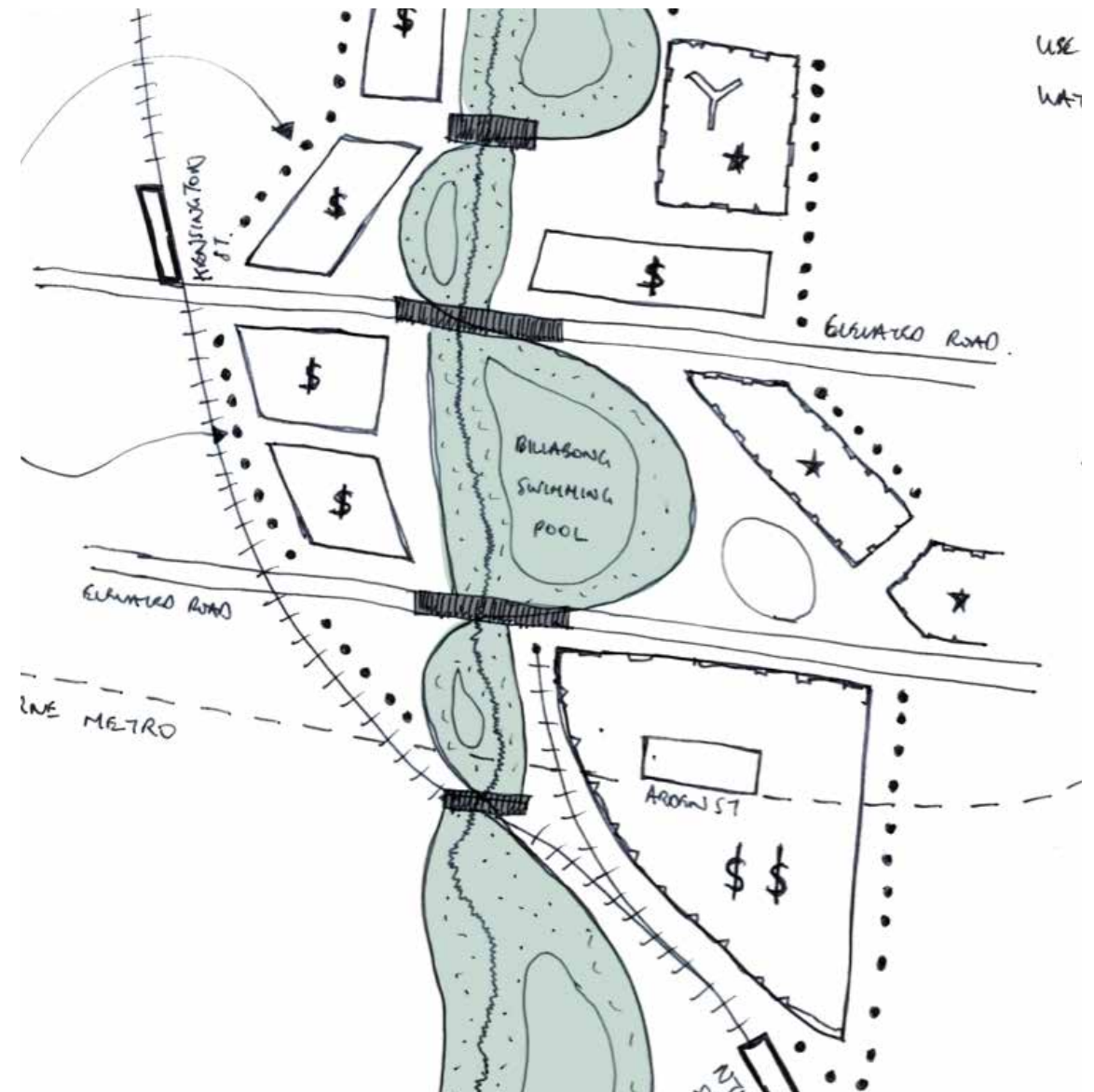
Group 2



Photo: Gyongyver Engloner

Group 3

Group 1: Damns and Locks



Group 1 Map (Redrawn)

- Protect and increase a series of open spaces through the site. These key areas are designated as shared open spaces which are used as a defence against flooding.
- Create a series of dams that use locks to control water flow.
- Build bridges and pathways at a higher level to still function during flooding.
- A perimeter edge of storm water harvesting
- Seek developer and government contributions for open space, a primary school, contamination issues and to repair existing areas of degraded environment.

Group 2: Ponds and People



Group 2 Map (Redrawn)

- A series of ponds with differing identities, designed to attract people and create places for events. Ponds are located in a continuous zone throughout the centre of the site with a loose edge that infiltrates the surrounding urban development.
- Connections between Royal Park and the proposed new green zone between Parkville and the lowland Arden Street apartments as well as through the North Melbourne public housing towers.
- Employment zone centred around the Arden St Station.
- Views to billboard buildings to captivate CityLink users.

