

**Yarra's Integrated Water Management Plan
Implementation Cost Projections - Year 1 to Year 5**

			Year 1 - 20/21	Year 2 - 21/22	Year 3 - 22/23	Year 4- 23/24	Year 5 - 24/25	Total Cost	Comments
Objective 1: Efficient and fit for purpose use of all water supplies									
Outcome: Reduction in potable water use within council operated facilities and parks									
1. Open space irrigation									
1.1	Irrigation system efficiency	Identify and prioritise irrigation systems requiring upgrade based on age, condition and projected water saving	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Through smart systems, adopt watering regimes that respond to environmental conditions (e.g. during low evapotranspiration and not before rain)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Establish leak detection and repair process	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Undertake scheduled maintenance of irrigation systems	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Engage external irrigation consultant to define works priority and ultimate irrigation processes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
1.2	Soil and playing surfaces	Implement measures that aim to increase the soil moisture content, and improve soil condition	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000	Additional budget request every year
		Implement based upon the highest priority spaces	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
2. Council buildings									
2.1	Building efficiency and education	To establish a minimum Water Efficiency Labelling and Standards (WELS) rating of future building projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Retrofit council buildings with water efficient water appliances during building refurbishment and upgrades based on WELS ratings							Can be delivered through existing budgets
		All new council buildings to meet industry best practice in water and energy consumption equivalent to 5 Star NABERS ratings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Engage staff on water use within buildings through information bulletins, posters and displays to inform user group	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Investigate feasibility of green roofs and walls on Council buildings for urban greening and heat reduction	\$-	\$ 25,000	\$ 25,000	\$-	\$-	\$ 50,000	
2.2	Alternative water resources	Investigate rainwater harvesting opportunities in existing Council buildings. Install where possible for non-potable purposes including toilet and irrigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Continue to adopt Council's Environmentally Sustainable Development (ESD) policy such that all new Council buildings include rainwater harvesting for non-potable purposes such as including toilet and irrigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Maintain information register on rainwater storage capacity within Council buildings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
3. Leisure centres									
3.2	Education and awareness	Audit existing sand filters and replace where suitable to reduce water consumption	\$ -	\$ 750,000	\$ 750,000	\$ 500,000	\$ -	\$ 2,000,000	Budget has been requested for \$750,000 subject to approval
		Installation of smart water meters to improve water use data, understanding of end uses to identify efficiency measures	\$ -	\$ 30,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 36,000	Subject to budget funding
		Compare water use to the benchmarking program for pools around Victoria being undertaken by the Centre for Economics	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Continue education / collaboration on water use and behaviour change in conjunction with CWW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Educate staff through information, workshops and regular updates on water consumption data	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Inform visitors of water use through posters and displays at centres	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
3.3	Water re-use	Investigate the reuse possibility of pool backwash water at all swimming pools within Yarra's leisure centres						\$ -	Can be delivered through existing budgets
Outcome: Fit-for-purpose water reuse and alternative water opportunities identified									
4. Stormwater harvesting									
4.1	Stormwater harvesting projects	Investigate the feasibility of stormwater harvesting opportunities across the municipality	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000	
		Develop concept designs for the three highest priority locations	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ 30,000	
		Implement one stormwater harvesting project per year upon the completion of that investigation	\$ -	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 5,000,000	High level estimates, accurate figures will be provided post concept design. There are multiple promising avenues for external funding.
		Upgrade storage at the stormwater harvesting facility at Edinburgh Gardens	\$ 800,000	\$ -	\$ -	\$ -	\$ -	\$ 800,000	Total project cost is \$1,520,000 with 50% contribution from City West Water.
		Initiate discussion relating to reusing stormwater from the Alphington Wetlands for irrigation of Alphington Parks and surrounds.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Employ an IWM Officer an officer to deliver the stormwater harvesting program as well as the management of stormwater and drainage actions of this plan	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 600,000	
		Investigate the potential of stormwater harvesting for community gardens irrigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
4.2	Partnerships, advocacy and collaboration	Collaborate with external stakeholders, including water authorities, to investigate funding opportunities for stormwater harvesting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Continuously investigate opportunities to embed Integrated Water Management principles and goals across all Council operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Advocate to Development Victoria for alternative water opportunities for irrigation of open spaces within the Fitzroy Gas Work Redevelopment site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Advocate to Parks Victoria to investigate the feasibility of stormwater harvesting in Yarra Bend Park	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Work with Melbourne Water to identify collaboration opportunities to improve the condition of City of Yarra waterways identified in the Healthy Waterways Strategy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Seek opportunities for funding from Melbourne Water for the delivery of the IWMP actions	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		Advocate for Yarra's interests in the Melbourne Urban Stormwater Institutional Arrangements (MUSIA) review	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
Develop guidelines for stormwater, drainage and groundwater management	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ -	\$ 150,000			

