



City of Nedlands

Technical Services Reports

Committee Consideration – 12 November 2019

Council Resolution – 26 November 2019

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TS22.19 Bishop Road Reserve Enviro-scape Master Plan	
Committee	12 November 2019
Council	26 November 2019
Applicant	City of Nedlands
Employee Disclosure under section 5.70 Local Government Act 1995	Nil.
Director	Jim Duff – Director Technical Services
Attachments	1. Bishop Road Reserve Enviro-scape Master Plan 2. Bishop Road Reserve Enviro-scape Master Plan Flyer

Executive Summary

This report is being presented to Council to seek endorsement of the Bishop Road Reserve Enviro-scape Master Plan (BREMP). A final concept plan for the reserve has been produced following briefing of elected members and conclusion of community engagement activities.

Recommendation to Committee

Council:

1. endorses the Bishop Road Reserve Enviro-scape Master Plan concept; and
2. agrees to include an item in the 2019/20 midyear budget review to consider approving funding of \$66,096, previously approved in the 2018/19 capital works budget, for the upgrade of the irrigation system and associated works at Bishop Road Reserve.

Discussion/Overview

Background

The City commenced the process of master planning for Bishop Road Reserve following endorsement of the five (5) year Capital Works Program (CWP) and adoption of the 2018/19 annual budget. The (5) year CWP and adopted budget contain capital projects associated with the BREMP. Capital funding for upgrading of the in-ground reticulation system and associated works was included in the approved 2018/19 Parks & Reserves capital budget.

The primary consideration initiating the BREMP process is the need to consider preservation of the City's parks and reserves in an environment of changing rainfall patterns and reduced groundwater accessibility for irrigating public open space. The BREMP needs to plan for a 30-year period, being the useful life of the proposed new reticulation system, which is a key infrastructure component of the reserve. In developing the BREMP, and considering its life span, many other overarching strategic issues need to be considered to meet the needs of a changing climate, urban environment and statutory landscape.

Objective

The objective of the strategic master planning process was to identify constraints and opportunities to ensure future development within the reserve is coordinated, fit for purpose and meets the needs of current and future users at an affordable whole-of life cost. The BREMP is intended to inform and improve decision making processes including asset management, forward works planning, budgeting and service delivery. The BREMP is intended to provide solutions to preserve the character of the reserve with imminent reduction of the City's groundwater licence allocation.

Strategic Considerations

The BREMP has been developed with consideration of the statutory constraints associated with development and management of reserves abutting the river. Listed below is an overview of some of the key strategic issues considered:

- Groundwater abstraction for irrigation –

The City has approximately 100 hectares of public open space under irrigation and this is forecast to increase in future. A groundwater licence is issued to the City by the Department of Water and Environmental Regulation (DWER), pursuant to the *Rights in Water and Irrigation Act 1914*, allowing abstraction of groundwater for irrigation purposes. The City's approved annual abstraction allocation is 709,300 kilolitres (kl). This figure was originally based on an allocation of 7,500 kl per annum/per hectare of irrigated area. The area the City irrigates has increased since its allocation was introduced. Groundwater abstraction in the subdistrict of Nedlands is fully allocated and no further groundwater abstraction will be approved by DWER under the City's licence.

DWER has advised of imminent reductions to groundwater licence allocations in the order of ten percent (10%) by 2028 in areas including the City of Nedlands. DWER have advised further reductions are likely beyond this time period. A ten percent (10%) reduction equates to an annual allocation of 638,370 kl equalling 6,750 kl per annum/per hectare of irrigated area. The City must find practical solutions to manage a reduced groundwater allocation if parks are to be presented to current levels into the future.

The City's irrigation operating plan is aligned with industry best practice principles. The plan identifies numerous 'hydrozones' (refer Table 1 below). Hydrozones are areas within parks where watering requirements of turf or plants are similar for sustaining acceptable health as well as functional requirements and presentation.

