



**Dandenong Integrated Water
Management Forum**

Strategic Directions Statement

DRAFT 3.5

**Updated following the Third Dandenong IWM Forum held
on 27 June 2018**

Supported by



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and Planning

Acknowledgment of Victoria's Aboriginal communities

The Victorian Government proudly acknowledges Victoria's Aboriginal communities and their rich culture and pays its respects to their Elders past and present. The government also recognises the intrinsic connection of Traditional Owners to Country and acknowledges their contribution to the management of land, water and resources.

We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

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Foreword

DRAFTING NOTE

SDS Foreword - author TBC

Acknowledgements

The Dandenong Integrated Water Management Forum was convened on 1 December 2017 at South East Water Corporation in Frankston. The Forum Area encompassing the Dandenong catchment includes catchments flowing into Port Phillip Bay from Port Melbourne to Point Nepean. The region covers some of Victoria's fastest urbanising areas and will be the site of substantial sub-metropolitan population growth and economic development in the coming years.

Situated in the foothills of the Dandenong Ranges and stretching to the coast of Port Phillip Bay, the Dandenong catchment contains a breadth of iconic Victorian landscapes ranging from cool temperate rainforests and wet heathlands to sandy bay beaches. Preservation and management of the catchment's landscapes will have a positive impact on the long-term health and security of the region's waterways.

The Forum Area covers the traditional lands of the Wurundjeri people and the Bunurong people of the Kulin Nation. The region is abundant in Aboriginal cultural sites with a majority of these found near waterways and the coast. The Dandenong IWM Forum acknowledges these Traditional Owners as traditional custodians who have managed land and water sustainably over thousands of generations and maintain an active connection to Country.

The Dandenong Integrated Water Management Strategic Directions Statement has been developed by the Dandenong Integrated Water Management Forum. Members of this Forum include the Chief Executive Officers and Managing Directors of the following organisations:

Bayside City Council

Bunurong Land Council Aboriginal Corporation (LCAC)

Casey City Council

City of Greater Dandenong

City of Kingston

City of Port Phillip

Department of Environment, Land, Water and Planning (DELWP)

Frankston City Council

Glen Eira City Council

Melbourne Water Corporation

Knox City Council

Maroondah City Council

Monash City Council

Mornington Peninsula Shire Council

Port Phillip and Westernport Catchment Management Authority (PP&WP CMA)

South East Water Corporation

Victorian Planning Authority

Whitehorse City Council

Wurundjeri Land and Compensation Cultural Heritage Council Aboriginal Corporation (L&CCHCAC)

Southern Rural Water Corporation

Yarra Ranges Shire Council

Yarra Valley Water Corporation

LOGOS PLACEHOLDER

Chapter 1

An unprecedented opportunity to progress water cycle planning and management in Victoria through collaboration.

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Introduction

Overview

The Dandenong catchment is a rich and varied geographic area encompassing coastal environments, natural forests, agricultural lands and densely populated urban areas. The extent of urban growth and development across Greater Metropolitan Melbourne, considered alongside challenges posed by global climate change, will further impact on the region's water cycle and the health of waterways entering both Port Phillip Bay and Western Port. Balancing the needs and function of Dandenong's water cycle with future growth and development is a complex challenge requiring careful management.

The region's water sector, local governments and Traditional Owners are working collaboratively to plan and deliver projects and strategies that will enhance the resilience and liveability of the Dandenong catchment and deliver enduring environmental, economic and social benefits to local communities. Through ongoing engagement with their communities, these organisations have heard that thriving waterways are inextricably linked to community identity, amenity, value and sustained economic benefit for the catchment.

The way in which land use and water planning occur will be fundamental to ensuring these aspirations are realised.

The urban water cycle in the Dandenong catchment is overseen and managed by several agencies. Enhanced communication and collaboration is required to ensure plans and investments are optimised to enable shared benefits and outcomes.

This approach is Integrated Water Management (IWM). The central premise of IWM is the overall acceptance that managing urban liveability and resilience is a shared responsibility.

The *Integrated Water Management Framework for Victoria 2017* is designed to help local governments, water corporations, catchment management

Integrated Water Management is a collaborative approach to water planning and management that brings together organisations with an interest in all aspects of the water cycle. It has the potential to provide greater value to our communities by identifying and leveraging opportunities to optimise outcomes.

authorities, Traditional Owners and other organisations work together to ensure that the water cycle efficiently contributes to the region's liveability, with communities at the centre of decision-making.

To assist organisations to deliver these long-term benefits, IWM Forums have been established across Victoria to identify, prioritise and oversee the implementation of critical collaborative water opportunities.

What is a Strategic Directions Statement?

This Strategic Directions Statement (SDS) articulates the regional context, shared vision and strategic water-related outcomes for the Dandenong catchment.

It includes a prioritised list of IWM projects and strategies developed in collaboration by the Dandenong IWM Forum partners.

Partners of the Dandenong IWM Forum are committing their best endeavours to:

- Ensure priority projects and strategies are progressed in line with the shared vision and strategic outcomes of the Dandenong catchment; and
- Support DELWP to progress priority strategic enablers for IWM in Victoria.

It is envisaged that the SDS will be a living document which will be updated to reflect the Dandenong IWM Forum's current priorities and opportunities.

Enduring Collaboration

How we're working together

The Dandenong IWM Forum identifies, coordinates and prioritises areas that would most benefit from collaborative and place-based water management planning and projects.

The Forum brings together 23 organisations with an interest in water cycle management across the Dandenong catchment. These organisations include four water corporations, 13 local governments, the Port Phillip and Westernport Catchment Management Authority, representatives of Bunurong and Wurundjeri Traditional Owner interests, the Department of Environment, Land, Water and Planning (DELWP) and the Victorian Planning Authority.

To ensure IWM is successful and enduring across the region, the Dandenong IWM Forum partners have committed to the promotion of a collaborative and shared values culture within their own organisations and beyond through their work with key water cycle delivery partners and local communities.

The Dandenong IWM Forum is governed by an open and transparent IWM planning process.

This process assumes a holistic, whole-of-cycle approach to determine water cycle solutions, considering regulatory accountabilities and delivery responsibilities.

Each organisation has an important role to play in the decision-making and management of the catchment's water, resources and assets.

Collaboration across IWM Forum partners will ensure balanced consideration of the complex economic, environmental, cultural and community benefits and impacts associated with the range of proposed IWM projects and strategies. This collaborative process allows for integrated solutions that respond to individual organisations' needs, as well as the needs of the broader catchment.

The Dandenong IWM Forum partners will continue to work together to build inter-organisational trust and develop productive, enduring relationships to realise the shared vision for the Dandenong catchment.

Further information on the IWM Forum's governance and planning framework is outlined in the *Integrated Water Management Framework for*

Victoria 2017, available on the internet at www.delwp.vic.gov.au.

Recognising Aboriginal values in water planning and management

The Dandenong IWM Forum is committed to working in partnership with Aboriginal Victorians across landscapes, communities and natural resources.

The Forum recognises that Traditional Owners throughout the metropolitan Melbourne catchments, including the Bunurong, Wathaurung and Wurundjeri people of the Kulin Nation, are unique to Country and their involvement in IWM planning will be specific to each planning area.

Organisations involved in IWM have obligations to involve Traditional Owners and consider Aboriginal values in their organisational activities. The Forum will continue to work with Traditional Owner groups to determine the appropriate approach and level of involvement in the broader IWM planning process for each Forum Area.

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Insert **IWM planning process (governance illustration)**

ILLUSTRATION / DIAGRAM FOR IWM PLANNING & GOVERNANCE PROCESS

Guiding principles for collaboration

The purpose of the Dandenong IWM Forum is to provide a collaborative platform for overseeing, supporting and, where necessary, facilitating water's contribution to resilience and liveability in Victoria.

Applying an IWM approach, the Forum will:

- Consider the collective community needs in the regional context and develop an overall strategic direction accordingly
- Complement and feed into existing water and land planning processes, collaborative networks, forums and associations
- Commit best endeavours to facilitate multi-stakeholder initiatives, share organisational expertise and advance sectoral learnings
- Respect Traditional Owner rights in water management planning
- Ensure multiple benefits can be delivered to the community and the economy
- Optimise investment in water management projects and strategies to deliver multiple benefits and best community value solutions

Chapter 2

Understanding why an integrated approach to water planning and management is critical to achieving better economic, environmental, cultural and community outcomes for the Dandenong catchment.

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Regional Context

The Dandenong IWM Forum Area encompasses some of Victoria's most iconic waterways and landscapes. The catchment covers an area of approximately 1,236 km², extending in the northeast from the foothills of the Dandenong Ranges south to Mornington Peninsula on Port Phillip Bay. It includes regional catchments flowing into Port Phillip Bay from Port Melbourne to Point Nepean. The landscape of the Dandenong catchment varies from mountainous forested areas, wetlands and coastal beaches, to densely populated and expanding areas on Melbourne's fringe.

While the Forum Area includes several verdant national parks abundant in native vegetation and wildlife, less than one-quarter of the Dandenong catchment is devoted to the natural environment and agriculture. Urban areas dominate land use here, with many of Melbourne's major sub-metropolitan growth centres marked for further development in the coming years.

The region sustains a range of recreational activities, including tourism, fishing, boating, cycling, walking and beach escapes. Commercial activities in the catchment include viticulture, horticulture and livestock production, as well as notable manufacturing, technology and education sectors.

The Dandenong catchment includes areas of significant value where Aboriginal people once lived, camped and foraged. Archaeological

evidence shows Aboriginal people have lived in the Dandenong Ranges for over 35,000 years.

Population

The Dandenong IWM Forum Area has an estimated population of 1.6 million people and is predicted to rise to 2 million by 2040. The region encompasses a major urban growth corridor and much of the greenfield residential development in South East Melbourne will occur here over the next two decades. Significant densification is predicted for many suburbs across the region, particularly those surrounding Dandenong, Cranbourne and Frankston. Large population increases are also anticipated in the Kingston, Caulfield and Murrumbeena areas. Protecting the region's distinctive character while maintaining and enhancing liveability and resiliency for its growing communities is a priority for the Dandenong catchment.

DRAFTING NOTE

Insert **FORUM BOUNDARY MAP**

Insert **INFOGRAPHIC WITH POPULATION DATA, CLIMATE CHANGE**



Climate Change

By 2040, average temperatures across the Dandenong catchment are expected to rise by an average of 1.3°C under a medium climate change scenario. This will increase the impact of the urban heat island effect with higher density urban areas experiencing greater heat vulnerability than areas in the cooler, mountainous upper catchment.

The region is predicted to see more frequent and intense rainfall events that will increase the risk of flooding in areas such as the Dandenong Creek Valley, Elster Creek catchment and the Mornington Peninsula. Increased flows from heavy rainfall events will affect water quality, as well as the health of waterways and marine species from the upper reaches downstream to Port Phillip Bay.