Group 3: Industrial Transformation

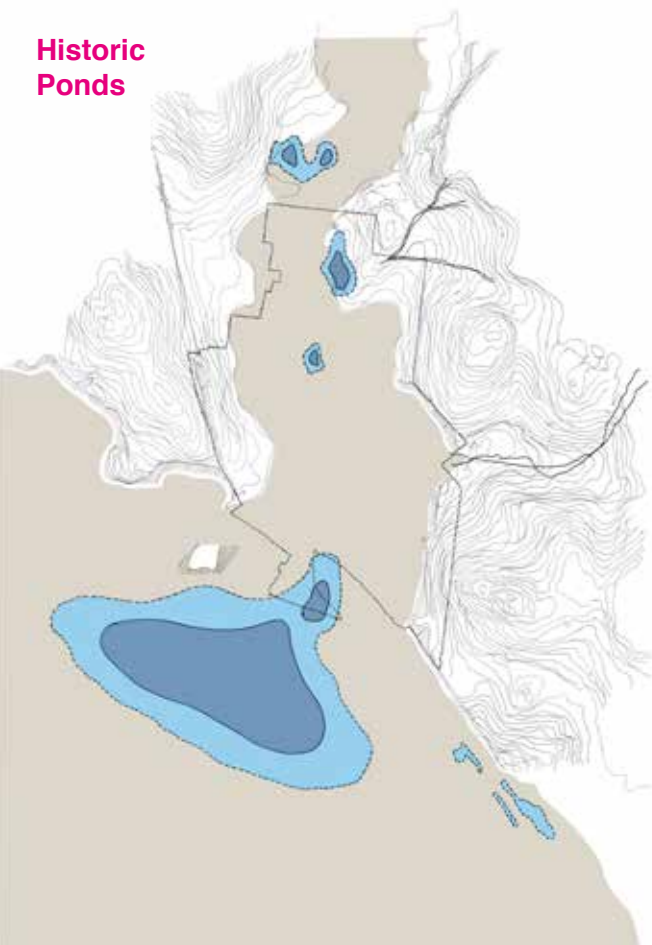


Group 3 Map (Redrawn)

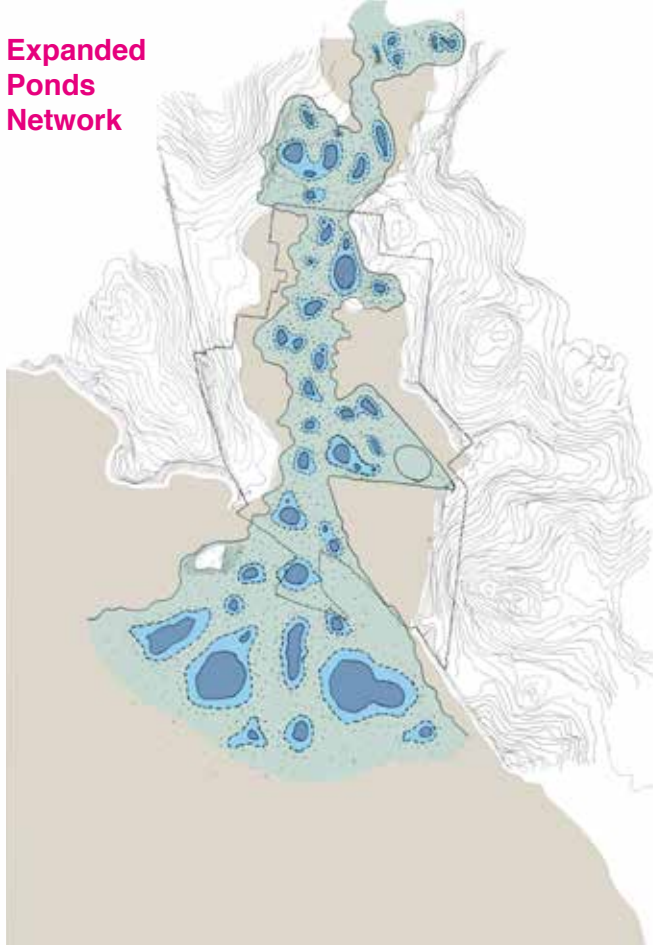
- A widening of creek for floods. Activate edge for use.
- Central linear corridor to act as public event space / walking trails / cycle paths.
- Green cross roads connect to the edge of the creek.
- Development opportunities based on existing, easily replaceable industrial sites.

Images on following page: Between Workshops 2 and 3, these group scenarios were collated into one main vision for the site through design synthesis work undertaken by the research team.

