

WATERSHED: TOWARDS A WATER SENSITIVE DAREBIN

Implementation Plan

2015-2025



Implementation Plan Development

This project has been assisted by the Victorian Government through Melbourne Water Corporation as part of the Living Rivers Stormwater Program.

Darebin Council's *Watershed: Towards a Water Sensitive Darebin* Implementation Plan has been developed by Darebin City Council with assistance from E2Designlab.

The Council has collaborated with key stakeholders in the drafting of this Strategy and Implementation Plan, including Melbourne Water, Yarra Valley Water, Department of Environment, Land, Water & Planning, EPA Victoria, Monash and Latrobe Universities, neighbouring councils, local environmental and community groups and others.

Prepared By: Environment and Natural Resources, Darebin City Council with assistance from E2Designlab.

Date: June, 2015

Status: Final, Approved 15 June 2015

Contents

Introduction to this document.....	1
Our Vision	1
Outcomes	2
What are we aiming for?	3
Targets	4
How will we achieve our vision?.....	7
Our Implementation Plan	8
1. Council Leadership	10
2. Requirements and Responsibilities	12
3. Communication Processes	15
4. Knowledge and Skills.....	17
5. Demonstration Projects.....	19
6. Continuous improvement	21

Introduction to this document

This implementation plan provides a framework for action to support the delivery of the City of Darebin's whole of water cycle strategy - *Watershed: Towards a Water Sensitive Darebin*. The strategy marks our Watershed – our turning point, a critical time for us to move forward and progress the way we manage water using a more integrated, whole of water cycle approach. The strategy is reliant on this implementation plan to develop our path and to realise our vision of becoming a water sensitive city – one that considers the whole catchment, our ecosystems and biodiversity and Council's leadership and the community.

Our Vision

Darebin will be a Water Sensitive City that values water and manages it wisely to enhance liveability, support a healthy environment and build resilience to drought and climate change: a city where people want to live.

Outcomes

There are three primary outcomes we are working for to create a water sensitive Darebin (below). Each of these outcomes depends on a range of structural (physical) and non-structural actions and projects. They been developed from initial consultation with key internal and external stakeholders and are based on information and analysis outlined in the Background Studies.

Outcome 1: Water Systems to support a Resilient City	Outcome 2: Water for the Environment and Liveability	Outcome 3: Water Smart Council and Community
<ul style="list-style-type: none"> ✓ Responsible use of water ✓ Fit for purpose water sources ✓ Best practice stormwater management ✓ Flood risk mitigation 	<ul style="list-style-type: none"> ✓ Healthy waterways and waterbodies ✓ Healthy ecosystems and biodiversity ✓ Greener spaces and healthy trees ✓ Good urban design 	<ul style="list-style-type: none"> ✓ Council working collaboratively ✓ Informed and engaged community ✓ Working partnerships ✓ Working together for joint benefits

What are we aiming for?

To measure our outcomes we will be setting targets and using key performance indicators to track progress and ensure that the intended outcomes are being delivered. Our targets are measurable and directly relate to the desired outcomes of the *Watershed: Towards a Water Sensitive Darebin's* vision. These targets are assessed to be practicable and achievable (see Background Studies) and be reported against annually, with the overall implementation plan actions and targets being reviewed in 2020.

