



**EDWARD MILLEN PARK  
MASTER PLAN  
WATER FEATURE STUDY**





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# CURRENT MASTER PLAN

This plan shows the current master plan with the section of path removed from the intersection of Albany Highway/Baillie Avenue to the main avenue.

## LEGEND

- 1 Heritage avenue retained and re-surfaced with kerb upstands removed. Avenue reinforced with supplementary tree planting
- 2 Rotunda building entry space re-paved with high quality natural stone
- 3 Activated Rotunda space including alfresco seating/tables and lawn with seating positioned underneath the large tree
- 4 Future development zone
- 5 New paved axis connecting the Mildred Creek and Rotunda buildings to the edge streets
- 6 Generously proportioned landscaped terracing, edged with seat height walls
- 7 Circulation path graded to ensure universal access
- 8 Family shelters with lighting and BBQ's surrounded by planting
- 9 Park edge eco-zone planting including water-wise native species
- 10 New car park (approx. 49 spaces)
- 11 Cafe and 'changing places' toilet and change room facility
- 12 Cafe alfresco space
- 13 Feature seating node under landmark tree
- 14 Central focal point including space for performance, as well shade/rain shelter structure
- 15 New Trees
- 16 Nature play zone utilising bespoke play elements within expanses of native planting and tracks. Play features to include all abilities play, tree houses, cubbies, exercise and balancing elements, rope play, swings and benches. This area has a particular opportunity to integrate unique art pieces to double up as play
- 17 Expansive lawn spaces for ball play and dog walking
- 18 New entry point
- 19 Wayfinding node
- 20 Bicycle racks
- 21 Passive recreation area with picnic tables to serve as break-out space from heritage buildings
- 22 Proposed trees to create ecological connection to Hillview Terrace Bushland



# 1.0 INTRODUCTION

Following the council resolution dated 18.2.20 Hassell has been asked to collate a series of potential strategies for integrating water features or water play into the Edward Millen Park Master Plan.

## **Amendment:**

*That there be a further part to the recommendation that the detailed design include an option for a water play space/feature.*

## **Reason:**

*Because it was brought up in the comments by a couple of different people. We are trying to attract people and a water feature will do this.*

*Adventure and nature playgrounds are popping up everywhere, a water playground will add something different.*

## **Scope of this document**

The report outlines potential water features and play for further discussion and provides some precedents and approximate cost levels. The updated master plan also shows the section of path removed, as requested by the Council.

Five approaches have been identified as having potential for Edward Millen Park. These are

- **Architectural Water Feature - Type 1**
- **Architectural Water Feature - Type 2**
- **Water Play - Small**
- **Water Play - Medium**
- **Water Play - Large**

The pros and cons and indicative costs are outlined for each approach.

## **Key considerations:**

Points for consideration for the inclusion of water play include:

- **Scale** - It is important to consider the appropriate scale of water play within this specific parkland.
- **Community consultation** - Water play was not included in the master plan that was developed with the design reference group or in the public comment period. The inclusion of a significant water play area may require further community consultation.
- **Department of Health Requirements and Water Filtration** - Selecting a looped system water feature in the park should consider the rigorous requirements of the Department of Health, dependent on the water filtration system. As shown in the examples, it is possible to utilise scheme water, however this is not a sustainable use of water.
- **For looped system water play** there is regularly stipulated a requirement to test the water daily and visit the plantroom twice daily for operational considerations.
- It is important to consider the suitability of a water feature in relation to the heritage listed buildings.
- It is important for the council to appreciate that water play features are intrinsically very complicated and come with a risk of failure and onerous maintenance obligations.
- **Architectural water features**, which invite interaction, include a risk with regards to potential slipping. This was a high profile issue for the Diana Memorial Fountain Hyde Park, London.



# 2.0 OPTION 1 - ARCHITECTURAL WATER FEATURE - TYPE 1

Options 1 and 2 investigate water elements that are an architectural feature.

There is an opportunity to integrate a water feature which works with a paved space so that when it is not turned on it can function as a flexible space.

In plazas and parks around the world there are examples of water features which include jets or misters emerging from a stone paved surfacing.

A suggested location for this approach could be in the central hub space in front of the shelter, which would also double as a performance space when not used as a water feature.

This type of feature will require a sophisticated tank, pump and filtration system to ensure the water meets Department of Health Standards. It will require regular testing by the council to ensure the water quality is to statutory standards.