Historic
Ponds



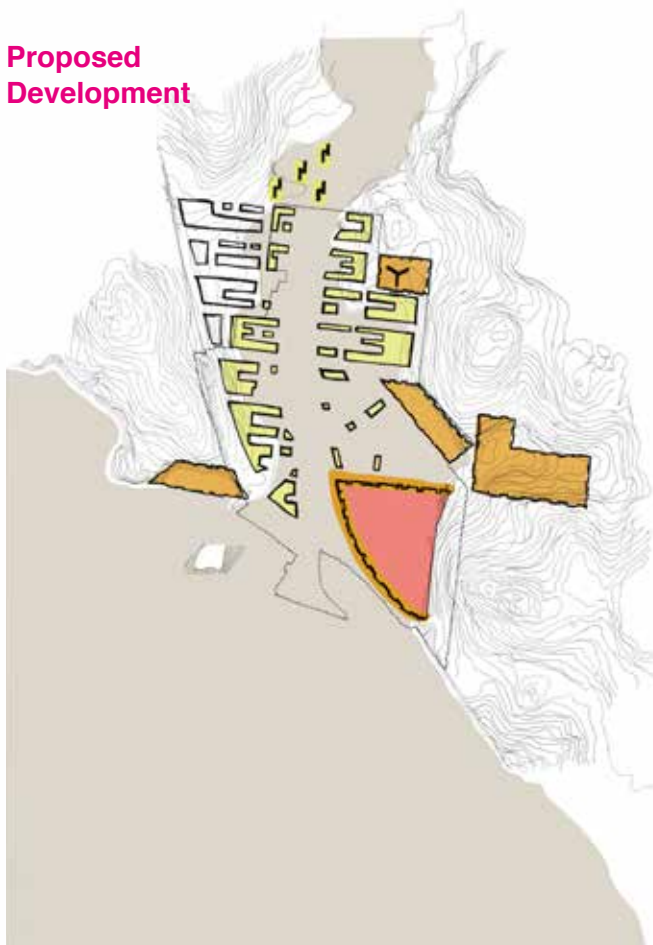
Expanded
Ponds
Network



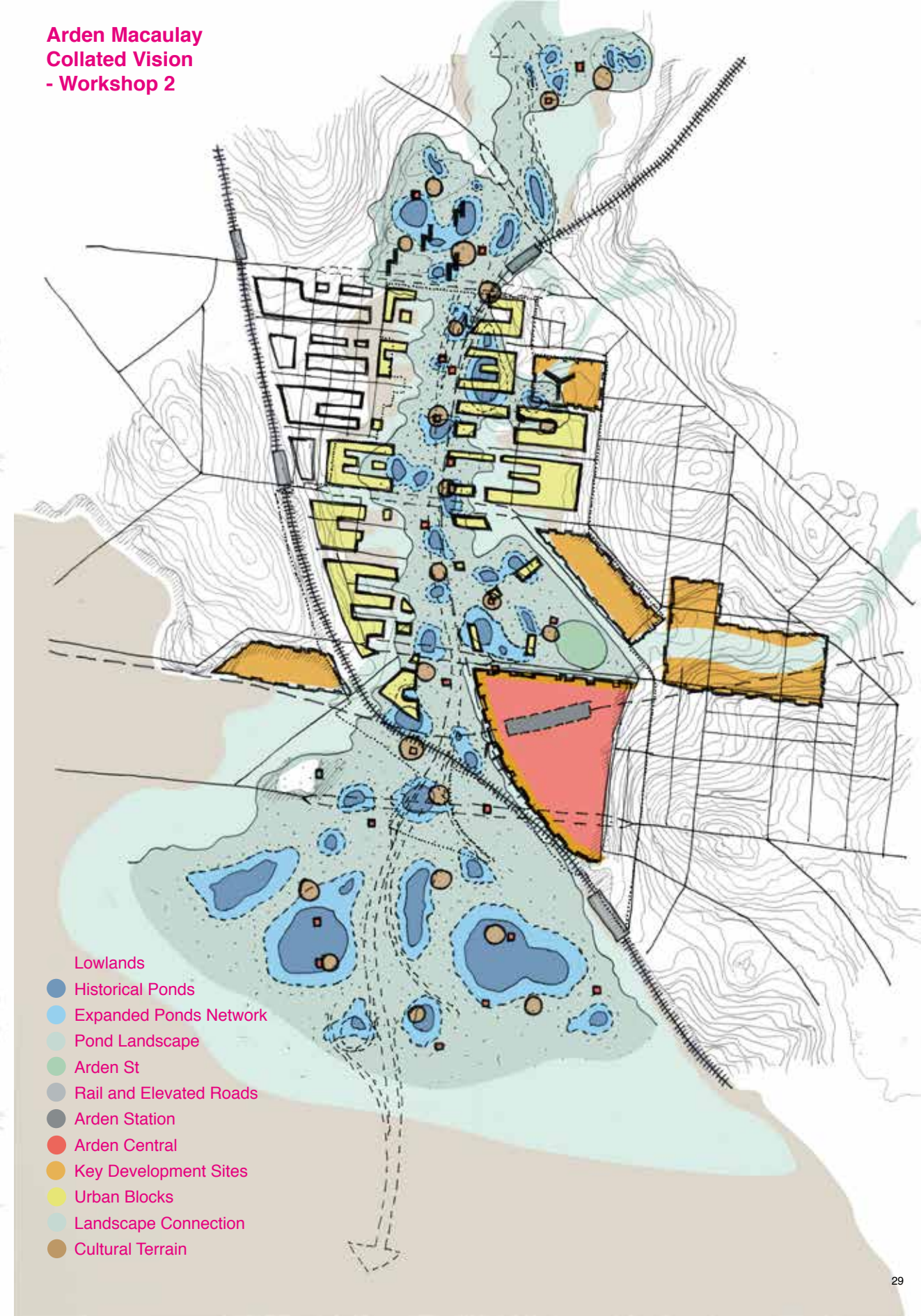
Proposed
Infrastructure



Proposed
Development



Arden Macaulay
Collated Vision
- Workshop 2



Workshop 3

The challenges and actions for moving ideas forward

The third workshop presented a composite propositional vision based on the material produced in the second design workshop. This included the following contextual elements of the site: topography, historical ponds, expanded pond network, landscape connections, and rail and road infrastructure. The group was asked to consider the short, medium and longer-term challenges and actions for these key areas. In addition, workshop participants discussed what operational, organisational, governance and responsibility reform is required to achieve these actions. The discussion around the challenges and actions are summarised here under a series of headings:

Catchment

- Arden Macaulay is at the bottom end of the catchment. Whatever happens upstream will affect it. There needs to be a total catchment understanding and plan to ensure effective development.
- Plan whole catchment now and embed environmentally sensitive design measures within framework.
- Would it be feasible to build in a Retarding Basin?
- Permeable pavement is an essential strategy.
- Having a series of dams and locks offers a level of water control that is beneficial.

Vision

- Develop a Community Engagement Plan for the Moonee Ponds Catchment.
- Need to have a strong vision and a shared buy in e.g. "This could be in Melbourne"
- If you don't consider what you're aiming for, you just respond to existing conditions.
- High density development around a central park / wetland.
- Be responsible but also take risks.
- Develop an economic plan to quantify the benefits.
- The yield will come through attracting investors (e.g. the knowledge economy).
- Water stewardship – land and public – how to impact thinking.
- Develop an engagement plan.
- Don't assume people understand the situation and conditions.
- Active space planners – litigation avoidance.
- Informed decision-making.
- Compensation planning for rezoning.
- Ensure a sense of collective responsibility.
- Risk management.

Health Benefits

- Express more of the proposed benefits in the drawings: air pollution improvements, better transportation, human health impacts, environmental health impacts, increased property values.