**Yarra's Integrated Water Management Plan
Implementation Cost Projections - Year 1 to Year 5**

Objective 2: A resilient and effective drainage network that flows into healthy and valued waterways

Outcome: Improved function and effectiveness of drainage and stormwater assets

5. Drainage assets									
5.1	Drainage asset assessment and data collection	• Survey, inspect and assess drainage infrastructure	\$ 165,000	\$ 165,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 630,000	
		• Present the gathered information in suitable GIS layers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
5.2	Drainage upgrade and maintenance	• Develop a Drainage Asset Management Plan (DAMP), incorporating data gathered under Step 5.1	\$ -	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ 50,000	
		• Commence a brick drains inspection and renewal program	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 5,500,000	\$100,000 for inspection and condition assessment and \$1,000,000 annually for maintenance and relining of brick drains
		• Utilise flood modelling data and condition assessment to prioritise drainage asset upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets

Outcome: Quality of stormwater runoff into waterways is improved

6. WSUD assets within the urban landscape									
6.1	Stormwater quality monitoring	• Undertake an assessment of stormwater quality runoff to identify water quality improvement locations and requirements.	\$ -	\$ 60,000	\$ -	\$ -	\$ -	\$ 60,000	
		• Identify possible and strategic locations and install pollutant capturing devices	\$ -	\$ -	\$ 20,000	\$ -	\$ -	\$ 20,000	Can be delivered through existing budgets
6.2	Maintenance of existing WSUD assets	• Develop and implement a WSUD maintenance process and program according to best practice	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
6.3	Research and innovation	• Update the 2016 WSUD policy incorporating latest practices and technology	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ 50,000	
		• Consider and incorporate new WSUD designs such as proposed by developers, research bodies, academic institutions into those guidelines as appropriate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
6.4	WSUD in new developments	• Work collaboratively with developers on WSUD for new developments and Precinct Structure Plans to ensure new impervious surfaces are not directly connected to waterways	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Comply with Yarra Planning Scheme clause 12.03 & 22.16 to ensure development does not increase the rate or quantity of stormwater, sediment or other pollutant entering the river	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Investigate stricter measure to increase the volume of stormwater captured, treated and reused by large commercial and multi dwelling developments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Promote alternative resources in the construction and operation consumption of new building spaces as per planning clause 15.02	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets

Outcome: Impacts of flood are understood and mitigated

7. Flooding										
7.1	Flooding	• Undertake municipality wide flood modelling and utilise the findings to develop a list of priority projects	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000		
		• Partner with Melbourne Water to: <ul style="list-style-type: none"> o Monitor Land Subject to Inundation Overlay (LSIO) to undertake any necessary amendments o update Special Building Overlay (SBO) in accordance with results of updated flood modelling 	\$ -	\$ -	\$ -	\$ -	\$ -	TBC	Subject to budgeting / funding	
		• Investigate the need for an online flood level warning system. Potentially collaborate with other Councils who have similar systems in place.	\$ -	\$ -	\$ -	\$ -	\$ -	TBC	Subject to budgeting / funding	
		• Review of Flood Emergency Plan according to revised flood model as per flood management plan 2020	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Collaborate with State Emergency Services in responding to flooding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets

**Yarra's Integrated Water Management Plan
Implementation Cost Projections - Year 1 to Year 5**

Objective 3: An informed and responsible community benefitting from/enjoying a vibrant and sustainable landscape									
Outcome: The community is provided with healthy waterways and open space									
8. Open spaces and connectivity									
8.1	Open space provision	• Continue to provide a high level of service for open spaces of high value and in close proximity to residents	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Create new local parks where possible in densely urbanised environments to achieve more green space particularly opportunities in Cremorne	\$ -	\$ -	\$ -	\$ -	\$ -	TBC	Subject to budgeting / funding
		• Identify irrigation opportunities for those spaces, particularly including rainwater from surrounding large roofs (if they exist)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Increased permeability in the design of open spaces to support infiltration. Consider also the inclusion of infiltration trenches as part of design to create 'no runoff' open spaces	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
8.2	Connectivity and linkages	• Create explicit community link to green open spaces by shading walking paths and well defined cycling tracks and paths to improve community access to open space	\$ -	\$ -	\$ -	\$ -	\$ -	TBC	Subject to budgeting / funding
		• Continual maintenance and condition improvement of existing paths and walkways along rivers and creeks	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
Outcome: Urban greening reduces the impact of urban heat									
9. Trees, canopy cover and urban heat									
9.1	Passively irrigated trees	• Maintain existing and established trees that provide habitat and shade promoting biodiversity and cooling within city (Planning Clause 15.01)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Investigate the inclusion of passive irrigation infrastructure for all newly planted Council trees (including investigating increased pervious surfaces around trees to capture more water)	\$ -	\$ 20,000	\$ -	\$ -	\$ -	\$ 20,000	partnership with research institution - Melb Uni and ARC
		• Use passive irrigation to support tree health and canopy density on city streets to increase cooling and encourage biodiversity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Investigate the possibility of increasing the percentage of locally indigenous drought tolerant vegetation planting and the associated reduction in water required for establishment and maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
9.2	Retain water in the environment	• Investigate opportunities for WSUD in urban streets – particularly as part of road surface and drainage renewals - for stormwater treatment and passive irrigation of street trees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Investigate opportunities for green roofs on new Council buildings to contribute to reduced runoff and urban cooling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Trial new cooling methods in identified hotspots including green ground cover, canopy cover and increased permeability	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 200,000	
		• Work with the City of Melbourne to share urban heat island effect research outcomes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
Outcome: Collaboration and knowledge sharing is enhanced									
10. Collaboration and knowledge sharing									
10.1	Knowledge and innovation	• Collaborate with inner-city councils to share IWM knowledge and how their work has been incorporated into policy and future planning requirements. Focus on involvement in the IWM Forum for Yarra	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Work with DELWP by contributing data that will support target setting within the Yarra catchment as part of the IWM Forum process.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Improve interdepartmental communication at the project inception stage to incorporate IWM opportunities within building and infrastructure works	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Continued collaboration with academic institutions on WSUD research and emerging technologies	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Major project developments to meet City of Yarra's sustainability targets and planning requirements Clause 22.17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Collaborate with Melbourne Water to support the development and implementation of the Yarra Strategic Plan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
10.2	Community	• Share IWM objectives, actions and targets through awareness programs, community working groups, forums and meetings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Can be delivered through existing budgets
		• Ongoing community consultation on specific IWM projects (e.g. Edinburgh Gardens), providing signage, fact sheets and case studies on sustainable water management on websites and onsite	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ 25,000	
		• Review the action plan of the IWMP to update the targets and actions based on the investigation and research undertaken in the first 5 years of the plan's life	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ 25,000	