Despite the predicted increase of rainfall events, the Dandenong catchment will experience a reduction in average annual rainfall by 2040. As a result, droughts will become more frequent and longer in duration, impacting the region's productive agriculture and viticulture industries. Less rainfall over the catchment, coupled with fast-growing urban populations and industrial demands, will place increased pressure on water services in the catchment.

Climate change will also pose a serious threat to the forested landscapes, creek environments and wetlands of the Dandenong catchment. Projections for Victoria's future climate indicate an increase in the frequency and intensity of bushfires for the Dandenong catchment and neighbouring regions in Australia's southeast. The increased risk of bushfire poses a serious threat to the catchment's communities, infrastructure and high-value native forests and ecosystems.

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Call out box:

To meet the challenge of climate change and prepare Victoria's water system for a range of possible climate futures, **climate change mitigation and adaptation actions will be embedded in all IWM Forum decisions.**

Collaborative Vision and Outcome Areas

By valuing water in its entirety, the Dandenong catchment is a well-planned, healthy, resilient and thriving environment for people and nature – now and into the future.

Collaboration to develop the shared vision and strategic outcome areas

The IWM Forum demonstrates a robust and transparent process of collaboration amongst local governments and a range of stakeholders with an interest in water.

Central within this process are the community values, local interests and place-based opportunities represented by each Forum member organisation.

The IWM Forum recognises the valuable contribution of these many and diverse actors in supporting a transformative approach to the planning and management of our wider water cycle. Each of these organisations played a leading role in determining a shared vision for IWM unique to each of the five metropolitan Melbourne catchments.

The seven primary strategic outcome areas to achieve this vision, as well as the secondary outcome areas nested beneath each primary area, were developed collaboratively by the IWM Forum partners.

These outcomes acknowledge the breadth of water plans, environmental strategies and land use plans developed by each partner organisation.

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Layout to be finalised.

IWM Strategic Outcomes

The Dandenong catchment is seeking to achieve seven strategic outcomes through IWM. Each of these will have a significant role in shaping the liveability, prosperity and resilience of Victoria’s cities and towns. These outcome areas provide a guide to identify and assess the various IWM opportunities included in Chapter 3 of this SDS.

The Dandenong Forum notes that the following strategic outcome areas are not listed in order of priority or importance.

 SUPPLY	 WASTEWATER	 FLOODING	 WATERWAYS	 LANDSCAPES	 COMMUNITY	 PROSPERITY
Safe, secure and affordable water supplies in an uncertain future	Effective and affordable wastewater systems	Existing and future flood risks are managed to maximise outcomes for the community	Healthy and valued waterways and marine environments	Healthy and valued urban and rural landscape	Community values are reflected in place based planning	Diverse jobs, economic benefits and innovation
A diverse range of fit for purpose water supplies and resources are utilised	Meets public health and environmental standards	Appropriate levels of flood protection in urban areas	Impacts from urban, peri urban, industrial, business and transport activities are mitigated close to the source to protect our waterways and bays	Active and passive recreation supported by fit for purpose water	Diverse urban landscapes that enhance local conditions and add value to community liveability	Jobs and economic growth supported by water
Water quality meets regulatory standards and community expectations	Effective innovative, best practice sewerage systems for both septic and non-septic systems	Community and property resilient to local flood risk	The waterways, wetlands and floodplains provide a secure bio-link with a range of habitats resilient to changes in condition and climate	Urban landscapes are supported by water to retain moisture for cooler, greener cities and towns	Empowered and engaged community who actively participate in collaborative decision making	Innovative planning and operation
Efficiently managed water and demand	Optimised and managed onsite domestic systems	Flooding is managed to support environmental values	Remnant higher stream values and habitats are rehabilitated and protected	Waterways and coastal environments accessible as valuable open space	Local water related risks and issues understood and managed on a catchment scale	Strong governance, collaboration and performance
Secure fit for purpose water supply for industry and economy	Waste-to-resource opportunities are maximised	Floodplains are managed to support aquatic ecosystems	Wetlands and other aquatic ecosystems are enhanced with sustainable populations of macroinvertebrates, iconic fish, bird and frog species and platypus.	Aboriginal cultural values associated with urban landscapes and waterways are protected	Exemplary leadership enables informed, engaged and an empowered community who value water and connect with water environs	Actions in Water for Victoria with specific regard to Traditional Owner and Aboriginal consultation, engagement, employment and economic development have been comprehensively implemented
Water available to maintain valued green community asset	A risk-based approach to sewerage and wastewater management adopted		Reduced nutrient and sediment discharges to aquifers, waterways and bays	The waterways, wetlands and floodplains are inviting places that are connected, accessible and interconnected for public enjoyment and amenity	Place based planning considers and integrates urban stormwater runoff and retention to protect waterways, enhance groundwater systems and support urban landscapes	Empowered key industry groups to enable good water cycle management through improved business practices
			Traditional Owner and Aboriginal values, knowledge and practices are integrated and protected in waterway management and embraced collectively	Waterways form the basis for an interconnected network of natural spaces where biodiversity is connected and resilient, and people can connect with nature		Improved business water practices provide new opportunities for jobs and economic growth
			Water quality at the bays supports active and passive recreation	Riparian zones and floodplains within the catchment continue to increase and expand the quality and connection of indigenous vegetation		

The Case for IWM in the Dandenong catchment

Over the coming years, significant change and growth in the Dandenong region will put pressure on the catchment's water cycle and resources, impacting urban and rural landscapes, as well as communities, marine and woodland environments and industries. Translating community objectives for water management into practice will involve working across organisational boundaries to achieve the following strategic outcomes for the Dandenong catchment. These outcomes are aligned with those reflected in the strategic plans and environmental strategies of the Forum's partner organisations.

Safe, secure and affordable water supplies in an uncertain future

Four water corporations oversee water supply for the Dandenong catchment. These include Melbourne Water, South East Water, Southern Rural Water and Yarra Valley Water. Rural water supplies are managed by Southern Rural Water, with South East Water and Yarra Valley Water servicing communities in urban and peri-urban areas.

Residential consumption remains the biggest proportion of the region's water use, comprising about 75 per cent of water usage in the catchment.

Changes to the water cycle driven by anticipated population growth and climate change mean more water will be needed across the catchment for urban, agricultural and environmental flow purposes. The catchment's residential population is expected to grow by 25 per cent over the next two decades, emphasising the need to diversify the water supply system.

There is an opportunity to plan for the provision of secure water sources to provide reliable and fit for purpose supplies to Dandenong's growing communities, industries and developing precincts.

Effective and affordable wastewater systems

The majority of wastewater generated in the Dandenong catchment is treated at Melbourne Water's Eastern Treatment Plant, located in Bangholme, a southeast suburb of Melbourne. Nearly half of Melbourne's sewage is treated here. Wastewater is treated to a level high enough for

re-use. Recycled water produced by the Eastern Treatment Plant is currently used to irrigate crops, parklands and sporting fields. Recycled water supplies are also distributed to housing estates in Cranbourne for a range of domestic uses, such as laundry, washing cars and watering the garden.

The provision and efficacy of wastewater management services vary across the catchment. More than 16,000 unsewered properties along the Mornington Peninsula between Rye and Portsea, as well as numerous rural properties in the upper Dandenong catchment, continue to rely on septic tank systems and on-site domestic treatment plants to manage household sewage. Many of these are poor-performing and have the potential to pollute waterways, impacting public and environmental health. To address this, water corporations are working with their communities to connect properties to a reticulated sewer system, discharging into local wastewater treatment plants.

DRAFTING NOW: CALL OUT BOX

Ensuring alternative sources are fit for purpose

The use of recycled water and stormwater will help Victoria meet its growing needs for water over the long term.

The use of recycled water and stormwater needs to be 'fit for its purpose' – that is, an appropriate quality for the intended use. Appropriate opportunities for substitution of river and groundwater with treated recycled water or stormwater include non-drinking uses in households and industry, and for agriculture, irrigating open spaces and gardens.

Existing and future flood risks are managed to maximise outcomes for the community

Flooding in the Dandenong catchment includes riverine flooding, which occurs near a river, creek or stream during periods of heavy and prolonged rainfall where water levels rise and overflow the banks of the waterbody.

Coastal flooding can occur in the southern reaches of the catchment, particularly along the Mornington Peninsula coastline. Approximately 40 per cent of this area is designated as flood prone. Climate change impacts to the frequency and

intensity of rainfall events, coupled with the 1 m sea level rise expected for the region over the next 80 years under a medium climate change scenario, will place further pressure on coastal communities and industries to safely manage high storm surges and floodwaters.

Inland, the risk of flooding in the catchment's urban areas will continue to be a challenge as land use and development change the flow and volume of stormwater during heavy downpours. Several areas within the local government areas of Casey and Dandenong, in which the populous urban centres of Dandenong, Cranbourne and Narre Warren are located, are particularly prone to flooding. A series of floods in the past decade resulted in major road closures, public transport disruptions, damage to public and private property and infrastructure, as well as restricted access to community services and facilities, such as hospitals and shopping centres.

Chronic flooding issues in numerous other low-lying parts of the catchment routinely impact communities, infrastructure and amenities. Public and private properties within the Elwood Canal/Elster Creek **catchment** extending from Elwood to Carnegie **and Moorabbin to Caulfield North**, are regularly affected by storm flood events.

There is a need to investigate improved stormwater storage capabilities across the catchment, particularly in areas where stormwater harvesting and management could reduce the risk and cost of major rainfall events and minimise impacts, such as pollution, to the bay's marine environments.

Healthy and valued waterways and marine environments

The Dandenong catchment contains an array of significant and biologically diverse waterways ranging from expansive rivers, small ephemeral creeks and the eastern shoreline of Victoria's iconic Port Phillip Bay. On the western boundary of the catchment, sandy bay beaches and rocky shores span the coast from St Kilda, 6 km southeast of Melbourne, to Portsea on the southern tip of the Mornington Peninsula.

Despite the 4 million people living near its 333-km coastline, Port Phillip Bay is generally in good health, offering high water quality and an abundance of marine flora and fauna. Along the coast, water quality tends to be lower than in the protected marine parks within the bay, and this is largely related to urban and rural influences on

stormwater runoff to the bay. The Dandenong catchment contributes approximately 4 per cent of nitrogen to Port Phillip Bay, considered among the greatest threat to the health of the bay and the marine species it supports.

Elsewhere in the Dandenong catchment, more than 97 per cent of waterways are in very poor condition, according to the 2016-2017 environmental report card for the catchment's waterways developed by the Environment Protection Authority Victoria, Melbourne Water and DELWP under the *Yarra and Bay Action Plan (2012-2017)*. The majority of waterways in poor condition are found in urban areas of the catchment and show concentrations of nutrients and metals often present in water due to runoff from nearby roads and industrial areas. A notable exception is Dandenong Creek, which originates as a series of springs in the Doongalla Forest on the western edge of the Dandenong Ranges National Park in the northeast of the catchment. Water quality in these headwaters remain in good condition, however, quality diminishes as the creek flows south into Mordialloc Creek and Patterson River, before eventually meeting Port Phillip Bay.