- Urban amenity – quantify benefit cooling.
- Engage active health partners for keeping people safe.

Economic Plan

- Private landowners (and government) will be expecting a rate of return that will maximise the economic value of their site.
- How will land be acquired? \$\$\$
- Road act – compulsory acquisition – is this an option that could be applied?
- Understand the legal layers involved.
- Create a viable, trusted system of compensation.
- Quantify the number of sites etc.

Infrastructure and Landscape

- Upfield Line – does it have to go underground? Could a causeway be used so the train line is floating across the landscape? Could all elements co-exist?
- When does infrastructure adapt for landscape values? Usually it is the opposite.

Strategy

- Encourage precincts – change the scale and potential of groupings.
- Earmark areas now. Update and iterate between planning controls and flood modelling. Plan bigger and better by having awareness when acting individually on a site - how does any action fit with the total framework?
- Changing the grouping (scale) of sites changes their potential. All industrial sites working together. All flats working together. All social housing working together.

Public Engagement

- Demonstrator projects / provocations / exhibitions, particularly bigger picture to get wider buy in; publicise extensive existing knowledge; apply for funding for these for on site interventions.
- North Melbourne flats on Arden Street could have a short / medium / long-term plan.

Social Plan

- Social Housing could use its equity.
- Demand more services.
- Understand the complexity of different groups (systems thinking).
- Create a mind-set / historical value system.



https://envisagedcity.files.wordpress.com/2014/04/image-of-thoughts_upstream-1_page_021.jpg

Catchment Collaborators and Potential Sites

The workshop group started a process of thinking about who might be engaged in this process of looking at Arden-Macaulay and broader catchment through a water lens, as well as sites that could be acted upon. The list below represents organisations that have some governance / operational / influential role to play either directly or indirectly on the site. This is a starting point for those to engage in this broader conversation about an alternative watery view of Arden Macaulay.