2025 Targets

Target number	2025 Target What are we aiming for?	Key performance indicator What are we measuring?	Baseline What base are we measuring against?	Data source How will we monitor progress?
Water Systems to support a Resilient City				
1	Reduce Council's annual potable water use by 15%	ML of Council potable water use	2013-2014 baseline: 228 ML/yr	Yarra Valley Water annual records
2	Increase Council's annual use of water from alternative sources by 30 ML	ML of Council alternative water use from an alternative water source (e.g. rainwater, stormwater, recycled water)	2013-2014 baseline: 101 ML/yr	Estimates based on asset register of alternative sources (supplemented with meter readings where available)
3	Reduce the number of properties identified as being in high flood hazard zones from Council drains by 5%	Percentage of properties benefitting from reduced flood risk through works carried out	2013-2014 baseline: To be determined by Darebin Drainage Study Review	In-house flood modelling and capital works projects undertaken
4	Work with the State Government and others to support the reduction of annual residential potable water use to a maximum of 155 litres per person per day	ML of residential potable water use	2013-2014 baseline: 157 litres per person per day (148,556 people using 8,526 ML/yr)	Yarra Valley Water annual records
5	Work with State Government and others to support the reduction of non-residential potable water use by 3%	ML of non-residential potable water use	2013-2014 baseline: 2,507 ML/yr	Yarra Valley Water annual records

Water for the Environment and Liveability

6	Reduce annual nitrogen load leaving the municipality by a further 650kg	Load reduction in pollutants in stormwater runoff (total nitrogen)	2013-2014 baseline: 347 kg is removed per year through council activities	Model treatment for each new device/project using MUSIC or STORM, or estimate using unit rates provided in asset register.
7	Continue to ensure that, 100% of new or replacement trees planted have either: <ul style="list-style-type: none"> • no irrigation need (beyond establishment) • passive irrigation • irrigation from alternative water sources 	% of new trees planted that do not rely on potable water for irrigation beyond establishment	2013-14 baseline: 100% of new and replacement trees	Monitor in conjunction with the urban forest and streetscape strategy.
8	Ensure that 100% of sports grounds, sports courts, sports fields, sports courses and other sports areas either have: <ul style="list-style-type: none"> • warm season grasses • no irrigation need • irrigation from alternative water sources • treatment to reduce water use 	% of sports grounds that continue to provide safe playing surfaces with reduced reliance on potable water	Baseline information to be developed in 2015-16	Record water sources and management strategy for playing fields

Water Smart Council and Community

9	Hold a minimum of four Water Sensitive City Group meetings per year	Number of Water Sensitive City Group meetings	N/A	Council records
10	Invest a minimum of eighty hours of Council staff total time in water-related training annually	Number of staff hours spent in water-related training per year	N/A	Council records
11	Ensure 100% of water related capital works have allocated maintenance budget	Budget expended for maintenance of water infrastructure	N/A	From council budget records year to year
12	Hold a minimum of three water focused community engagement and education activities each year.	Number of community engagement and education activities related to creating a water sensitive city	N/A	Council records

How will we achieve our vision?

A range of factors are critical to support the journey towards achieving our *Watershed* vision. A substantial research base indicates that six essential transition factors are needed to support Councils becoming water sensitive. These factors incorporate structural and non-structural actions, projects and mechanisms and are:

1. **Council leadership:** A well communicated commitment and demonstration of that commitment is needed to support change.
2. **Requirements and responsibilities:** Clear requirements are needed for Council, communities, developers and businesses which define specific performance expectations and activities. Clarity of roles and responsibilities within Council also supports delivery of initiatives and successful collaboration.
3. **Communication processes:** As a range of disciplines and stakeholders can influence water, communication is essential. Processes need to be in place to welcome collaboration and to distribute knowledge and recognition.
4. **Knowledge and skills:** Enabling a change in the way we manage water requires some specialist knowledge and skills. This can be supported through training, specialist positions and the development of guidance and tools for council staff and local communities.
5. **Demonstration projects:** New technologies and changes to processes, facilities and the local landscape benefit from demonstration and projects to gain support and to trigger and inspire wider change.
6. **Continuous improvement:** An important element of transition is the ability and desire to continually seek to improve Council and community water use, buildings, behaviours, actions, operations and assets and to monitor and review progress.