Many small creeks and waterways within the Dandenong catchment have been straightened or concrete lined, contributing to decreased water quality and loss of stream habitats in the region. There is an opportunity to revitalise some of these waterways, returning natural vegetation to improve water quality and instream habitats, as well as support the natural movement of marine and bird species. Councils and water corporations are working alongside their communities on several such projects, creating further opportunities to enhance the environmental, cultural and recreational value of the catchment's waterways and marine environments.

Since all waterways within the Dandenong catchment flow to Port Phillip Bay, the health and conservation of the region's inland rivers, creeks and streams is critical to the continued health of the bay and the species it supports. Within the catchment's coastal waters, ecologically important marine landscapes at Ricketts Point Marine

DRAFTING NOTE – Call out box

Ramsar sites (or Ramsar wetlands) are wetlands of international importance listed under the Ramsar Convention on Wetlands. This international intergovernmental treaty provides a framework for the conservation and wise use of designated wetland ecosystems worldwide. There are 12 Ramsar sites in Victoria, including the Edithvale-Seaford Wetlands.

Sanctuary in Beaumaris and the Ramsar-listed Edithvale-Seaford Wetlands are a haven for several species and communities of conservation significance.

At Ricketts Point, seagrass meadows, intertidal reefs and rockpools shelter small marine creatures, such as tiny brittle stars, crabs, shrimp and schools of fish, while large pods of dolphins, whales and the occasional Fairy Penguin can be observed further out at sea. Eleven threatened bird species can be found in the sanctuary, as well as several internationally important migrant bird populations.

Further south, the Edithvale-Seaford Wetlands represent the largest freshwater wetland in the Port Phillip and Western Port basins and the last remaining example of the once extensive Carrum Carrum Swamp, a shallow freshwater swamp drained in 1879. The Edithvale-Seaford Wetlands support a high diversity of waterbirds and vegetation communities, including many threatened species. The wetlands also perform an essential natural drainage function, controlling flood waters and naturally treating surface runoff before these waters drain to Port Phillip Bay. The wetlands and nearby coastline are a significant recreational resource, providing important open space that is highly valued by local communities.

Stormwater is one of the major sources of pollution to waterways within the Dandenong catchment. According to the *State of the Bays 2016*, 95 per cent of litter on Port Phillip Bay's beaches, including those along the western reaches of the Dandenong catchment, was transported from suburban streets through the stormwater system.

Increased sedimentation and nutrients from the stormwater discharges of nearby urban areas pose serious threats to the health of these ecosystems, while climate change issues, such as extreme weather events, and existing risks from invasive marine species are likely to be exacerbated in future.

There is an opportunity to incorporate improved planning and waterway protection controls, as well as strategies to manage sediment and pollution, as the catchment continues to urbanise.

Healthy and valued urban and rural landscapes

The landscape of the Dandenong catchment varies from expansive natural woodlands, temperate rainforests and sandy bay beaches, to densely

populated urban areas expanding from the Port of Melbourne to metropolitan satellite cities on the urban fringe.

The catchment covers an area of approximately 1,236 km² and nearly 40 per cent of this land is zoned as residential. Much of the catchment's built environment has developed over floodplains and fertile soils due to its proximity to water. Less than one quarter of remaining land in the Dandenong catchment comprises agricultural land or native vegetation.

Dandenong Ranges National Park, located 35 km east of Melbourne, represents a key natural landscape within the catchment and offers enormous ecological and recreational value for the region. Renowned for its soaring Mountain Ash trees and lush fern gullies, the Dandenongs contain a range of exotic, native and threatened plant species, including nearly 370 native flowering plant varieties and 50 species of ferns. Dozens of native mammals such as echidnas, wallabies and wombats, are at home through these cool mountain ranges. Over 200 bird species have been recorded in the park, including Kookaburras, Crimson and Eastern Rosellas, King Parrots, Yellow-tailed Black Cockatoos and the elusive Superb Lyrebird.

Linking the Dandenong Ranges to the Dandenong Valley, Churchill National Park and the adjoining Lysterfield Park offer further conservation and recreation value for the catchment. The parks are typical of the region's natural bush landscape region prior to settlement and provide a vital refuge for wildlife in an otherwise highly urbanised region.

Local governments, water corporations and communities continue to support a range of initiatives to enhance the remaining natural landscape in the Dandenong catchment. These include the creation of green corridors to better connect habitats, stabilise animal populations and alleviate the heat island effect in developed areas.

The Dandenong catchment will continue to address challenges on the water cycle from rapid urbanisation and intensive agricultural activities which impacts the health of its urban and rural landscapes. The high value associated with waterways, green wedges and woodlands in the Dandenong catchment has led to many councils prioritising the protection of these areas as environmental assets.

Community values are reflected in place-based planning

The Dandenong catchment area holds a wide range of values for Victorians, including nature-based tourism, cultural heritage and recreation on and near the water's edge.

The catchment encompasses the Traditional lands of the Wurundjeri and Bunurong people of the Kulin Nation. More than 2,500 Aboriginal cultural sites have been recorded across the catchment, a majority of which are found close to a waterway. Indigenous land use patterns recorded in the region show concentrations of Aboriginal people lived around the former Carrum Carrum Swamp, now the Edithvale-Seafood Wetlands, throughout the region's floodplain and in elevated areas along Dandenong Creek.

Maintaining liveability and enhancing the cultural, social, ecological and recreational values of regional waterways, parks and forests is a significant focus of planning in the Dandenong catchment as urban growth and development continue over the next two decades. The region already encompasses some of the largest and fastest growing suburban populations in Australia, with communities in Cranbourne East and Greater Dandenong accommodating much of this population boom. Urban densification is also expected through Port Melbourne and Albert Park, as well as throughout St Kilda and the Caulfield to Murrumbeena regions.

The catchment's local governments, communities and water industry partners are working together to improve connections between people and place during this period of development. There is an opportunity now to integrate water planning and management with incoming infill and greenfield development through the catchment. Examples include water-sensitive urban design in new residential estates, stormwater harvesting to irrigate parklands and sporting fields, the provision of community amenities with water features and the maintenance of open space and green wedges to support recreation and cooling in the landscape.

Other cross-government initiatives that seek to elevate community priorities and outcomes, as well as maintain a relationship with the Dandenong IWM Forum, include the Living Links initiative to connect communities, green spaces and ecosystems, and the Metropolitan Partnerships advisory groups. The Dandenong catchment is divided across the Southern Region and Inner South-East Region Metropolitan

Partnerships, an initiative that brings together community and business representatives with state and local governments to identify priorities for jobs, services and infrastructure within the region. Among a range of priorities, the Partnerships provide advice to ensure ongoing environmental benefits and connections to the environment within each region.

Diverse jobs, economic benefits and innovation

The Dandenong catchment covers a major growth corridor in southeast Victoria comprising several areas designated for population and economic growth. The Dandenong National Employment and Innovation Cluster (NEIC) currently employs more than 66,000 people through a range of international and domestic businesses spanning the manufacturing, health and education sectors, as well as wholesale trade, retail, transport, postal services and warehousing. The Dandenong NEIC is located to the south of the Dandenong Metropolitan Activity Centre, Victoria's second largest retail and commercial centre. The Monash NEIC is also partly within the Dandenong catchment and comprises Melbourne's largest concentration of jobs outside the central business district (CBD). That area currently supports 75,000 jobs and contributes \$9.4 billion to the Victorian economy. Ongoing urban and economic development through the south-east growth corridor will support the Dandenong catchment's self-sufficiency by providing a range of new services and employment opportunities.

The Dandenong region contains state and nationally significant infrastructure and commercial industries, including the Port of Melbourne, the most important port in Victoria and the largest container and automotive port in Australia. Major roads and public transport networks span the catchment, including the Monash Freeway, the Princes Highway and the EastLink motorway. Several South State Significant Industrial Precincts (SSIP) are located within the catchment's Dandenong, Casey, Kingston and Frankston local government boundaries. Manufacturing accounts for one-third of major industries in the South SSIP. The catchment's largest manufacturing centres, Kingston and Dandenong, provide 44 per cent of Victoria's total manufactured product.

Notable tourism and commercial activities occur throughout the catchment, particularly along the Mornington Peninsula where recreation and

tourism to the region's coastal attractions and vineyards contributed an estimated \$700 million to the local economy.

Secure water supplies and adequate water management infrastructure for water, wastewater and stormwater to support the Dandenong catchment's key industries will be critical to its continued economic growth and success.

DRAFT

Chapter 3

A portfolio of priority IWM projects and strategies for which the Dandenong catchment's collaborative partners have committed their best endeavours to progress.

DRAFT

DRAFTING NOTE

Chapter layout and spread TBC

The following portfolio of priority projects and strategies represents a suite of IWM opportunities for which the Dandenong IWM Forum's collaborative partners are committed to progress within the next 12 to 18 months. The status of each IWM opportunity included in the Priority Portfolio reflects the phase of work to be undertaken in this time period.

Additional projects and strategies that are not yet committed are included in the Appendix of this SDS.

In developing this portfolio, the collaborative governance of the Forum recognises the water cycle complexities of the region and considers the balance of outcomes, opportunities, roles and responsibilities for Forum members and their communities.

A Forum Area (or catchment-wide) IWM Strategy is yet to be developed, however the Dandenong IWM Forum agrees to initiate development of a strategy over the next 12-18 months.

The projects and strategies listed within the Priority Portfolio have not been guided by an existing IWM Strategy, rather they were developed based on the experience and knowledge of the Forum Members, and in consideration of their potential to impact on the seven strategic outcomes for IWM sought for the Dandenong region. In addition, consideration was given to the urgency of taking such actions, particularly where opportunities could be lost if no action was taken, as well as the level of commitment demonstrated by partner organisations to progress IWM initiatives over the next 12-18 months.

The projects and strategies within acknowledge a number of existing metropolitan-wide strategies and plans, such as the *Melbourne Water Systems Strategy* and the draft *Healthy Waterways Strategy 2018*, as well as the clear and measurable targets identified in the existing strategies. Targets may include alternative water use and stormwater harvesting and infiltration.

The IWM Forum recognises that the contribution of this Priority Portfolio to the seven strategic outcomes including the targets identified in the existing metropolitan-wide strategies has not yet been quantified. It is the intention of the Forum to consider a targeted evaluation of these IWM opportunities where the Forum agrees this is necessary. This work may occur in tandem with the development of a catchment-wide strategy.