Hydrozone	Open Space Description	Requirement per Hectare per Annum
Active Turf	Sports ovals and fields	10,000 kl
Passive Turf	Oval surrounds & local parks	6,000 kl
Low Turf	Park verges, median strips	4,000 kl
Exotic Gardens	Ornamental garden beds	9,000 kl
Native Gardens	Ornamental garden beds	2,500 kl
Eco-zones	Self-sufficient endemic species	<1,000 kl

Table 1 – Assigned groundwater to hydrozones within irrigation operating plan

The City's strategy for responding to reduced groundwater accessibility, whilst preserving current presentation of parks and reserves, is to improve water use efficiencies whilst concurrently reducing the area of Low Passive turf. Water use savings will be achieved through improvements in irrigation design, technology and management in addition to introducing Eco-zones and Native Gardens in areas of Low Passive turf, generally done amongst trees where it has the added benefit of improving long term tree health.

- Climate change –

Climate forecasting for the south west of WA indicates future increased temperatures and reduced rainfall, but with increased intensity. Decisions associated with management and design of the reserve, including vegetation selection, has considered the consequences of the forecast climate scenario.

- Bushland and biodiversity conservation –

Urban development and population densities in districts close to the CBD are forecast to increase for the foreseeable future. With this in mind, there is a need to protect, expand (where appropriate) and better manage existing remnant bushland to retain the green space interconnections, including along the river foreshore.

- Groundwater quality –

The quality of groundwater within the local area is being negatively impacted by decreasing rainfall and a resultant reduction in recharge of the superficial aquifer. Saltwater intrusion from the Swan River into the localised aquifer will increasingly become an issue requiring management through modified irrigation practices.

- Statutory vegetation protection –

Protection and management of vegetation in the reserve is regulated pursuant to the *Swan and Canning Rivers Management Act 2006*. The Parks and Wildlife Service has overarching authority for the types of vegetation that can be planted in the reserve and how this is managed.

- User accessibility –

The City has statutory obligations to provide equal access to public facilities pursuant to the federal based *Disability Discrimination Act 1992* and the state-based *Disability Services Act 1993*. These obligations extend to path networks that support access to and through parks and reserves and that paths are designed to mandatory accessibility standards.

Proposed Initiatives

The BREMP concept proposes implementing initiatives addressing the above strategic considerations. Below is a list of the new initiatives for this financial year and future years:

- Introduce or expand Eco-zones by marginally reducing grass throughout the reserve, mulching where grass is eradicated and planting indigenous natives, preferably from provenance seed.

- Redesign and renew inground reticulation system to:
 - resolve undersized mainline and lateral pipes;
 - resolve inefficient sprinkler spacing;
 - improve water dispersal uniformity; and
 - reconfigure watering practices to reduce water use in eco-zones.
- Replacement of parks furniture and facilities with consideration to improving accessibility and amenity. This includes replacement of the drinking fountain with added dog bowl, bin/dog waste station, bike racks, perimeter bollards and access gate.
- Construct approximately 50 metres of new accessible path providing improved access within, and to, the reserve and which also serves to separate Passive Turf hydrozone and Eco-zones to facilitate maintenance efficiencies.
- Redesign of the ramp access to the river foreshore to modify this into steps to improve pedestrian safety.
- Assess the structural integrity of the concrete viewing structure, adjacent to the river foreshore, and either remove, refurbish or modify to repurpose.

Key Relevant Previous Council Decisions:

Ordinary Meeting of Council 26 June 2018, Item 13.9, Adoption of the Annual Budget 2018/19.

Council Resolution (excerpt):

Council:

1. *adopts the 2018/19 Annual Budget as detailed in the Attachment for the year ending 30 June 2019, representing an increase in rates income 2.95%.*

Consultation

Community consultation commenced on 18 September 2019 and concluded on 14 October 2019. Letters were posted to 74 properties surrounding Bishop Road Reserve. Letters included an enclosed flyer (refer to Attachment 2) outlining the proposed BREMP and invited feedback on the proposal. The project was also uploaded to the City’s Your Voice online engagement platform. Below is an overview of the key statistics and feedback from the consultation.