Detailed action tables key:

No.	Action	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility				
Action number	Description of action	Appraisal of the contribution of action to key outcomes			<table border="1"> <tr> <td colspan="2" data-bbox="972 485 1319 555">Within Current Resources</td> </tr> <tr> <td data-bbox="972 555 1319 625">Estimated Operating Cost</td> <td data-bbox="972 625 1319 738">Estimated Capital Cost</td> </tr> </table>	Within Current Resources		Estimated Operating Cost	Estimated Capital Cost	Priority level: <ul style="list-style-type: none"> • Critical • High • Med • Low 	Target reference numbers or 'All' where all targets are supported	Responsible lead council department denoted in bold with other key supporting departments listed in order of responsibility for delivery of action
Within Current Resources												
Estimated Operating Cost	Estimated Capital Cost											
		✓	Some support for the outcome									
		✓✓	Good support for the outcome									
		✓✓✓	Excellent support for the outcome									

1. Council Leadership

No.	Recommended Actions – Council Leadership A well communicated commitment and demonstration of that commitment is needed by a council to support change.	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility
Communicate intentions								
CL1	Endorse a council position on water sensitive cities (achieved through this strategy).	✓✓✓	✓✓✓	✓✓✓		Critical	All	Environment
CL2	Ensure any review or development of Council Strategies, policies and/or plans align with the Watershed: Towards a Water Sensitive Darebin Strategy to support water sensitive city outcomes.	✓✓✓	✓✓✓	✓✓✓		High	All	Environment, Water Sensitive City Group
Commit to action								
CL3	Develop and monitor appropriate targets for key outcomes annually (as set out by this strategy).	✓✓✓	✓✓✓	✓✓✓		Critical	All	Environment, Water Sensitive City Group
CL4	Create a Water Sensitive City Group to direct and manage delivery of the implementation plan.	✓✓✓	✓✓✓	✓✓✓		Critical	9	Environment, Engineering, Public Realm, Parks, Planning, Facilities, Leisure, Assets and Properties, City Works, Civic Compliance, Project Management Office
CL5	Seek an annual budget and capital works funding for Water Sensitive Darebin initiatives for the period of this strategy.	✓✓✓	✓✓✓	✓✓✓		Critical	1-3, 6-8	Environment, Public Realm, Engineering, Parks, Facilities, Assets and Properties, City Works, Leisure, Transport

CL6	Identify and allocate funding for adequate maintenance and management of existing and new water management assets	✓✓✓	✓✓✓	✓✓✓	Existing: \$270k/yr New: \$75k/yr by yr 5	Critical	11	Environment , Engineering, Public Realm, Parks, Facilities, Assets and Properties, City Works
CL7	Conduct an audit of existing Council buildings to identify and evaluate opportunities for water efficiency, rainwater harvesting, WSUD and flood mitigation.	✓✓✓	✓	✓✓✓	\$30k study	Medium	1-2, 6	Environment , Facilities
CL8	Resulting from audit outcomes, improve water efficiency across Council buildings and facilities	✓✓✓	✓✓	✓✓✓	<\$10k / building	Medium	1-2, 6	Facilities , Environment, Major Projects, Leisure, Assets and Properties
Lead by example								
CL9	Formally review opportunities and develop a process to integrate best practice stormwater management into all new and replacement Council infrastructure	✓✓	✓✓✓	✓✓✓		High	6	Project Management Office , Environment, Engineering, Major Projects, Assets and Properties, Transport
CL10	Use the ongoing audit of Council's assets, to identify existing Council Buildings that can be retrofitted to meet best practice water management	✓✓	✓✓✓	✓✓✓		High	1-2, 6	Environment , Facilities
CL11	Develop Council construction management plans with best practice requirements as a minimum for stormwater management and protection on all Council development sites, including requirements for Council contractors	✓✓	✓✓✓	✓✓✓		High	6	Project Management Office , Environment, Engineering, Water Sensitive City Group
CL12	Continue to work with the State Government, Yarra Valley Water, community groups and residents to achieve residential water use reduction targets through programs, behaviour change and other solutions.	✓✓✓	✓✓	✓✓✓		Critical	4	Environment , Water Sensitive City Group
CL13	Investigate potential to work in partnership with the State Government and other agencies to reduce business water use	✓✓✓	✓✓	✓✓✓		Critical	5	Environment , Business Development
CL14	Review the strategy and implementation plan periodically to update with new information and findings	✓✓✓	✓✓✓	✓✓✓		Critical	All	Environment