The Forum acknowledges that this is a dynamic list of IWM opportunities and is subject to further

assessment by the IWM Forum Members. The organisations listed as collaborative partners in the IWM Priority Portfolio have been identified by the Forum Members as important stakeholders to progress the individual initiative. For initiatives in initial stages of development, additional stakeholders may be included as the project progresses.

By co-delivering a range of water planning and management initiatives, the Dandenong IWM Forum seeks to build on the strengths of the community, the water sector and governments to achieve better value and long-term shared benefits for the region.

The Dandenong IWM Forum presents an unparalleled opportunity for these organisations to build lasting partnerships across sectors and geographical boundaries to enhance, accelerate and generate greater visibility for water cycle initiatives that will improve Victoria's resilience and liveability.

DRAFTING NOTE

Insert design/stylised overview table of projects

Priority Portfolio of IWM Project & Strategy Opportunities Overview

IWM Opportunity	Strategic Outcomes	Location	Spatial Scale	Collaborative Partners	Status
Alternative Water for Fountain Gate - Narre Warren Metropolitan Activity Centre		Fountain Gate - Narre Warren Metropolitan Activity Centre		Casey City Council, South East Water, Bunurong Land Council Aboriginal Corporation (LCAC), Southern Rural Water	
Alternative Water Opportunities for Greening Sporting Reserves - Prioritisation Framework		Casey		Casey City Council and Melbourne Water, Bunurong LCAC, Southern Rural Water	
Belgrave Stormwater Quality Improvement		Belgrave		Yarra Ranges Council, Knox City Council, Melbourne Water, Bunurong LCAC	
Biodiversity Connections for Carbon-Neutrality		Dandenong catchment		PPWCMA, South East Water, Bunurong LCAC	
Blind Creek Naturalisation		Ferntree Gully		Knox City Council, Melbourne Water and South East Water, Bunurong LCAC	
Burwood Highway Shared Use Path		Wantirna and Vermont South		Whitehorse City Council, VicRoads, Knox City Council, Bunurong LCAC	
Caufield Park Development		Caufield North		Glen Eira City Council, Melbourne Water, South East Water and Victorian Planning Authority (VPA), Bunurong LCAC, Southern Rural Water	
Greening Emil Madsen Reserve		Mornington Peninsula		Mornington Peninsula Shire Council, Melbourne Water and South East Water, Bunurong LCAC, Southern Rural Water	
Elster Creek Catchment Flood Management		Elster Creek catchment		City of Port Phillip, Glen Eira City Council, City of Kingston, Bayside City Council and Melbourne Water, Bunurong LCAC	
Elsternwick Park		Elsternwick Park North		Bayside City Council, City of Port Phillip, Glen Eira City Council, City of Kingston and Melbourne Water, Bunurong LCAC	
Protecting Upper Dandenong and Bungalook Creek Corridors		Mooroolbark		Maroondah City Council, Whitehorse City Council, Knox City Council, Yarra Ranges Shire Council, Melbourne Water, VicRoads, Bunurong LCAC	
Green Wedge Infrastructure Upgrades		City of Greater Dandenong		City of Greater Dandenong, Melbourne Water, South East Water, Bunurong LCAC, Southern Rural Water	
Greening the Greyfields		Maroondah		Maroondah City Council, Knox City Council City, Swinburne University, Bunurong LCAC	
IWM Plan for the Dandenong Catchment		Dandenong Forum Area		Dandenong IWM Forum partner organisations	
Living Links in the Dandenong Catchment		Dandenong Catchment		PPWCMA, Melbourne Water, Bunurong LCAC, Wurundjeri and CCHCAC, Parks Victoria, South East Water, local councils, local community groups and networks	



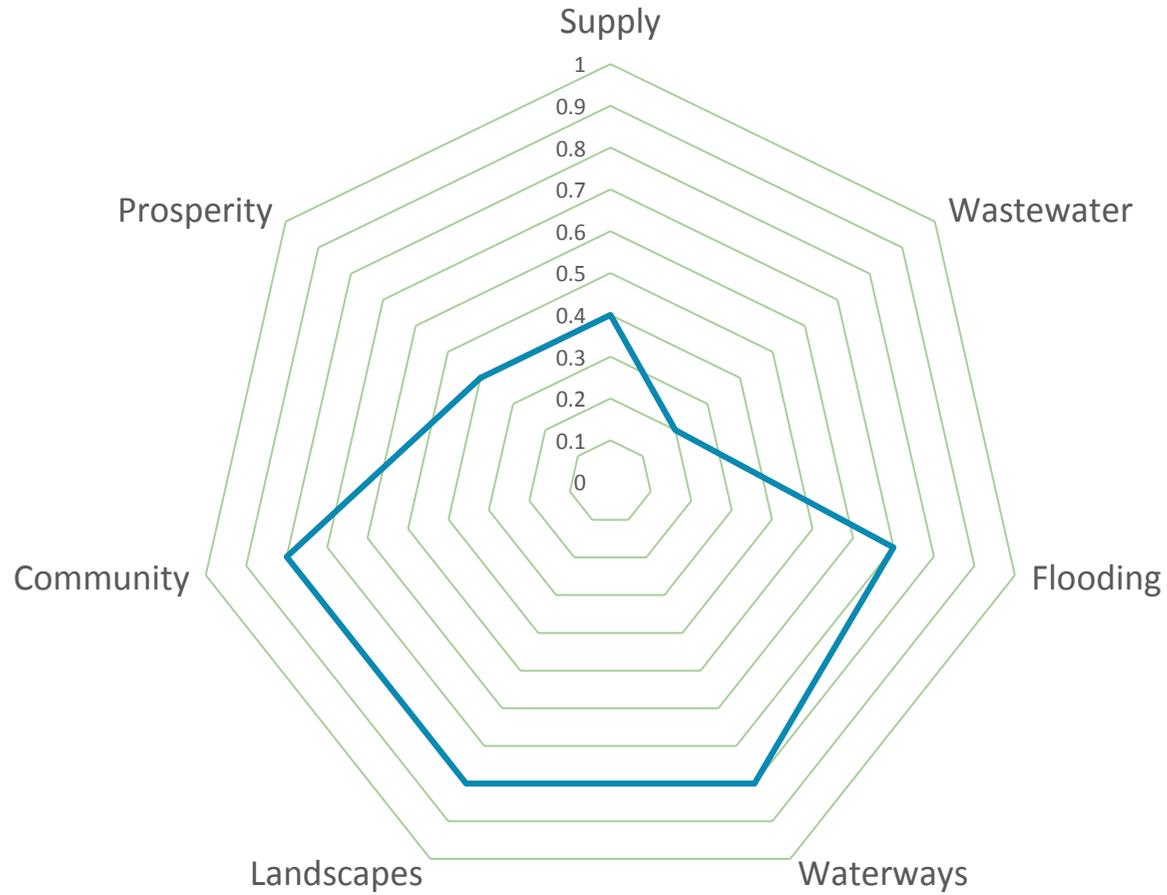
- #### Scale
- Inter-forum
 - Forum Area
 - Sub-catchment
 - Growth area
 - Green wedge
 - Greenfield subdivision
 - Urban renewal
 - Lot scale

Multi-party Solutions to New and Legacy Flooding Issues		Dandenong		City of Greater Dandenong, City of Kingston, Monash City Council, Bunurong LCAC, Southern Rural Water, Melbourne Water	
Max Pawsey Stormwater Harvesting		Narre Warren		Casey City Council, Melbourne Water, Bunurong LCAC, Southern Rural Water	
Mile Creek East Flood Mitigation		Mulgrave		Monash City Council, Melbourne Water, VicRoads, Bunurong LCAC, Melbourne University	
Monash National Employment and Innovation Cluster IWM Strategy		Clayton		South East Water, Victorian Planning Authority, City of Kingston, Monash City Council, Yarra Valley Water, City of Greater Dandenong, Melbourne Water, Bunurong LCAC, VPA	
Moorabbin Reserve Stormwater Harvesting		Moorabbin		City of Kingston, Melbourne Water, Bunurong LCAC, Southern Rural Water	
Mornington Peninsula Flood Risk Management		Mornington Peninsula		Mornington Peninsula Shire Council, Melbourne Water, Bunurong LCAC, Southern Rural Water	
Recycled Water to the Dingley Green Wedge		Dingley Green Wedge		South East Water, City of Kingston, VicRoads, Bunurong LCAC	
Recycled Water to open spaces in Frankston & Mornington		Mornington Peninsula and Frankston		South East Water, Melbourne Water, Frankston City Council Mornington Peninsula Shire, Bunurong LCAC	
Princes Highway Reserve		Huntingdale		Monash City Council, South East Water, Yarra Valley Water, Melbourne Water, Bunurong LCAC	
Redevelopment Drainage Schemes for Infill Development Areas		City of Greater Dandenong		City of Greater Dandenong, Melbourne Water, South East Water, Bunurong LCAC	
Finance and funding models to enable putting IWM into practice		Croydon		Melbourne Water, Maroondah City Council, Knox City Council, Bunurong LCAC	
Sandown Racecourse Development		Sandown		Melbourne Water, South East Water, City of Greater Dandenong, Bunurong LCAC, VPA	
Seaford Wetlands Environs Planning Study		Seaford		Frankston City Council, City of Kingston, Melbourne Water, South East Water, Bunurong LCAC	
Stormwater Outfalls Monitoring and Improvements – Eastern Port Phillip Bay		Bayside, Frankston, Kingston and Port Phillip		Bayside City Council, Frankston City Council, City of Kingston, City of Port Phillip, Melbourne Water, Environmental Protection Authority	
Stormwater Outfalls Upgrade – Mornington Peninsula		Mornington Peninsula		Mornington Peninsula Shire Council, Melbourne Water, PPWCMA, Bunurong LCAC	
Process to Support Shared Contributions to Stormwater Harvesting Projects		Metro Melbourne		Yarra Valley Water, Melbourne Water, South East Water, City West Water, Bunurong LCAC, DELWP (Planning), Southern Rural Water	

Tarralla Creek Naturalisation		Croydon		Melbourne Water, Maroondah City Council, Yarra Valley Water, Dept. Health and Human Services, Bunurong LCAC, Southern Rural Water	
The Briars Mt Martha Water Recycling		Mt Martha		Mornington Peninsula Shire Council, South East Water, Melbourne Water, Southern Rural Water	
Upper Blind Creek Stormwater Infrastructure		Sassafras		Knox City Council, Bunurong LCAC	
Using WSUD to Create Urban Amenity and Linkages		Fountain Gate - Narre Warren Activity Centre		Casey City Council, Melbourne Water, Bunurong LCAC	