Engagement Type	Responses	Key Comments
Letter mail out (74 properties)	Three (3) written responses	<ul style="list-style-type: none"> • “Satisfied with the attached proposal as it has been presented” • “The park is small and is in no need of more furniture or equipment — its enjoyment for many is the nature of its present state — low key”

Engagement Type	Responses	Key Comments
Letter mail out (74 properties)	Three (3) written responses	<ul style="list-style-type: none"> • “The proposed plan shows bicycle racks and a drinking fountain with water for dogs. Let it not be large and showy but visually acceptable” • “Before more money is spent on a series of "improvements", it should be noted how satisfactory the area is right now” • “Bishop Road Reserve is a small park, but very special with its elevated relationship to the Swan river” • “More thought is needed with plant choices, with lower planting preferred under the tree canopy so as to allow the visitors to continue to enjoy the river panorama” • “Hopefully the grassed areas will be largely maintained as they are well utilised” • “Upgrading of the drinking fountain, bicycle racks, repairs to the pathway leading to white beach and stairs with a handrail are necessary and will be greatly appreciated by all”
Your Voice	<ul style="list-style-type: none"> • 26 total visits 	N/A
	<ul style="list-style-type: none"> • 10 documents downloaded 	N/A
	<ul style="list-style-type: none"> • 1 survey completed 	<ul style="list-style-type: none"> • Very important to maintain vistas. • Very important to protect and maintain bushland and mature trees. • Quite important to respond to climate change. • Quite important to manage groundwater resources. • Most like the views at the reserve.


Budget/Financial Implications

Operational budget – a negligible overall impact on current maintenance operations budgets is forecast over the life of the BREMP.

Capital budget – funding was approved in the 2018/19 capital budget for upgrading of the irrigation system and associated works. These funds were not expended and are proposed to be budgeted in the 2019/20 financial year. If Council endorses the EMP, the City is seeking approval to consider including the unexpended funds in the 2019/20 capital budget through the midyear budget review process.

Financial Year	Project Description	Cost (inc. on-costs)	Grant	Municipal
2019/20	Upgrade irrigation system and include hydrozoning; Install 165 m of garden kerbing; Construct 50 m of accessible footpath; Introduce Eco-zones; Replace 115 m of CCA pine bollards with recycled plastic bollards.	\$66,096*	-	\$66,096*
2020/21	Replace access boom gate.	\$6,100	-	\$6,100
	Replace combination picnic table.	\$5,100	-	\$5,100
	Replace Bike Racks.	\$5,300	-	\$5,300
Future projects	Redesign ramp leading to foreshore to modify into steps	TBC	-	TBC
	Assess concrete viewing structure and either remove, refurbish or modify to repurpose	TBC	-	TBC

* Funds proposed to be to be budgeted in the 2019/20 financial year via mid-year budget process.

City of Nedlands - Enviro-scape Master Plan							
Park / Reserve Name:	Bishop Road Reserve	Strategic Initiatives					
Ward	Dalkeith	Access			Fit for Purpose		
Reserve No:	R 1627	Item	Comment	Action	Item	Comment	
Hierarchy Classification:	Local Park	Staff	Vehicle access gate	Resolve steep ramp access to river foreshore - include in design and future budget	Casual Users	Renew drink fountain	Include in design and future budgets
Primary Function(s):	Recreation space – Nature Space	All Abilities	Design to DDA / DAIP standards				
Drainage Catchment:	0026 & 0037	Pedestrian	Use path to generally separate turf from eco-zoning and link points of interest				
Review Team:	M Glover A Dickson C New C Batchem D Lewis G Burwood T Sharp V Shannon		Link footpaths and park paths				
Date of Review:	14 November 2018		Link park path to car park			Preserve river vistas and current overall ambience	
Strategic Considerations		Amenity				Renew bike racks	
Catchment	Local, Occasional Weddings	Item	Comment	Action	Dogs	Provide dog waste bin station	
Access	Pedestrian, All abilities, Service vehicles, Existing path not DDA compliant (grade is too steep), Steps to foreshore, Viewing Area	Shade	Locate seating in areas of shade	Include in design and future budget		Drinking fountain to include dog bowl	
Amenity	Seating, Shade, River vista, Ambience, Dog exercise, Bins, Dog waste, Car parking		Succession planting of trees			Seniors	Seating to have arm rests
Environment	Water conservation / quality / capture / infiltration, Climate change, Habitat for wildlife, Vegetation and tree preservation, Tree health	Facilities	Renew drink fountain and add dog bowl	Included in 2019/20 budget		Seating near viewing area	
Fit for purpose	Dogs, Casual users, Social gatherings, Weddings, Bushwalking, Nature conservation, Passive recreation		Memorial seats fully allocated	Nil	Karda Bidi Trail	Route markers to be included in new paths as required	Include in design
Stakeholders		Environment					
Casual users	Passive recreation, Bushwalkers, Dog walkers	Item	Comment	Action	<p align="center">Bishop Road Reserve March 2019</p>  <p align="center">Refer overleaf for Concept Design</p>		
City	Staff and contractors	Water Conservation / Quality / Capture / Infiltration	Bore field to achieve 500 l / minute from 1 bore	Nil			
Council	Funding, Governance		Salinity of groundwater	Redevelop bore			
Reserve hire	Weddings		Upgrade reticulation to current standards incorporating hydro-zones and central control	Included in 2019/20 budget			
Neighbours	Properties with common boundaries		Install Gross Pollutant Trap on storm water outlet to river				
Other Authorities	Parks and Wildlife Service (REB) – development control area	Vegetation Retention	Establish tree mulch zones to drip line to support health of existing trees	Include in standard operations			
Drainage			Implement eco-zones watering reduction protocols				
Notes	Infiltration to be installed along road network at 1m ³ per 80m ² of 100% runoff to provide storage for approximately 1 in 5 year event at 2 minute interval. Investigate upstream options to facilitate decommissioning of river outfall.		Select species for eco-zones to conform with DBCA guidelines				
		Cliffs	Monitor and manage foreshore cliff stability	Seek geotechnical advice			
		Climate Change	Retain tree canopy and increase fringing riparian vegetation	Include in design			
			Review foreshore vegetation for erosion control due to increasing storm severity	Seek funding and approvals from REB			