2. Requirements and Responsibilities

No.	Recommended Actions – Requirements and Responsibilities Clear requirements are needed for Council, communities, developers and businesses which define specific performance expectations and activities.	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility
Planning policy and enforcement								
RR1	Develop a Local Area Planning Policy which includes requirements for a wider range of development types and sizes to meet best practice stormwater management requirements (following Mooney Valley precedent).	✓✓✓	✓✓	✓✓✓		High	4-6	Planning , Engineering, Environment
RR2	Investigate the development of an Environmental Sustainable Development Policy, that includes water sensitive targets for new developments and Council buildings.	✓✓✓	✓✓	✓✓✓		Critical	1, 2, 4-6	Environment , Planning
RR3	Conduct an internal review of ways to strengthen the enforcement of planning requirements for permeable areas in new development lots to increase compliance.	✓✓	✓✓	✓✓		Low	3, 6	Planning , Civic Compliance
RR4	Investigate the long term implications of on-lot detention tanks, giving special consideration to the chain of management and responsibility for maintenance, resulting in a method to ensure ongoing maintenance needs are addressed (e.g. permit requirements).	✓✓✓	✓	✓✓	\$50k study	Low	3	Engineering , Planning, Assets and Properties
RR5	Resource staff to check compliance with water management and ESD requirements for pre and post development.	✓✓	✓	✓✓	\$85k / yr (1 EFT)*	High	3-6	Civic Compliance , Planning, Engineering, Environment
RR6	Where appropriate include blue-green corridors (water and green space in the environment) and multi-functional open space by embedding into masterplans, precinct plans and other open space strategies.	✓	✓✓	✓		Medium	3, 6-8	Public Realm , Planning, Parks, Engineering, Environment, Health and Urban Protection, Transport
RR7	Investigate potential incentives such as for Council to fast track planning applications which include water and/or WSUD innovations beyond best practice.	✓✓	✓	✓✓		Low	4-6	Planning , Environment, Engineering

RR8	Complete detailed flood mapping across the City of Darebin.	✓✓✓	✓	✓		Critical	3	Engineering, Planning
RR9	Supplement flood mapping with mapping of floor levels across the municipality.	✓✓✓	✓	✓		Critical	3	Engineering, Planning
RR10	Undertake early engagement with Yarra Valley Water to explore opportunities for integrated water cycle management in areas proposed for high density growth.	✓✓✓	✓✓✓	✓✓✓		High	All	Planning, Environment, Engineering
Clear internal Council responsibilities								
RR11	Develop and implement WSUD best practice approaches for Council staff to define the process of water management asset conception, design, build, hold-points, handover, maintenance, timing, consultation and input from all Council departments ensuring requirements of all areas are incorporated at each step of the process. Ensure particular attention is given to processes for WSUD handover to Maintenance staff and maintenance funding.	✓✓	✓✓	✓✓✓		High	1-3 6-8, 10	Project Management Office, Environment, Engineering, Public Realm, Assets and Properties, Parks, Transport
RR12	Develop processes to ensure water outcomes are incorporated into project designs so that all Council developments and projects actively identify and take action on water harvesting and other water sensitive opportunities.	✓✓	✓✓	✓✓✓	Minor: <\$20k Major: \$100-300k	Medium	1-3 6, 10	Environment, Major Projects, Project Management Office, Water Sensitive City Group
RR13	Hold internal workshop/s to define and agree on maintenance roles and responsibilities for WSUD, including clarifying different roles/responsibilities for different WSUD types/locations (e.g. in roadways, open spaces, lots) and ensure WSUD handover process for maintenance and staff maintenance funding is specifically addressed with agreed processes developed and built into WSUD best practice approach (RR11).	✓✓	✓✓	✓✓✓		Critical	10, 11	Environment, Public Realm, Parks, Water Sensitive City Group, Transport
RR14	Investigate solutions for Council and all Council's contractors to use alternative water sources such as Edwardes Lake, The Cascades, Bundoora Park Dam, Gresswell Lakes or other sources as the truck filling water source for irrigation and/or other uses instead of local hydrants. Investigate potential to utilise water from Yarra Valley Water hydrant tests.	✓✓✓	✓✓	✓✓✓		High	1-2 6-8	Parks, Environment, City Works, Public Realm, Leisure, Engineering