DRAFT

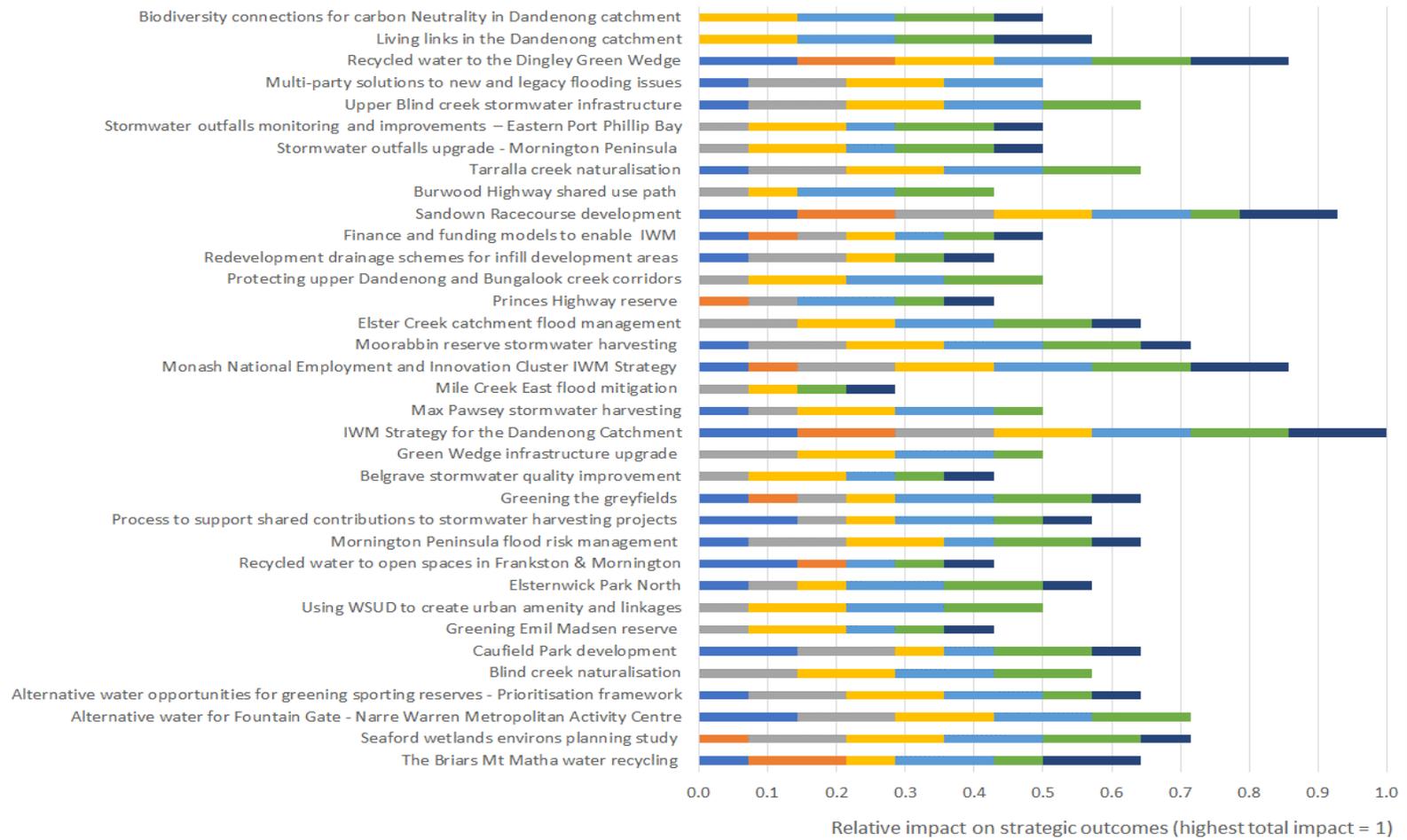
Overall impact of priority projects/strategies on strategic outcomes



DRAFTING NOTE

Insert **stylised diagrams and graphs.**

Impact of priority projects/strategies on strategic outcomes



■ Supply ■ Wastewater ■ Flooding ■ Waterways ■ Landscapes ■ Community ■ Prosperity

Priority Portfolio of IWM Opportunities

DRAFTING NOTE

Icons to be shaded according to high, med, low impact against outcome area identified.

DRAFTING NOTE - Call out box

All of the IWM opportunities included in the Priority Portfolio demonstrate value for the Dandenong catchment. All of these projects and strategies will be enhanced and accelerated by collaboration and visibility through the IWM Forum process. They will all benefit from additional resources and support through the IWM Forum, and from generating new, or enhancing existing, cross-organisational collaboration.

Some projects and strategies in the Priority Portfolio offer unique additional values. These include the potential to generate important cross-organisational learnings and capacity-building benefits for current and future IWM initiatives; the ability to be a mechanism for further IWM advocacy and policy innovation; and a contribution of substantial benefits to the region as a whole, or specifically to its iconic natural assets.

D1. Alternative Water for Fountain Gate - Narre Warren Metropolitan Activity Centre



The Fountain Gate-Narre Warren Central Business District (CBD) lies at the heart of the City of Casey. This activity centre includes Fountain Gate Shopping Centre, Bunjil Place Arts and Entertainment Precinct, Narre Warren Business Park and the Narre Warren Village, as well as several commercial and residential pockets. The site is projected to transition over the next twenty years with a strong focus on economic investment, job growth and high density residential growth. Stormwater management and drainage have been recognised as a key challenge for the precinct.

The aim of this project is to plan a staged approach for delivery of a third pipe stormwater supply network to Fountain Gate-Narre Warren CBD. The harvested stormwater can initially supply sporting ovals and the Casey Aquatic Centre. In future, it can be extended to supply businesses and the wider Narre Warren community.

STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Fountain Gate - Narre Warren Metropolitan Activity Centre
COLLABORATIVE PARTNERS	Casey City Council, South East Water, Bunurong LCAC, Southern Rural Water
SPATIAL SCALE	

D2. Alternative Water Opportunities for Greening Sporting Reserves - Prioritisation Framework



This project involves the development of a prioritisation tool to identify and prioritise recreational reserves that could be irrigated by alternative water.

The outcomes of this project will be coordinated with Council's capital works program and may enhance potential funding opportunities with collaborative partners to implement alternative water supply infrastructure at the prioritised sporting reserves.

STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Narre Warren
COLLABORATIVE PARTNERS	Casey City Council, Melbourne Water, Bunurong LCAC, Southern Rural Water
SPATIAL SCALE	

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives.

D3. Greening Emil Madsen Reserve



Emil Madsen Reserve in Mornington Peninsula is a popular and well-used sporting complex with many ovals. Securing water supply for this reserve is key to ensure the ovals remain suitable for sporting activities. There are opportunities to supply recycled water from the South Eastern Outfall to irrigate the reserve, as well as stormwater harvesting opportunities for the area.

Investigations were previously conducted by South East Water and this project will undertake further investigations to quantify the viability of supplying alternative water to sports ovals in Emil Madsen Reserve.

STATUS	<div style="width: 20%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Mt Eliza
COLLABORATIVE PARTNERS	Mornington Peninsula Shire Council, Melbourne Water, South East Water, Bunurong LCAC , Southern Rural Water
SPATIAL SCALE	

D4. Max Pawsey Stormwater Harvesting



This project will collect stormwater runoff for treatment and reuse to irrigate Max Pawsey Reserve, one of the highest water-consuming reserves in the City of Casey.

Stormwater runoff generated in the local catchment contains significant pollutant loads, such as litter, oil, grease and nutrients. The proposed harvesting system will treat this water to best practice standards before reuse at the reserve, which flows into the Hallam Valley Floodplain before discharging to Port Phillip Bay. The proposed stormwater harvesting system will help reduce the impact of nutrients and pollutant discharge through the landscape to Port Phillip Bay. It will also supply treated water to the Casey Aquatic Recreation Centre to refill swimming pools.

STATUS	<div style="width: 40%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Narre Warren
COLLABORATIVE PARTNERS	Casey City Council, Melbourne Water, Bunurong LCAC , Southern Rural Water
SPATIAL SCALE	

D5. Moorabbin Reserve stormwater harvesting



Moorabbin Reserve is undergoing significant redevelopment works as St Kilda Football Club prepares to return to its 'spiritual home'. As part of the **City of Kingston's** Stormwater Master Planning, this reserve was identified as a potential location for a bio-retention system treating a 259 ha catchment and providing more than 4ML/yr of water for sports ground irrigation.

This project explores funding opportunities to enable detailed design and implementation. There is a keen

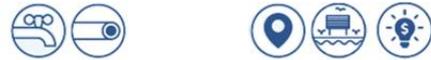
STATUS	<div style="width: 60%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Moorabbin
COLLABORATIVE PARTNERS	City of Kingston, Melbourne Water, Bunurong LCAC , Southern Rural Water
SPATIAL SCALE	

interest to deliver this project as part of the current precinct redevelopment, rather than opening and sectioning off part of the reserve for construction at a later time.

D6. Recycled Water to Open Spaces in Frankston and Mornington Peninsula

During the Millennium Drought, many of the open spaces within Mornington Peninsula Shire and Frankston City Council areas were provided with recycled water. Today, there are opportunities to extend the existing network to other open spaces. However, currently, these extensions do not stack up financially.

This project explores obtaining support from collaborative partners to realise many of these opportunities to ensure secure water supplies to these open spaces.



STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Mornington Peninsula and Frankston
COLLABORATIVE PARTNERS	South East Water, Melbourne Water, Frankston City Council, Mornington Peninsula Shire Council, Bunurong LCAC
SPATIAL SCALE	

D7. Recycled Water to the Dingley Green Wedge

A unique opportunity exists to lay a recycled water pipeline, or 'purple pipe', in conjunction with the upcoming Mordialloc Freeway works to enable a strategic and cost-effective way to provide recycled water infrastructure to Kingston's Green Wedge. The area is home to market gardens, golf courses and parklands, with potential for open space in future to host the Hawthorn Football Club. Within the broader Green Wedge landscape, the Dingley Bypass Green Wedge will have a shared bicycle and footpath along the 6.4km length of the road. The proposed purple pipe could be extended north into Clayton to meet the needs of the new Clayton Business Park residential development planned by the Victorian Planning Authority.

This project investigates the cost-effectiveness of different infrastructure options and the demand for recycled water in the area.



STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Dingley Green Wedge
COLLABORATIVE PARTNERS	South East Water, City of Kingston , VicRoads, Bunurong LCAC
SPATIAL SCALE	

D8. The Briars, Mt Martha Water Recycling

The Briars at Mount Martha is a water recycling demonstration site that will provide opportunities for research, training and trialling food crop irrigation using Class A recycled water.



STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Mount Martha
COLLABORATIVE PARTNERS	Mornington Peninsula Shire Council, South East Water, Melbourne Water, Bunurong

This project aims to seek collaborative funding opportunities for capital budget allocation and agreement of the proposed master plan for The Briars site.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives. It may be a mechanism for further IWM advocacy and policy innovation for alternative water.