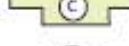





EMP – ENVIRO-SCAPE MASTER PLAN

BISHOP ROAD RESERVE

CONCEPT PLAN



LEGEND

-  EXTENT OF WORKS
-  EXISTING TREES
-  FOOTPATH
-  CONCRETE EDGE
-  EXISTING PLANTING ZONE
-  PROPOSED ECO-ZONE
-  EXISTING CASUAL USE TURF
-  BOLLARDS
-  CONCRETE STRUCTURE
-  ACCESS GATE
-  PARKING
-  DRINK FOUNTAIN
-  BICYCLE RACKS
-  STAIRS

TS23.19	2019/20 Budget – Variation of Adopted Capital Works Budget
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Committee	12 November 2019
Council	26 November 2019
Applicant	City of Nedlands
Employee Disclosure under section 5.70 Local Government Act 1995	Nil.
Director	Jim Duff – Director Technical Services
Attachments	1. Proposed Capital Works Budget Variations

Executive Summary

This report is being presented to Council to seek approval to vary the adopted 2019/20 budget. The variation is sought to allow progression of two (2) capital works projects approved in the 2018/19 financial year. Approval is sought prior to the midyear budget process to facilitate continuation of a project under construction, to commence another and to complete both projects in timeframes that meet community expectations.

Recommendation to Committee

Council:

1. **approves variation of the adopted 2019/20 budget in accordance with the proposed change to the capital works budget as detailed in Attachment 1:**
 - a. **deferral of \$61,770 in funding allocated to College Park Relocation of Eastern Turf Wicket, to be included in a future financial year following completion of the Strategic Recreational Plan;**
 - b. **surplus from three (3) Parks and Reserves capital project budgets totaling \$369,575, resulting from savings following project completion;**
 - c. **include funding of \$132,024 to be allocated Annie Dorrington Park New Playground; and**
 - d. **include funding of \$270,000 to be allocated to Swanbourne Beach Oval Rehabilitation.**

Discussion/Overview

Background

Council adopted the 2019/20 annual budget at its meeting on 25 June 2019. The adopted budget included a capital works program budget totaling \$12,802,374. The adopted capital works program included 25 carry forward projects. Due to an administrative oversight, the projects carried forward did not include capital project Swanbourne Beach Oval Rehabilitation (SBOR) and Annie Dorrington Park New Playground (ADPNP). Both projects were adopted in the 2018/19 capital works budget with allocated budgets of \$240,000 for SBOR and \$136,000 for ADPNP.



City of Nedlands

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Enviro-Scape Master Plan

Bishop Road Reserve

An Enviro-Scape Master Plan is a strategic process that coordinates the future development of the City's park precincts. The process considers water quality and conservation (hydro-zoning, eco-zoning), the natural and built environment and climate change, along with accessibility, amenity, community use and ensuring the precinct is fit for purpose.