RR15	Undertake random checks both during and post-construction to ensure early on that permit requirements for ESD and water are met and that they continue to be adhered to once construction completed. These checks to be coupled with an awareness raising campaign.	✓✓	✓✓	✓✓✓		High	1, 3, 4, 5, 6, 10	Health and Urban Protection, Building, Planning, Environment
------	---	----	----	-----	--	------	-------------------	--

*Operations budget

3. Communication Processes

No.	Recommended Actions – Communication Processes	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility
Internal council processes								
CP1	Identify key ‘hold points’ in the design of new assets and major projects and hold cross-departmental design reviews in order to improve water outcomes.	✓✓	✓✓	✓✓✓		Critical	1-3, 6	Engineering , Project Management Office, Public Realm, Major Projects, Assets and Properties, Parks, Environment
Communication with residents and businesses								
CP2	Use existing and new processes for information distribution and communication with builders and developers to reinforce expectations around designing for water management.	✓✓	✓✓	✓✓		Medium	1, 3, 4, 6, 12	Planning , Building, Engineering, Environment, Business Development
CP3	Develop internal and external Water Sensitive City web pages.	✓	✓	✓✓✓		Medium	3-6, 12	Environment , Water Sensitive City Group
CP4	Utilise positive reinforcement and promote ‘good citizen’ case studies in order to improve compliance (e.g. reduce illegal connections and increase compliance with planning controls, stormwater/trade waste discharge).	✓	✓✓	✓✓		Low	6, 12	Environment , Civic Compliance, Health and Urban Protection
CP5	Deliver and facilitate community education and training to support water sensitive Darebin outcomes, increase community knowledge and build capacity for community independent action.	✓✓	✓✓	✓✓✓		Critical	1, 4, 5, 6, 12	Environment

Communication with other partners								
CP6	Continue and develop Council collaboration and liaison with external partners including Yarra Valley Water on water supply management, taking account of Water Plan 3 actions.	✓✓	✓✓	✓✓✓		High	1-2, 4-6, 8, 12	Environment
CP7	Work with Melbourne Water, Yarra Valley Water and other key stakeholders to improve flooding hotspots such as Steane St Drain, Bell St Drain and Murray Rd Drain, including potential to reduce overland flow and identify opportunities to harvest stormwater.	✓✓	✓	✓✓		Critical	1-3, 8	Assets and Property, Engineering, Major Projects, Environment, (Water Sensitive City Group support), Business Development
CP8	Work with neighbouring Councils and Melbourne Water in order to tackle catchment wide water issues, including nitrogen, total suspended solids and phosphorous loads into Darebin's waterways.	✓✓	✓	✓✓		Medium	3, 6, 12	Environment, Parks, Public Realm
CP9	Continue work with EPA to identify and reduce stormwater pollution from commercial, industrial and residential properties.	✓	✓✓✓	✓✓✓		Medium	6, 12	Building, Civic Compliance, Health and Urban Protection, Business Development, Environment
CP10	Work with Yarra Valley Water to target water quality issues, such as greasy waste, oils, trade waste and waste management issues.	✓	✓✓✓	✓✓✓		Medium	6, 12	Health and Urban Protection, Environment, Civic Compliance, Business Development
CP11	Advocate for risk reduction from State owned drains within the City through ongoing communication with Melbourne Water and State Government.	✓✓✓	✓	✓✓✓		High	3, 6	Assets and Property, Engineering, Environment