## Pros and Cons

### Pros

- Potential to create an inspiring and attractive feature
- Flexibility
- Suitable for a heritage park
- The open and level nature of the proposed location facilitates the construction of the water feature

### Cons

- Maintenance costs
- Department of Health requirements
- Risk of mechanical failure and public health consequence
- Public safety health and safety risk assessment required

## Approximate Cost

The cost of a feature like this is dependent on its scale and the amount of jets/misters which are included. For the space allocated on the plan the installation cost could be in the region of \$250,000 or above (exclusive of the stonework).

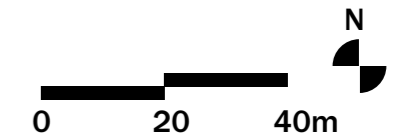
## Maintenance Cost

Initial research by the Town of Victoria Park understands yearly maintenance costs on this scale of water feature to be in the order of \$75,000 - \$100,000.



# 2.0 OPTION 1 - ARCHITECTURAL WATER FEATURE - TYPE 1

The blue box indicates the positioning of a water feature of this type.





# 3.0 OPTION 2 – ARCHITECTURAL WATER FEATURE - TYPE 2

A more expressive architectural water feature could utilise the landform and the terracing. A well designed feature could see water flow down terraces, a rill or a stone channel similar to the examples shown on this page.

As with Type 1 the materials used need to be high quality and work well with water. Granite is a regularly used stone for these type of installations.

The scale of the feature may be smaller than shown in the precedents and could take reference from the existing heritage architecture, as well as utilise the terracing, while ensuring the space is still usable for large scale performances and audiences.

## Pros and Cons

### Pros

- If well funded and designed it will be appropriate for the heritage site
- Attractor for families and children to engage with
- Potential for art budget to be utilised

### Cons

- High construction costs
- Maintenance costs
- Department of Health requirements
- Risk of mechanical failure and public health consequence
- Public safety health and safety risk assessment required

## Approximate Cost

A water feature designed in this style and to the scale as shown on the plan may cost in the region of \$500,000 (exclusive of the stonework).

## Maintenance Cost

Initial research by the Town of Victoria Park understands yearly maintenance costs on this scale of water feature to be in the order of \$75,000 - \$100,000.



Victoria Park, Melbourne

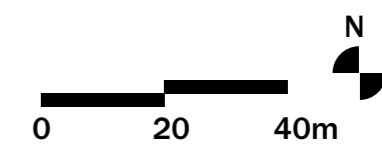
Diana Memorial Fountain, Hyde Park, London

- Officially opened on 6 July 2004
- Constructed from 545 pieces of Cornish granite
- Cost £3.6 million (approx. \$6.9M AUD)
- Size approximately 50 by 80 m



# 3.0 OPTION 2 - ARCHITECTURAL WATER FEATURE - TYPE 2

The blue box indicates the positioning of a water feature of this type.





# 4.0 OPTION 3 – WATER PLAY - SMALL

Options 3, 4 and 5 investigate water elements that have a strong 'play' feature across a small, medium and large scale.

There are a range of design options which could be considered small features. These range from imaginative interpretive features such as the Whale Tail recently installed at Busselton Foreshore to a suite of modest features such as hand pumps and Archimedes screws.

Smaller water play features could be located in a wide range of spaces within the park. It is prudent to position them away from the residences on Baillie Avenue and also too far inside the tree canopy.

## Pros and Cons

### Pros

- Potentially less complicated and easy to install
- Less construction - dependent on the design
- If utilising only scheme water (draining to storm water system) significantly less onerous health and safety requirements and maintenance costs

### Cons

- Not a sustainable use of water
- If a very small feature is included it limits its appeal and usage

## Approximate Cost

The cost of these elements could range from \$2-10,000 for a small individual hand pump or Archimedes screw feature.

For a largeR, more bespoke element such as the Busselton Whale Tail the cost could raise to around \$150,000 (including the steel fabrication/pumpin system).

The cost will also differ considerably dependent on whether the water is to be sourced from scheme water and run-off direct to the storm water system or whether it will be recycled. The Whale Tail precedent uses water from scheme and then drains away. This removes a range of statutory health obligations but it is not a sustainable use of water.

## Maintenance Cost

Initial research by the Town of Victoria Park understands yearly maintenance costs on this scale of water feature to be between \$10,000 and \$50,000.