Bicycle Victoria, Bicycle User Groups (BUGS), Capital City Trail, Capital Works Program, City of Hume, City of Melbourne, City of Moonee Valley, City of Moreland, CityLink (Western Distributor), City West Water, Commonwealth Government, Cooperative Research Centre for Water Sensitive Design (CRCWSC), Department of Economic Development, Jobs, Transport and Resources (DEDJTR), Department of Environment, Land, Water and Planning (DELWP), Department of Health and Human Services (DHHS), Environmental Protection Agency (EPA), Essendon Airport, Friends of Moonee Ponds Creek (Advocacy working at catchment scale), Developers, Melbourne Planning Authority, Melbourne Water (Flood Management Plan), Metropolitan Fire Brigade (MFB), Municipal Emergency Response Unit (MERU), Moonee Valley Creek Reserve, Minister for Suburban Development, Office of the Victorian State Government Architect, Parks Victoria, Public Transport Victoria (PTV) (Craigieburn Line & Upfield Line), Public Housing Residents (Flemington and North Melbourne), Regional Management Forum (RMF) (CEO meetings), Southern Rural Water (Ground Water), State Emergency Service (SES), Transurban, Tullamarine Freeway Widening Project, Victoria Police, Victoria Roads, Victorian Planning Authority (VPA), Victrack, Wurundjeri Tribe.