4. Knowledge and Skills

No.	Recommended Actions – Knowledge and Skills Training, specialist positions and the development of guidance and tools are needed to support council staff and local communities deliver change.	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility
Training and capacity building								
KS1	Identify and coordinate Council staff water education and training needs.	✓✓	✓✓	✓✓✓		High	10	Environment , (Water Sensitive City Group input as appropriate)
KS2	Maintain 1 EFT Water Strategy Officer position to oversee implementation of the Watershed Strategy, projects, programs and actions, lead collaboration, monitor, review and continually improve Strategy and lead external funding applications.	✓✓✓	✓✓✓	✓✓✓		High	All	Environment
KS3	Continue to participate in knowledge sharing forums that bring together emerging research and experience from other councils	✓✓✓	✓✓✓	✓✓✓		Medium	All	Environment , (Water Sensitive City Group as appropriate)
KS4	Run information sessions/workshops on water related activities.	✓✓✓	✓✓✓	✓✓✓		High	All	Environment , Water Sensitive City Group
Tools and guidance								
KS5	Ensure availability of templates/reference designs to demonstrate best practice water management responses for typical development types (e.g. detached homes, apartment blocks) to guide planning outcomes in Darebin.	✓✓	✓✓	✓✓	\$10k	Medium	3-6	Planning , Project Management Office, Environment, Building, Engineering, Major Projects

KS6	Develop a decision hierarchy for water source selection in design of Council assets.	✓✓✓	✓✓	✓✓		High	1-2	Environment, Project Management Office, Engineering, Parks, Public Realm, Facilities
KS7	Develop toolkit for Council developments incorporating WSUD design guidance particular to Darebin, including typical design details, planting, and maintenance requirements to meet local specifications.	✓✓	✓✓	✓✓		Medium	6	Engineering, Environment, Planning, Public Realm
KS8	Investigate the possible combination of permeable treatments on a widespread regional basis and whether they provide a worthwhile cumulative benefit for water quality improvement and flood mitigation.	✓✓✓	✓✓✓	✓✓	\$50k feasibility study	Medium	3, 6	Engineering, Planning, Public Realm, Environment

5. Demonstration Projects

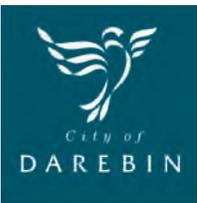
No.	Recommended Actions – Demonstration Projects	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Community	Resourcing	Priority	Targets supported	Responsibility
Making the best of current demonstration projects								
DP1	As appropriate, develop case studies, identifying successes and lessons learnt from demonstration projects either achieved through this strategy or existing projects (e.g. Bundoora Park Dam). Include WSUD case studies for and by developers to share learning.	✓✓✓	✓✓✓	✓✓✓		Low	All	Environment, Water Sensitive City Group, Transport
Selecting demonstration projects (see also chapter 5 for recommended investigation locations)								
DP2	Investigate funding and support for innovative projects and testing of demonstration technologies.	✓✓✓	✓✓✓	✓✓✓	\$50k per project	Medium	1-8, 9,12	Environment, Water Sensitive City Group
DP3	Look for opportunities to develop precinct integrated water management strategies to accompany and inform structure plans where appropriate (e.g. Northland PAA precedent).	✓✓✓	✓✓✓	✓✓	\$50k per feasibility study	Medium	1-8	Planning, Environment, Engineering, Public Realm
DP4	Encourage Melbourne Water to review opportunities to daylight buried waterways and widen creek corridors and investigate potential to revegetate ephemeral open concrete drains and drainage swales.	✓	✓✓	✓		Low	3, 6	Bushland, Environment, Public Realm, Parks, Engineering
DP5	Collaborate with Melbourne Water to identify demonstration areas to work with communities to implement on-lot water management initiatives (e.g. downpipe diverters, connected tank networks, or other approaches).	✓✓	✓✓✓	✓✓✓		Medium	3, 6, 12	Environment, Public Realm