Whale Tail, Busselton Foreshore



Archimedes screw design



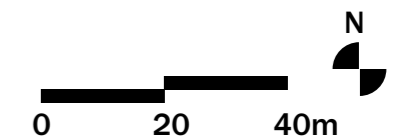
Small hand pump feature



# 4.0 OPTION 3 - WATER PLAY - SMALL

The blue box indicates the positioning of a water feature of this type.

There are a number of locations a feature could be added. The area shown on this plan is considered to be a good location for a small feature which may integrate well with the nature playground amongst the trees.





# 5.0 OPTION 4 – WATER PLAY - MEDIUM

By medium scale water play we have considered spaces which are around 100m<sup>2</sup>. Within a design the scale of a feature could change as they could be compact, spread out or linear in form.

The water play space at Port Coogee provides a facility which is attractive to families but not too onerous in scale. It utilises jets from the paving.

Similarly at Cockburn Central a splash pad feature has been constructed. Splash pads are becoming popular as they do not include features above the ground which are sensitive to breakage and require increased maintenance.

These features require Department of Health approval and come with a complex range of pump and filtration equipment.

## Pros and Cons

### Pros

- Attractive play spaces for kids and families
- Accommodates usage by numerous children
- Can be attractively designed and incorporated within a site sensitively

### Cons

- High construction costs
- Maintenance costs
- Department of Health requirements
- Risk of mechanical failure and public health consequence
- Public safety health and safety risk assessment required

## Approximate Cost

The costs for a water play feature such as these is in the region of \$300,000.

The Cockburn Central splash pad cost in the order of \$300k, which included a splashpad with propriety equipment and underground sanitation and filtration system.

## Maintenance Cost

Initial research by the Town of Victoria Park understands the maintenance costs these water features to be each approximately \$60,000 per year.

It is also noted that the City of Cockburn have had significant issues with these water features that has meant their already rigorous water testing regime was increased from weekly to twice daily.



Port Coogee Water Play, Perth



City of Cockburn Splash Pad, Perth



# 5.0 OPTION 4 - WATER PLAY - MEDIUM

These type of water play features could be located in a range of spaces, preferably in the heart of the park, away from the local residences and busy roads.

The plan shows potential locations adjacent to the coffee outlet and two spots close to the nature play (south and east of the central hub).

Root protection zones for trees will need to be respected.





# 6.0 OPTION 5 – WATER PLAY - LARGE

A large water play could include an extensive splash pad area and innovative water features which reinterpret the heritage of Edward Millen Park.

Large water plays tend to have structures holding up water features such as buckets, pipes, sprays and dropping bombs.

## Precedent Examples

Hyde Park in Mount Lawley Perth is a very popular water play and may be an appropriate inspiration for a similar feature at Edward Millen Park.

Elizabeth Quay has a very dynamic water play space which utilises jets and misters. This is a very high specification design which is appropriate for the prestigious Elizabeth Quay site.

The popular Claremont Aquatic Centre splash pad includes approximately 350m<sup>2</sup> of bespoke and proprietary equipment and an elaborate sanitation, filtration and heating system.

## Pros and Cons

### Pros

- Potential to create a significant attractor to the park

### Cons

- Suitable space is scarce within the current park master plan. The most suitable location requires removal of a large tree (see plan opposite)
- High construction costs
- Maintenance costs
- Department of Health requirements
- Risk of mechanical failure and public health consequence
- Public safety health and safety risk assessment required

## Approximate Cost

Depending on how the features are designed, and to what specification elements within the space are designed, the budget could range from \$500,000 to several millions.

The Claremont Aquatic Centre splash pad cost in the order of \$850,000.

## Maintenance Cost

Yearly maintenance costs on water features of this scale can be very significant.

Initial research by the Town of Victoria Park understands yearly maintenance costs on this scale of water feature to be in the order of \$75,000 - \$100,000.



Hyde Park Water Play, Mount Lawley, Perth



Claremont Aquatic Centre, Perth



BHP Billiton Water Play Elizabeth Quay, Perth





# 6.0 OPTION 5 - WATER PLAY - LARGE

A large water play (which could be scaled in plan 50x50m) could be located to the north of the cafe, adjacent to the central hub and landscape terracing. This is a good adjacent space and keeps the flexibility of the current landscape spaces.

Positioning a water play in this location would require the removal of the existing mature tree.

It is preferable to locate the water play away from the Baillie Avenue due to the noise created.