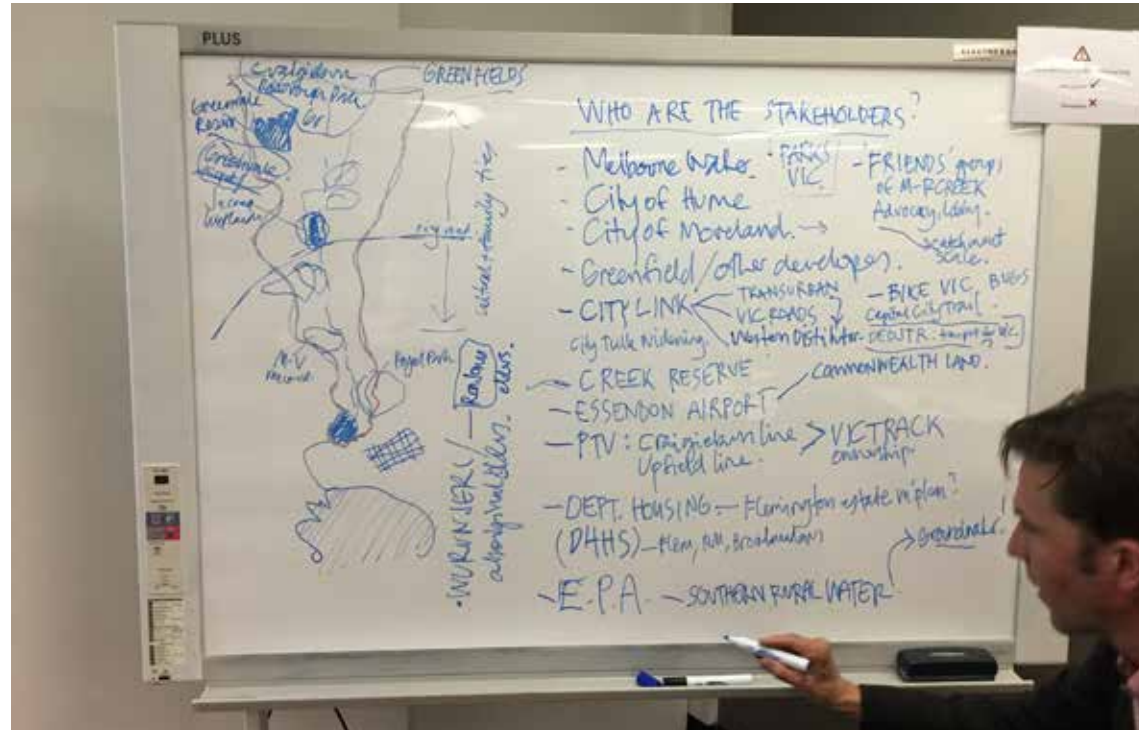
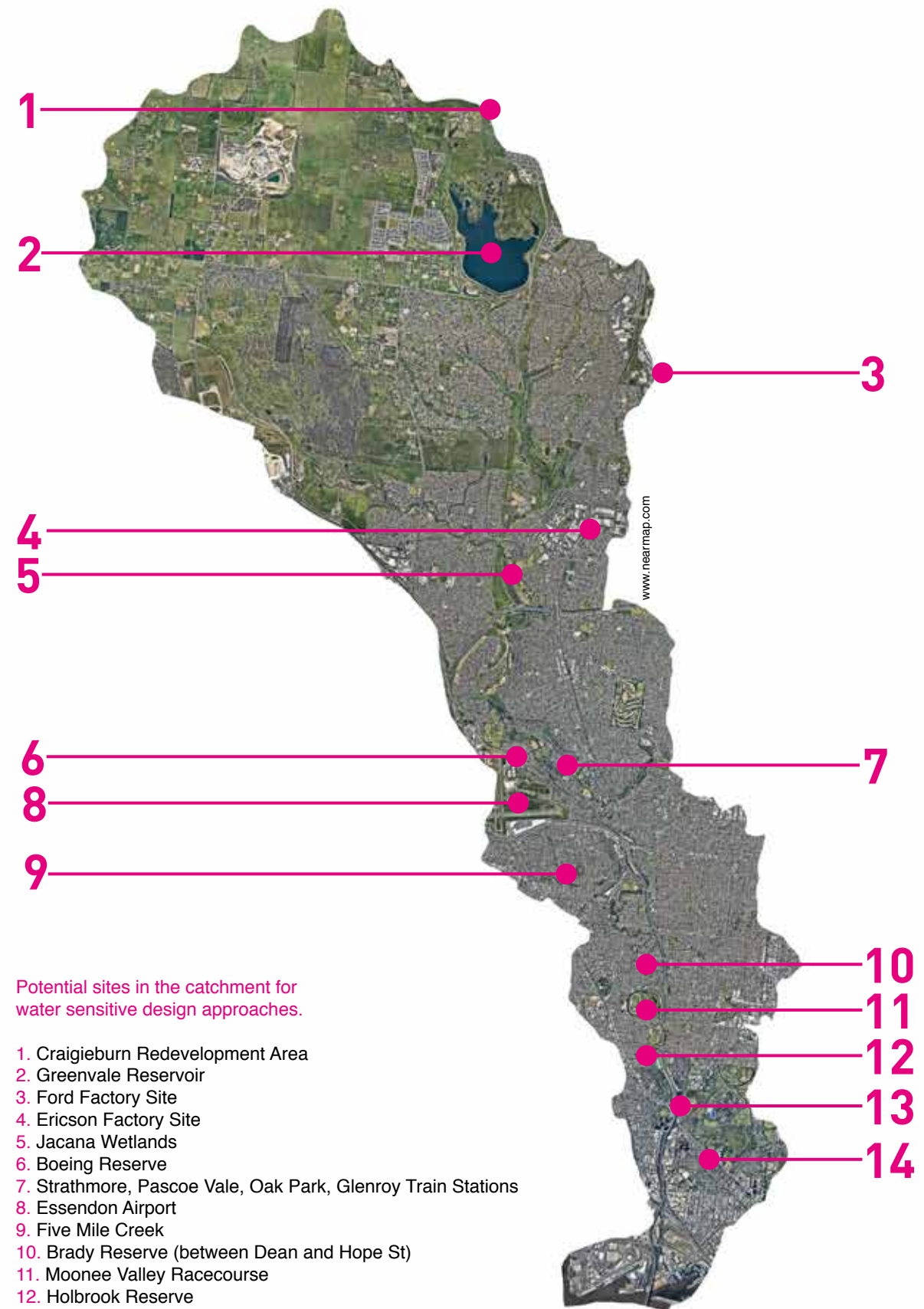


Photo: Rutger Pasman



Potential sites in the catchment for water sensitive design approaches.

1. Craigieburn Redevelopment Area
2. Greenvale Reservoir
3. Ford Factory Site
4. Ericson Factory Site
5. Jacana Wetlands
6. Boeing Reserve
7. Strathmore, Pascoe Vale, Oak Park, Glenroy Train Stations
8. Essendon Airport
9. Five Mile Creek
10. Brady Reserve (between Dean and Hope St)
11. Moonee Valley Racecourse
12. Holbrook Reserve
13. Travencore Park (between Mt Alexander and Brunswick Rd)
14. Royal Park

ARDEN MACAULAY DESIGN SYNTHESIS

The ideas, themes and proposals that emerged from the three workshops have been synthesised, along with other research material produced by the research team. This preliminary vision is represented overleaf in one large view that proposes six key sites for further investigation. These include:

1. Arden Central Podium Edge

The former cement factory site will be the area for most intensive development. Benefiting from the new Arden Station on the site and its walkable connection to North Melbourne Station, the precinct allows for high-density development on a shared podium. The edge of this raised ground level provides a new public realm typology and interface with the expanded pond landscape.