DP6	Collaborate with EPA to identify demonstration areas to work with businesses and industry to improve water management (e.g. pollution prevention).	✓✓	✓✓	✓✓✓		Medium	6, 12	Environment , Business Development, Health and Urban Protection, Civic Compliance
DP7	Work with Melbourne Water, Yarra Valley Water and others to investigate potential to increase Council's water rights in the Darebin and Merri Creek catchments, to support development of significant alternative water harvesting/storage projects such as Bundoora Park Dam extension, new wetlands etc.	✓✓✓	✓✓	✓✓✓		Medium	2	Environment , Bushland, Parks
DP8	Develop alternative water source solutions for All Nations Park to meet Pollution Abatement Notice legislative requirements and ensure year round landfill cap irrigation, whilst minimising potable water use.	✓✓✓	✓✓✓	✓✓✓	\$50k feasibility study	Medium	1-2 6	Environment, Parks , Public Realm, Major Projects, Planning, Business Development
DP9	Manage, monitor and maintain Darebin Parklands leachate management system and associated wetlands to meet legislative requirements while delivering biodiversity outcomes and social and public health benefits.	✓✓	✓✓✓	✓✓✓	>\$600k	High	6	Public Realm , Parks, Darebin Parklands
DP10	Investigate potential demonstration vegetation projects such as green roofs and green walls.	✓✓	✓✓	✓✓	\$5-\$10k per site	Low	2, 7	Public Realm , Environment, Parks, Engineering, Major Projects
DP11	Investigate feasibility of harvesting roof water or stormwater from adjacent centres or nearby private developments (e.g. Northland Homemaker Centre, Polaris Development, Summerhill) and develop internal processes to identify, develop and implement such approaches.	✓✓✓	✓✓✓	✓✓✓		Medium	2	Project Management Office , Environment, Water Sensitive City Group, Business Development
DP12	Engage in integrated community projects, such as Transforming Darebin and Better Blocks, to re-imagine streetscapes with the aim of increasing delivery of water sensitive outcomes including WSUD, climate change adaptation measures, habitat creation, community engagement, planting and potential urban food growing.	✓✓✓	✓✓✓	✓✓✓		High	6, 7, 12	Environment , Public Realm

6. Continuous Improvement

No.	Recommended Actions – Continuous Improvement An important element of transition is the ability and desire to monitor, review and continually seek to improve Council facilities, operations and assets.	Water Systems for a Resilient City	Water for Liveability and the Environment	Water Smart Council and Communities	Resourcing	Priority	Targets supported	Responsibility
Monitoring and review								
CI1	Conduct an inspection and review of existing WSUD assets to assess maintenance requirements and recommend any works needed	✓✓✓	✓✓✓	✓✓✓	\$30k	High	6	Environment , Engineering, Public Realm, (Water Sensitive City Group support)
CI2	Monitor and evaluate strategy progress and report to Council annually or as required, including review of targets and implementation plan in 2020-2021.	✓✓✓	✓✓✓	✓✓✓		High	All	Environment , Water Sensitive City Group
CI3	Develop and maintain a water management asset register (draft developed with this strategy).	✓✓✓	✓	✓✓✓		High	All	Assets & Properties , Environment, Facilities, Parks, Public Realm, Engineering, Major Projects
CI4	Ensure a system is in place for logging of maintenance works to specific water management assets (linked to asset register reference).	✓✓✓	✓	✓✓✓	\$5k	High	11	Assets & Properties , Environment, Facilities, Parks, Public Realm, Engineering, Major Projects, Project Management Office
CI5	Upgrade computer irrigation systems to include separate flow meters to identify irrigation and other water uses and install flow meters on all existing and new irrigation or other water tanks.	✓✓✓	✓	✓✓✓	\$5k p/site (50 sites) + \$2k per yr	Medium	1-2, 8	Parks , Facilities, Leisure, Environment, Public Realm, Engineering, Major Projects
CI6	Work with large and small sports clubs in partnership to change, treat or improve sporting surfaces to minimise or remove irrigation need.	✓✓✓	✓	✓✓✓	\$100k/year	High	1, 8	Leisure , Parks, Environment