PARTNERS LCAC, Southern Rural Water

SPATIAL SCALE 

D9. Blind Creek Naturalisation

A collaboration between Melbourne Water, Knox City Council, South East Water and local community groups, this project will revitalise Blind Creek from Manuka Drive to Scoresby Road in Ferntree Gully through a process called 'daylighting'. By replacing the existing piped waterway with an open and flowing channel, Blind Creek will be restored to a more a natural state. Revegetation of the surrounding creek area will improve the quality of green open space and encourage more connectivity and interaction with the creek.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives.



STATUS 

LOCATION Ferntree Gully

COLLABORATIVE PARTNERS Knox City Council, Melbourne Water, South East Water, Bunurong LCAC

SPATIAL SCALE 

D10. Living Links in the Dandenong Catchment

Living Links is an urban nature project working to create a web of green spaces across Melbourne's south-east. By linking up the many parks, reserves and other natural places in the area, Living Links aims to create a world-class urban ecosystem.

This project focusses on creating a web of green spaces in Dandenong catchment. It builds on and extends the work undertaken in the existing Living Links project undertaken over the past 10 years. The aim is to improve tree canopy cover, as well as access to and along waterways and riparian corridors along Dandenong Creek and other tributaries in the catchment.

Unique value: This project will contribute substantial benefits to the Dandenong region.



STATUS 

LOCATION Dandenong catchment

COLLABORATIVE PARTNERS PPWCMA, Melbourne Water, Bunurong LCAC, Wurundjeri and CCHCAC, Parks Victoria, South East Water, local councils, local community groups and networks

SPATIAL SCALE 

D11. Tarralla Creek Naturalisation

This project uses the daylighting process to naturalise a section of Tarralla Creek in Croydon. There are also opportunities to harvest stormwater to irrigate local sportsgrounds. The project's benefits include place activation and beautification, improved recreational



STATUS 

LOCATION Croydon

COLLABORATIVE PARTNERS Melbourne Water, Maroondah City Council, Yarra Valley Water, Department of Health and

opportunities, urban greening and habitat corridor enhancement, waterway health and water quality improvements, community social cohesion and improved connectivity.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives.

PARTNERS	Human Services, Bunurong LCAC
SPATIAL SCALE	

D12. Using WSUD to Create Urban Amenity and Linkages

Casey City Council is proposing to trial the concept of creating blue-green water sensitive urban design (WSUD) linkages at the Fountain Gate Activity Centre in Narre Warren’s CBD. Using a series of WSUD vegetated streetscape treatment systems, the creation of blue-green linkages within the urban environment will support walkability, cooling and enhance amenity through the precinct.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives.



STATUS	<div style="width: 20px; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Fountain Gate - Narre Warren Activity Centre
COLLABORATIVE PARTNERS	Casey City Council, Melbourne Water , Bunurong LCAC
SPATIAL SCALE	

D13. Finance and Funding Models to Enable IWM

As agencies continue to work collaboratively to achieve multiple benefits through IWM, funding and financing barriers are commonly encountered. This project aims to explore funding and financing issues in the context of Dandenong catchment through two phases.

The first phase of the project will involve knowledge sharing of the significant work underway by Melbourne Water, the CRC for Water Sensitive Cities and others regarding barriers to the funding of IWM projects. The outcomes of this knowledge sharing work will be explored and validated with Dandenong catchment participants. Additional work may be undertaken to explore funding barriers for local government.

The second phase of the project will explore collaborative funding mechanisms, with the potential to apply agreed mechanisms to a case study site within the Dandenong catchment (e.g. Taralla Creek or Blind Creek naturalisation projects).

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building



STATUS	<div style="width: 20px; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Croydon
COLLABORATIVE PARTNERS	Melbourne Water, Maroondah City Council, Knox City Council, Bunurong LCAC
SPATIAL SCALE	

benefits for IWM initiatives, may be a mechanism for further IWM advocacy and policy innovation for alternative water.

D14. Process to Support Shared Contributions to Stormwater Harvesting Projects

Improved and coordinated management of stormwater has been identified as a key issue and barrier in the IWM Forum and by Forum partner organisations. For water businesses, there are some drivers for involvement in stormwater, such as waterway health, however, stormwater management is generally not core business for water retailers. Stormwater harvesting and stormwater use can potentially reduce potable demand as well as provide many other benefits.

This project aims to develop a system or process to support future stormwater harvesting projects by clearly understanding the value they bring to the catchment and articulating mechanisms for distribution of benefits. **The approach could include working with water corporations to understand recent work valuing water in storage and how this could apply to stormwater harvesting.** This project also aims to trial valuation techniques at two pilot sites in the Dandenong catchment, as well as develop recommendations for future funding mechanisms.

Unique value: *This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives in all Forum areas. It may be a mechanism for further IWM advocacy and policy innovation for stormwater management.*



STATUS	
LOCATION	Metro Melbourne
COLLABORATIVE PARTNERS	Yarra Valley Water, Melbourne Water, South East Water, City West Water, Bunurong LCAC, DELWP (Planning), Southern Rural Water
SPATIAL SCALE	

D15. IWM Strategy for the Dandenong Catchment

The Dandenong IWM Forum recognises that the current Priority Portfolio of IWM projects and strategies is based on the experience of Forum Members. The contribution of these opportunities to the Forum's strategic outcomes for IWM has not yet been quantified.

This project aims to address this limitation by developing a catchment-wide IWM Strategy. To negotiate the range of priorities and opportunities within the catchment, this project will first define an agreed plan for developing a catchment-scale strategy in collaboration with all IWM Forum partners. The plan will then be executed to develop a comprehensive IWM Strategy for the Dandenong IWM Forum Area. The strategy will be fully



STATUS	
LOCATION	Dandenong Forum Area
COLLABORATIVE PARTNERS	Dandenong IWM Forum partner organisations
SPATIAL SCALE	

aligned with the Forum’s vision and will identify IWM opportunities with the potential to provide substantial impact and benefits to the region.

Where feasible, the strategy will quantify the impact of catchment-wide IWM opportunities using agreed approaches and datasets. This will help the Forum best understand the level of achievement of the strategic outcomes for IWM, as well as the contribution of high-impact IWM opportunities to various targets currently in place for metropolitan Melbourne. These targets include potable water saving targets and stormwater infiltration/capture targets.

Unique value: This project will contribute substantial benefits to the Dandenong region.

D16. Burwood Highway Shared Use Path

The connectivity of shared use paths between Dandenong Creek and the EastLink motorway provides an invaluable link that will improve community amenity and liveability. This project will connect paths along Dandenong Creek to key community facilities in the cities of Whitehorse, Knox and beyond. Vital to metropolitan Melbourne’s strategic cycling corridor, this path allows users, visitors and the community to enjoy and experience what Dandenong Creek has to offer.

Funding for the construction of a shared path has been secured. The path will run from the south side of Burwood Highway between EastLink and Morack Road and will include a new bridge over Dandenong Creek.



STATUS	<div style="width: 100%; height: 10px; background-color: #4CAF50;"></div>
LOCATION	Wantirna and Vermont South
COLLABORATIVE PARTNERS	Whitehorse City Council, Knox City Council, Vic Roads, Bunurong LCAC
SPATIAL SCALE	

D17. Princes Highway Reserve

Princess Highway Reserve is located in the Monash National Employment and Innovation Centre. The park and sportsground area is space-constrained with increasing demands on it from a number of uses. Whilst active space and place activation in the reserve is central for improved community amenity and security, sewer infrastructure and flood management functions in the reserve are also important.

The project develops a master plan for the area and delivers Stage 1 of that plan.



STATUS	<div style="width: 75%; height: 10px; background-color: #4CAF50;"></div>
LOCATION	Huntingdale
COLLABORATIVE PARTNERS	Monash City Council, South East Water, Yarra Valley Water, Melbourne Water, Bunurong LCAC
SPATIAL SCALE	

D18. Elster Creek Catchment Flood Management



The Elster Creek Catchment exhibits a disproportionate amount of flooding based on its relative size. Flooding events are disruptive to the local community and can cause significant infrastructure and property damage. The increased stormwater runoff passing through the catchment can also impact waterway health and the optimal function of the region's water cycle.

This project investigates opportunities to respond to flood risk at a catchment-scale, building a shared understanding of flooding in the Elster Creek Catchment and increasing community and water sector stakeholder awareness of flood risks and responses.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives. It may be a mechanism for further IWM advocacy and policy innovation for alternative water.

STATUS



LOCATION

Elster Creek catchment

COLLABORATIVE PARTNERS

City of Port Phillip, Glen Eira City Council, City of Kingston, Bayside City Council, Melbourne Water, Bunurong LCAC

SPATIAL SCALE



D19. Multi-party Solutions to New and Legacy Flooding Issues



The legacy stormwater infrastructure within older established areas of Dandenong is designed to cope with low storm intensities. However, infill development in the area is now generating increased stormwater runoffs, leading to a surcharge of existing systems and flooding. It is now imperative that land development proposals incorporate multi-party solutions to accommodate increased runoffs from such developments.

This project investigates options for alternatives to flood retarding basins and other traditional approaches, such as large below ground storages for water harvesting. The project will identify major risk areas by taking a total catchment perspective, and in doing so, seeks opportunities to work together to enable catchment based solutions. This project will also investigate broader catchment-wide benefits of lot-scale rainwater tanks.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives in all Forum areas.

STATUS



LOCATION

Dandenong

COLLABORATIVE PARTNERS

City of Greater Dandenong, City of Kingston, Monash City Council, Bunurong LCAC, Southern Rural Water, Melbourne Water

SPATIAL SCALE



D20. Mile Creek East Flood Mitigation



Poor draining under the Monash Freeway has caused up to 80 residential properties near the road to be regularly inundated with storm and flood water, resulting in property damage and chronic flooding issues. Part of the challenge in the area near Brandon Park Drive is a lack of capacity in drains intended to carry excess water beneath

STATUS



LOCATION

Mulgrave

COLLABORATIVE PARTNERS

Monash City Council, Melbourne Water, VicRoads, Bunurong LCAC, Melbourne University

the freeway to a downstream retarding basin. To address ongoing issues, Monash City Council has installed retarding basins near the flood-prone area and upgraded open spaces to accommodate flood storage. Still, problems persist.

Council has identified a need to achieve an agreed, functional and collaborative solution for managing parts of the water cycle in this flood-prone area. This project seeks opportunities to raise the profile of local flooding challenges with the relevant water cycle stakeholders, including Melbourne Water and VicRoads, and identify an agreed process whereby all parties can address and resolve the lingering flooding issues.

SPATIAL SCALE



D21. Mornington Peninsula Flood Risk Management

This project aims to renew the flood management strategy for the Mornington Peninsula. The existing strategy addresses flooding challenges across the Peninsula and investigates mitigation options for identified risks, including harnessing stormwater reuse opportunities. This work will enable strategic prioritisation of infrastructure works to mitigate flooding. Importantly, it recognises that excess water is a resource for other applications, including irrigation of parklands and sportsgrounds, as well as aquifer recharge.