2. Macaulay Road Escarpment and Port of Melbourne Escarpment

The steep drop in elevation of the modified natural landscape on these sites underlies Arden Macaulay. These two sites are particularly opportune for a redevelopment that utilises and celebrates the escarpment.

3. Pond landscape

By allowing more land for water a central park is created that forms both an address and opportunity for high density development surrounding it as well as infill locations for smaller scale development. This landscape acts as water retention infrastructure and operates differently in both wet and dry (flood and drought) modes.

4. Industrial Urban Block Rejuvenation

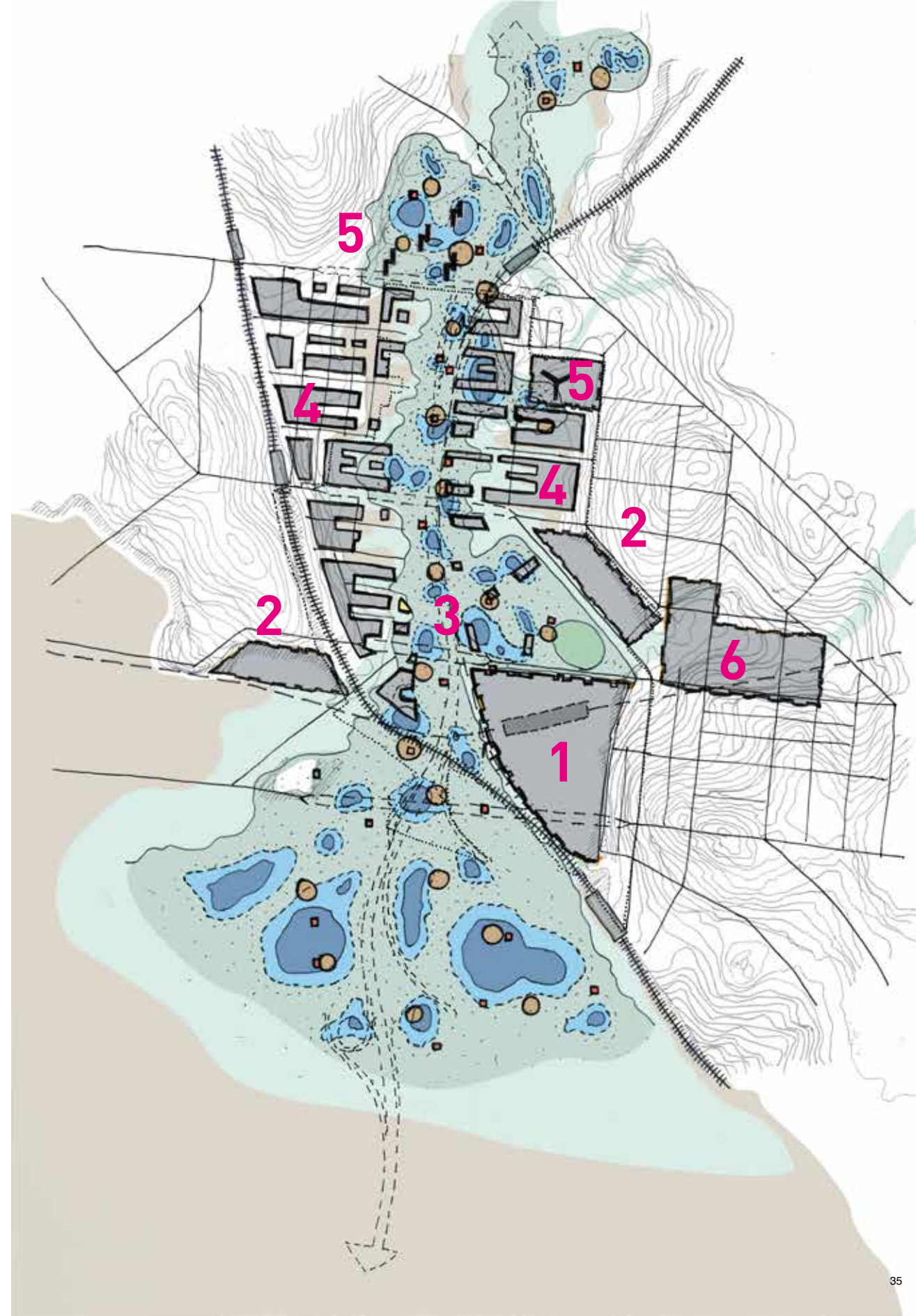
Following the natural valley of the Moonee Ponds Creek, an opportunity exists for a different scale and type of building volume within the rejuvenation of the old industrial Kensington grid.