Selecting structural opportunities and asset improvements								
CI7	Develop concept plans and costs for priority WSUD projects across municipality to prioritise Council capital investment in projects.	✓✓✓	✓✓	✓✓	\$3-5k per site	Critical	3, 6	Environment , Engineering, Parks, Public Realm, Facilities, Transport
CI8	Continue and improve on current best practice passive irrigation tree pits, garden beds and groundwater recharge practices.	✓✓✓	✓✓✓	✓✓✓		Medium	7	Public Realm , Engineering, Parks, Transport
Suggested future structural opportunities and asset improvements (see Background Studies for recommended investigation locations)								
CI9	Conduct initial feasibility study for leak detection and backwash capture systems for Reservoir Leisure Centre and complete appropriate capital works.	✓✓✓	✓✓✓	✓✓✓	\$20k study Capital TBA	High	1, 6	Facilities , Leisure, Major Projects, Environment, , Assets and Properties
CI10	Ensure leak detection capabilities and backwash capture and re-use systems are incorporated as part of future redevelopment of Northcote Aquatic and Recreation Centre.	✓✓✓	✓✓✓	✓✓✓	TBA with redevelop-ment	Critical	1-2 6	Leisure , Major Projects, Facilities, Environment, Assets and Properties
CI11	Deliver rainwater or stormwater harvesting projects for irrigation and other uses, with particular focus on integrated/multiple benefits (e.g. reduced flood risk, increased irrigation, waterway health etc).	✓✓✓	✓✓✓	✓✓✓	\$250-500k / system	Critical	1-3 6-8	Engineering , Environment, Major Projects, Leisure, Parks, Public Realm
CI12	Improve stormwater management in roads through the introduction of raingardens and passively irrigated vegetation and trees.	✓✓	✓✓✓	✓✓✓	\$5 – 50k / project	Critical	1-3 6-8	Transport, Engineering , Public Realm, Environment, Assets and Properties
CI13	Invest in flood risk mitigation works in priority areas as determined by the Drainage Study.	✓✓✓	✓	✓✓	Project dependent	Critical	3	Engineering , Assets and Properties, Environment
CI14	Maximise biodiversity, ecological and water management values of existing wetlands, waterways and waterbodies through revegetation, water quality monitoring, sediment removal programs, gross pollutant traps + other opportunities.	✓✓	✓	✓	Minor:<\$50k Major: \$100-300k	Critical	1-3 6-8	Bushland, Environment , Parks, Public Realm, Engineering
CI15	Integrate WSUD into public realm improvements and activity centre renewals.	✓✓✓	✓✓	✓✓	\$5 – 50k per project	High	6	Public Realm , Engineering, Planning, Transport
CI16	Provide Council contributions to on-site detention and drainage works to help to reduce peak flows and impacts on existing stormwater infrastructure.	✓✓✓	✓✓	✓✓✓	\$20-25k /year	High	3	Engineering , Planning



the place
to live



**CITY OF
DAREBIN**

274 Gower Street, Preston
PO Box 91, Preston, Vic 3072
T 8470 8888 F 8470 8877
E mailbox@darebin.vic.gov.au
darebin.vic.gov.au



**National Relay
Service**

TTY dial 133 677 or
Speak & Listen
1300 555 727
or iprelay.com.au
then enter
03 8470 8888



**Speak your
language**

T 8470 8470
العربية Italiano
繁體中文 Македонски
Ελληνικά Soomalii
हिंदी Tiếng Việt