As part of this strategy, flood models and maps used by the Mornington Peninsula Shire Council will be updated and priority mitigation options will be identified. Outcomes of this project will inform capital works for design and construction, as well as promote stormwater as a valuable resource for the Peninsula community.



STATUS



LOCATION

Mornington Peninsula

COLLABORATIVE PARTNERS

Mornington Peninsula Shire Council, Melbourne Water, **Bunurong LCAC**, **Southern Rural Water**

SPATIAL SCALE



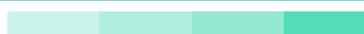
D22. Stormwater Outfalls Upgrade - Mornington Peninsula

The Mornington Peninsula's beach areas are a prime destination for locals, holidaymakers and visitors from near and far. Beach water quality has a significant impact on recreational use and the health of the marine environment. Improvements to water quality can improve waterway health and reduce the instance of beach closures during the peak summer months when seaside recreation is most popular.

In the Mornington Peninsula Shire Council area, there are more than 150 stormwater outlets that flow directly to Port Phillip Bay. Less than 15 per cent of these outlets



STATUS



LOCATION

Mornington Peninsula

COLLABORATIVE PARTNERS

Mornington Peninsula Shire, Melbourne Water, PPWCMA, **Bunurong LCAC**

SPATIAL SCALE



contain litter traps to prevent litter entering the bay. A recent review of all stormwater outlets has assessed each in terms of health and safety, aesthetics, functionality and impact on the environment. A costed action plan has been developed to upgrade each outlet in order of priority.

This project will maximise collaborative opportunities to implement the action plan and improve the quality of stormwater entering Port Phillip Bay **by installing up to 150 Gross Pollutant Traps in the region.**

D23. Stormwater Outfalls

Monitoring and Improvements – Eastern Port Phillip Bay

The bayside beach areas of Port Phillip Bay are some of Victoria’s most iconic, well-loved and well-used seaside destinations. However, stormwater outfalls discharging directly to the bay can carry litter and pollutants to the water, impacting on water quality, recreation and the health of this cherished marine environment.

This project aims to increase the frequency of water quality monitoring at **stormwater discharge points to the bay. It will establish citizen science to monitor water quality. In doing so, this project also aims to raise community awareness of pollution arising from stormwater outfalls.**



STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Bayside, Frankston, Kingston and Port Phillip
COLLABORATIVE PARTNERS	Bayside City Council, Frankston City Council, City of Kingston, City of Port Phillip , Melbourne Water, Environmental Protection Authority, Bunurong LCAC
SPATIAL SCALE	

D24. Belgrave Stormwater Quality Improvement

Monbulk Creek is a valuable urban waterway in the Belgrave area. The creek is currently under threat from high volumes of stormwater generated from the rapidly growing communities nearby.

To protect the creek’s ecosystems before they degrade entirely, this project **will** identify stormwater management measures in the Belgrave area that will consider the importance and sensitivity of the Monbulk Creek environment. **The project aims to disconnect directly connected impervious surfaces in the upper Dandenong Creek catchment at Monbulk. The first stage envisions the management of stormwater quality and quantity discharging to creeks.**



STATUS	<div style="width: 100%; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Belgrave
COLLABORATIVE PARTNERS	Yarra Ranges Shire Council, Knox City Council, Melbourne Water, Bunurong LCAC
SPATIAL SCALE	

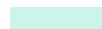
D25. Protecting Upper Dandenong and Bungalook Creek Corridors

The Upper Dandenong and Bungalook Creek corridors provide valuable amenity benefits to the communities living in the upper reaches of the Dandenong Creek. Open space reserves along the creek corridors will likely be developed in future for arterial roadways as Melbourne's population and transport needs grow.

This project develops a concept plan to protect and enhance the environmental and social benefits of the Upper Dandenong and Bungalook Creek corridors where they align with the Healesville Freeway reservation.



STATUS



LOCATION

Mooroolbark

COLLABORATIVE PARTNERS

Maroondah City Council, Whitehorse City Council, Knox City Council and Yarra Ranges Shire Council, Melbourne Water, VicRoads, **Bunurong LCAC**

SPATIAL SCALE



D26. Seaford Wetlands Environs Planning Study

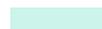
The Edithvale-Seaford Wetlands are internationally significant habitats for a diversity of birdlife, including several rare and endangered migratory water birds from as far afield as Siberia. Melbourne Water has recently completed a management plan for the area, listed as a Wetland of International Importance under the Ramsar Convention.

This project undertakes a follow-up investigation into stormwater impacts on the Seaford Wetlands reserve from the surrounding residential area with a view to implement measures to reduce the impact of urban development on this important Ramsar site.

Outputs of this project will inform new planning controls on urban developments in the surrounding area and capital improvement measures for the local drainage network.



STATUS



LOCATION

Seaford

COLLABORATIVE PARTNERS

Frankston City Council, **City of Kingston**, Melbourne Water, South East Water, **Bunurong LCAC**

SPATIAL SCALE



D27. Upper Blind Creek Stormwater Infrastructure

Improving the quality of stormwater discharging into the upper reaches of Dandenong Creek is key to improving the health of waterways in the whole Dandenong catchment.

This strategy investigates the feasibility of building infrastructure for effective stormwater management in Blind Creek, which flows from the Dandenong Ranges National Park into Dandenong Creek. This investigation will include areas where land is owned and managed by other organisations, such as Parks Victoria.



STATUS



LOCATION

Sassafras

COLLABORATIVE PARTNERS

Knox City Council, Melbourne Water, Parks Victoria, **Bunurong LCAC**

SPATIAL SCALE



D28. Green Wedge Infrastructure Upgrade



The Greater Dandenong Green Wedge makes up 29 per cent of the total area of the City of Greater Dandenong and provides a green, spacious relief from surrounding urban development. The area supports a range of activities – agriculture, water treatment, recreation, education and rural living – that are carefully located and designed to respect the important environmental, cultural heritage, water management, landscape and amenity values, and functions of the region.

This project implements key actions from the *Greater Dandenong Green Wedge Plan 2017* and the *Greater Dandenong Sustainable Stormwater Strategy 2016*, which both contain proposals for infrastructure development within the Greater Dandenong Green Wedge.

STATUS	<div style="width: 100%; height: 10px; background-color: #4CAF50;"></div>
LOCATION	City of Greater Dandenong
COLLABORATIVE PARTNERS	City of Greater Dandenong, Melbourne Water, South East Water, Bunurong LCAC
SPATIAL SCALE	

D29. Caulfield Park Development



The Victorian Planning Authority is leading the preparation of a structure plan for the Caulfield Station Precinct. Located 10 km southeast of Melbourne’s CBD within the municipality of Glen Eira, the Caulfield Station Precinct is centred around Caulfield Train Station and the recreational area of Caulfield Park.

This project investigates the possibility of including water sensitive aspects in the redevelopment of Caulfield Park. Water sensitive features may include improvements to an ornamental lake that presently acts as part wetland and part irrigation storage pond. Other features may include water quality treatment with flood retention and stormwater harvesting to irrigate sports ovals, trees and garden beds within Caulfield Park.

There are a range of benefits to implementing water sensitive features in this area. These include flood mitigation, improvements to sports field drainage, enhancements to passive and active recreation, water quality treatments and stormwater harvesting for irrigation.

STATUS	<div style="width: 75%; height: 10px; background-color: #4CAF50;"></div>
LOCATION	Caulfield North
COLLABORATIVE PARTNERS	Glen Eira City Council, Melbourne Water, South East Water, Victorian Planning Authority, Bunurong LCAC
SPATIAL SCALE	

D30. Elsternwick Park



The four Councils in the Elster Creek catchment: Bayside

STATUS	<div style="width: 25%; height: 10px; background-color: #4CAF50;"></div>
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City Council, City of Port Phillip, City of Glen Eira and City of Kingston and Melbourne Water, have agreed to oversee the redevelopment of Elsternwick Park North in the context of the Elster Creek Catchment Action Plan. This Action Plan focusses on providing effective stormwater and flood management of the Elster Creek catchment. Bayside City Council has resolved to close the Elsternwick Golf Course and create a passive recreation/environmentally focussed park, with an aim to improve flood mitigation and water quality in the Elster Creek catchment. This site also has the capacity to deliver community and environmental benefits including passive recreation and revegetation.

This project aims at exploring water sensitive solutions for Elsternwick Park North by considering their impact of flooding within the Elwood area..

LOCATION	Elsternwick Park North
COLLABORATIVE PARTNERS	Bayside City Council, City of Port Phillip, Glen Eira City Council, City of Kingston, Melbourne Water, Bunurong LCAC
SPATIAL SCALE	

D31. Greening the Greyfields

This project explores approaches to sustainably revitalise aging suburbs in the City of Maroondah. The project envisions using redevelopment works in the Eastfield precinct as a pilot site to explore water sensitive approaches to upgrade existing residential areas and community public spaces.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives. It may be a mechanism for further IWM advocacy and policy innovation for alternative water. This project will contribute substantial benefits to the Dandenong region.

	
STATUS	
LOCATION	Maroondah
COLLABORATIVE PARTNERS	Maroondah City Council, Knox City Council City, Swinburne University, Bunurong LCAC
SPATIAL SCALE	

D32. Monash National Employment and Innovation Cluster IWM Strategy

Can the presence of water in the urban environment attract employment and jobs to an area? This project develops an IWM strategy at the Monash NEIC to determine how water can influence infill development to improve local liveability and prosperity, as well as environmental and economic outcomes for the precinct.

Unique value: This project has the potential to generate cross-organisational learnings and capacity-building benefits for IWM initiatives. It may be a mechanism for further IWM advocacy and policy innovation for alternative water. This project will contribute substantial benefits to the Dandenong region.

	
STATUS	
LOCATION	Clayton
COLLABORATIVE PARTNERS	South East Water, Victorian Planning Authority, City of Kingston, Monash City Council, Yarra Valley Water, City of Greater Dandenong, Melbourne Water, Bunurong LCAC, VPA
SPATIAL SCALE	

D33. Redevelopment Drainage Schemes for Infill Development Areas

Dandenong's older established residential areas are

	
STATUS	

serviced by under capacity stormwater infrastructure systems. High density development, including multi-storey residential development, is creating increased stormwater runoff that surcharges existing drainage infrastructure. Consequently, flood risks for properties and road infrastructure have increased considerably.

This strategy will investigate the formulation of redevelopment drainage schemes that local government authorities could implement to address stormwater related issues caused by infill development.

LOCATION	Dandenong
COLLABORATIVE PARTNERS	City of Greater Dandenong, Melbourne Water, South East Water, Bunurong LCAC
SPATIAL SCALE	

D34. Sandown Racecourse Development

This project investigates IWM opportunities for Sandown Racecourse, located in south-eastern Melbourne between Dandenong and Springvale. The site is currently under consideration for redevelopment, with its current owner, Melbourne Racing Club, undertaking IWM planning investigations.