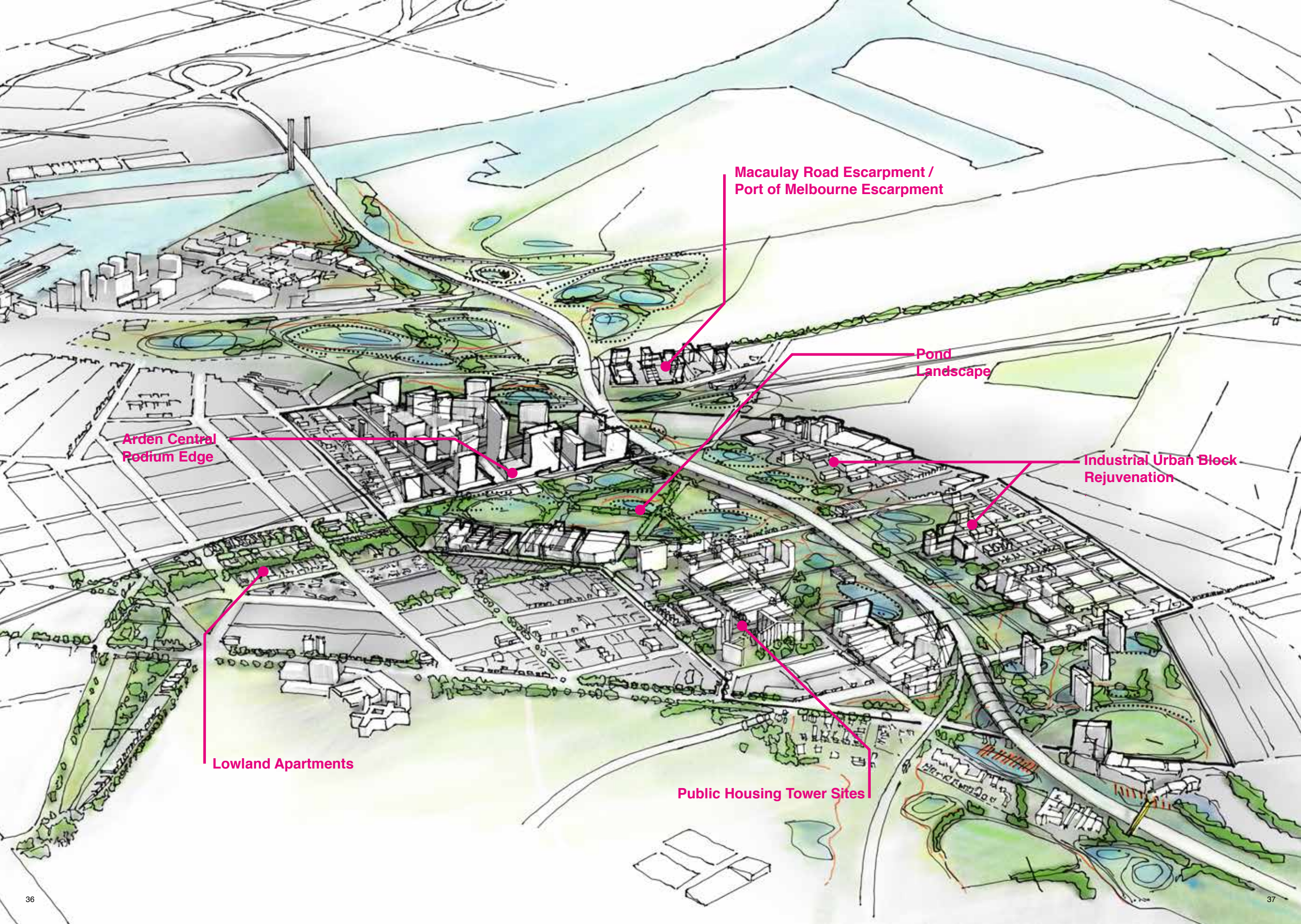
5. Public Housing Tower Sites

The required upgrading of the existing high-density public housing towers on the two sites in the precinct offers opportunities exist to implement water sensitive design.

6. Lowland Apartments

A distinctive type of low-rise apartment blocks follows the path of a former seasonal watercourse. The opportunity to strengthen and further investigate new types of apartments can define a clear and unique character.





Arden Central
Podium Edge

Lowland Apartments

Public Housing Tower Sites

Macaulay Road Escarpment /
Port of Melbourne Escarpment

Pond
Landscape

Industrial Urban Block
Rejuvenation

WHERE TO NEXT?

This document is a record of the first stage of the project and also forms a brief for stage 2 which will involve an architecture design studio with Masters students in semester 1 2017. Following that, a public exhibition and final document will be produced that records the design speculations from the studio as well as related design research outcomes from the entire project.

Swamped: Future Scenarios for Elwood Exhibition - 2016



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CRCWSC D5.1 Project

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CRC for
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An Australian Government Initiative