As the site contains major waterways of critical significance to the Monash NEIC, redevelopment will require careful consideration of waterway sensitivity and health.

South East Water will initiate work to develop an IWM Plan for the broader area covered by the Monash NEIC to complement the place-based IWM Plan under development for Sandown Racecourse.



STATUS	<div style="width: 20px; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Sandown
COLLABORATIVE PARTNERS	Melbourne Water, South East Water, City of Greater Dandenong, Bunurong LCAC, VPA
SPATIAL SCALE	

D35. Biodiversity Connections for Carbon-Neutrality

Victoria’s water authorities are committed to becoming carbon neutral. Achieving this will require various actions to reduce carbon emissions. It will also likely require some offsetting of carbon emissions.

Work has been under way over the past two years between water authorities and catchment management authorities to develop and trial arrangements that see carbon offsets being achieved through revegetation whilst also providing other environmental and social benefits in local areas.

This collaborative project will trial a process for revegetation in priority areas of the Dandenong catchment that can contribute to carbon offsets. It will also assess the costs and benefits to enable improved decision-making regarding carbon offsets in the future.



STATUS	<div style="width: 20px; height: 10px; background-color: #c8e6c9;"></div>
LOCATION	Dandenong catchment
COLLABORATIVE PARTNERS	PPWCMA, South East Water, Bunurong LCAC
SPATIAL SCALE	

Strategic Enablers to Put IWM into Practice

The IWM Forums were established in Victoria to identify, coordinate and prioritise place-based and catchment-wide opportunities that would most benefit from collaborative water cycle planning and management.

Alongside these opportunities, the IWM Forum Members identified a range of barriers that could prevent effective implementation of IWM across metropolitan Melbourne and regional Victoria.

The DELWP Water and Catchments Group is responsible for addressing these barriers to implementation in a holistic manner alongside relevant government organisations involved in land use planning and land management.

Advisory groups drawing on industry and independent expertise support DELWP in the development and implementation of strategic initiatives to fill knowledge gaps and address issues identified through the IWM Forum process.

Barriers to IWM are reviewed, with local implications and potential state-wide resolutions discussed. These discussions will help DELWP determine potential options for policy reform and associated areas of impact for industry sectors and organisations.

Advisory groups provide advice regarding areas where planning, water, local government and other arms of government need to work more collaboratively to maintain and enhance the liveability and resilience of Victoria's cities and towns.

DRAFT

DRAFTING NOTE

Two success stories of IWM are inserted in this section. Brief descriptions are given in this draft. Full Case Study descriptions -forthcoming.

Success Stories

Success stories of IWM: Enhancing Dandenong Creek

What: Development and delivery of a range of water projects, including amenity improvements (Daylighting Dandenong Creek, interpretative signage, billabong renewals), native fish habitats, pollution management campaign and investigations

Who: Melbourne Water, in collaboration with Knox CC, Maroondah CC, EPA, SEW and YVW, and FFDC, KES, Heathmont Bushcare

Where: Heathmont and Bayswater

Why: Driven by MW as a package of compensatory measures to manage the impacts and risk to Dandenong Creek beneficial uses from wet weather sewer overflows

Outcomes/Benefits

- Improved relationships, trust and reputational benefits
- Delivery of improvements to waterway values at least cost to community, including improved amenity and access to recreational facilities, improved awareness of waterway issues and history, sustainable population of endangered native fish.



Success stories of IWM: Elster Creek Catchment Collaboration

What: Catchment scale planning and mitigation

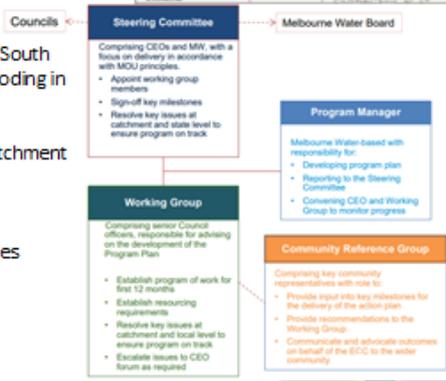
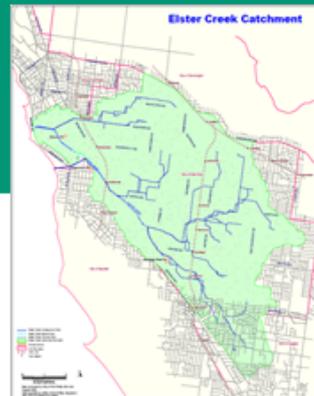
Who: Melbourne Water, Bayside, Glen Eira, Kingston, and Port Phillip

Where: Elster Creek Catchment (Elwood, Glen Huntly, Caulfield, Moorabbin, Bentleigh)

Why: Flood mitigation solutions require collaboration across organisation

Outcome/Benefit:

- Top down approach
 - 2016 – Mayor Bernadene Voss requested the Inner Metro South Mayoral Forum commit to catchment wide solutions to flooding in Elster Creek
 - March 2017 – CEO Forum established
 - CEO Forum instigates establishment of the Elster Creek Catchment Working Group
 - May 2017 – MOU signed by all parties
 - November 2017 – 12 month Action Plan endorsed
- Catchment scale collaboration across local government boundaries
- Signed MOU and Governance structure established
- Action Plan endorsed with shared responsibility for outcomes
- Focus on communication back to the community
- Leadership and commitment continues from the top



Continued Success through Collaboration

IWM is an evolving process that seeks to coordinate and balance many views and interests in the water sector around common goals and agreed outcomes.

The IWM planning is summarised in Figure XXYZZ.

Phase One of the IWM Forum cycle has established an enabling environment for Victoria’s water sector stakeholders to develop shared IWM objectives and overcome sectoral, institutional and geographic boundaries through collaboration. This phase was guided by the experience and knowledge of the Forum Members.

Phase Two of the IWM Forum cycle will assume a more strategic approach to successful IWM planning and implementation for the Forum Area. This phase may include the development of a catchment-wide strategy for IWM if the IWM Forum agrees that this is suitable for the region.

Phase Two will provide an opportunity for IWM Forum Members to update relevant organisational policies, plans and strategies to reflect the outcomes of the IWM Forum.

With advice from the Resilient Cities and Towns Reference Group and support from DELWP, it is anticipated that the IWM Forum collaborative partners will continue to use their best endeavours to advance priority IWM initiatives through regular meetings and future Forums in 2019-2020.

Forum Members and DELWP will continue to collaboratively progress the IWM opportunities identified in Phase One but not yet committed at the time of publication of this SDS (refer to Appendix).

Phase Two will create an opportunity to evaluate and share learnings from Phase One to benefit stakeholders, optimise resources and explore the development of innovative tools and demand-responsive approaches in the future.

		Outcomes	Participants
	Establish Organisational leaders come together in collaborative IWM Forums to discuss integrated water management opportunities and priorities for each region	Preliminary work on regional characterisation (offline, where necessary) Agree vision and objectives, goals & targets (where appropriate) Agree criteria for selection and prioritisation of opportunities Opportunities identified and prioritised IWM Plan Working Groups form to progress priority projects and build intra-organisational support (offline)	Local governments Catchment Management Authorities Water corporations Department of Environment, Land, Water and Planning Chair Others as relevant
↓		Develop Working groups will form to develop IWM Plans for prioritised projects	Relevant organisations who are a part of a sub group
↓		Incorporate Organisations incorporate relevant elements of IWM Plans in their own planning system, e.g. Council and corporate plans	Individual organisations who have committed to a project
↓		Deliver IWM Plans are implemented	Individual organisations who have committed to a project

IWM Forums collaborate and oversee ongoing IWM planning

Figure XXYZZ: The IWM planning process.

DRAFTING NOTE
 Insert stylised illustration which conveys phase 1 and 2 (forthcoming.)

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Appendix

Glossary of Terms

DRAFT

IWM Opportunities in the Dandenong catchment

The following list of IWM opportunities was identified by the Dandenong IWM Forum in the first phase of the Forum cycle. At the time of publication, these opportunities were not yet committed by the collaborative partners.

However, they are indicative of important IWM opportunities for the catchment and represent potential future priorities for the Dandenong IWM Forum.

Further assessment of these opportunities will be required to achieve commitment by the Forum.

DRAFTING NOTE

Insert stylised long list of projects

Design layout forthcoming. Strategic outcome area icons to be included in final design with appropriate shading.

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IWM Opportunity	Lead Sponsor	IWM Theme	Strategic Outcome Areas
D36. Balcombe Estuary Sedimentation	Mornington Peninsula Shire	Improving stormwater discharging to waterways	
D37. Catchment-scale Study to Apply Distributed Storages	Melbourne Water	Improving flood management	
D38. Ballam Park Stormwater Treatment and Harvesting	Frankston City Council	Alternative water supply for fit-for-purpose uses	
D39. Beauty and Frankston Park Stormwater Treatment and Harvesting	Frankston City Council	Alternative water supply for fit-for-purpose uses	
D40. Caulfield Racecourse Development	Glen Eira City Council	Water sensitive infill developments	
D41. Disconnection of Upper Dandenong Creek Priority Waterways	Glen Eira City Council	Improving stormwater discharging to waterways	
D42. Environment Account for Dandenong IWM Forum Area	Port Phillip and Westernport CMA	Identifying catchment scale IWM opportunities	
D43. Harvesting Stormwater for Irrigating Pink Reserve	Yarra Ranges Council	Alternative water supply for fit-for-purpose uses	
D44. Improving Discharges from Aged Septic Tank Systems into Stormwater System and Waterways	Yarra Ranges Council	Improving stormwater discharging to waterways	

D45. Mapping the City - SBO 1 and 2	Melbourne Water	Improving flood management	
D46. Mile Creek Naturalisation	Monash City Council	Blue-green corridors	
D47. Monitoring Water Mains using Network Intelligence, Smart Technologies and Data Sharing to Prevent Infiltration into Stormwater Drains	Whitehorse City Council	Improving stormwater discharging to waterways	
D48. Monterey Recycled Water Scheme	Frankston City Council	Alternative water supply for fit-for-purpose uses	
D49. Naturalisation of Hallam Valley Drain	Casey City Council	Blue-green corridors	
D50. Re-evaluation of the Purple Pipe Extension	South East Water	Alternative water supply for fit-for-purpose uses	
D51. Testing the 60Ha Rule – Dandenong Case Study	Melbourne Water	Improving flood management	
D52. Water Quality Monitoring Hampton Park	Casey City Council	Improving stormwater discharging to waterways	
D53. East Village Development	Glen Eira City Council	Water sensitive infill developments	
D54. Kingston Green Wedge Wetlands	City of Kingston	Water sensitive green wedge developments	
D55. Precinct-scale Brownfield Development	MW	Enabling cross-organisation investments	

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