There are 67 parks and reserves within the City of Nedlands.

The Enviro-Scape Master Plan for each park will address the following issues:

Water use: The Department of Water and Environmental Regulation (DWER) has capped the City's annual allocation of ground water used for irrigation at 709,300 kilolitres, based on 7,500 kilolitres per hectare of irrigated area per year. DWER has indicated it will be reducing water use allowance in future.

Climate change: Continued climate change with increased temperatures, reduced rainfall and rising sea levels – and increased risk of storms, droughts, and floods – requires a change of thinking in management practices. As the climate changes, it will result in increased erosion of the coastal and Swan River foreshore areas.

Passive recreation: An increase in demand and use for passive recreation (such as walking) requires improved management and quality of passive turf surfaces within the park.

Water quality: Ground water quality is currently reduced due to rain water being directed to the Swan River, instead of naturally dispersing into the water aquifer that sits below the ground surface. More direct filtration into the aquifer will assist with improving ground water quality across the broader local area.

Vegetation: The health and retention of native vegetation, most notably trees, is impacted by ground water quality and how the water is applied. Planting waterwise vegetation will support the reduction in ground water use.

Natural area conservation: An increase of hydro-zoned areas, tree canopy and native vegetation will expand existing bushland areas and greenway corridors and links between natural areas. This helps to increase the resilience of urban areas and wildlife in the event of natural disasters, along with improving water catchment, filtration and reducing heat island effects (where urban areas are warmer due to human activity).

User accessibility: Increased demand and a changing user profile requires a re-thinking of how people can access the reserve and its facilities.



Enviro-Scape Master Plan
Bishop Road Reserve



The City of Nedlands is progressing with an Enviro-scape Master Plan for Bishop Road Reserve. This process involves identifying a range of topics, constraints, opportunities and issues with the aim of developing a strategic vision for the park's future use and development.

The project aims to ensure community needs are met. Initiatives include improving accessibility, water conservation, landscaping and revegetation, park furniture, general amenity, parking and providing for outdoor recreational activities.

To have your say or find out more, visit yourvoice.nedlands.wa.gov.au

LEGEND

- EXTENT OF WORKS
- EXISTING TREES
- FOOTPATH
- CONCRETE EDGE
- EXISTING PLANTING_ZONE
- PROPOSED ECO-ZONE
- EXISTING CASUAL USE TURF
- BOLLARDS
- CONCRETE STRUCTURE
- ACCESS GATE
- PARKING
- DRINK FOUNTAIN
- BICYCLE RACKS
- STAIRS



Discussion

Swanbourne Beach Oval Rehabilitation Project:

The SBOR project commenced in March 2019 and was not completed by 30 June 2019. Once commenced, the project was anticipated to be completed in October 2019. As a result of numerous project difficulties associated with the site its completion has been delayed and the project is still under construction.

The Swanbourne Beach Oval is situated on the site of a historical tip and is a registered contaminated site. Geotechnical reports associated with the site were inconclusive in identifying all the type, nature and extent of materials buried on site, though it was thought to comprise primarily building rubble and garden refuse. Through the early construction phase of the project it was realised the site required more extensive remediation than originally anticipated. To achieve the desired finished ground levels for the active open space the City needed to import more suitable fill material than originally estimated which had a consequential impact on the available budget. Furthermore, some of the contaminated material was deemed unsuitable for use on site and needed to be stockpiled for disposal at a licensed landfill facility which again resulted in additional expense that was not anticipated.

Installation of the new reticulation, synthetic cricket wicket, footpaths, turf grass and conservation fencing has yet to commence as final surface levels are not complete. Consequentially, 63.7% of the funds allocated to the project were unexpended last financial year. As there is no approved funding at present in the 2019/20 capital works budget, continuation of the works is uncertain as purchase orders for the outstanding works are no longer being raised. In addition, revised project costs associated with resolving the numerous issues encountered indicate a shortfall in funding of approximately \$112,000 to complete the project.

Annie Dorrington Park New Playground:

Awarding of playground panel contract 'RFP 2018-19.01 - Design, Supply and Installation of Playground Equipment Panel' was a prerequisite to procurement for the ADPNP project. Council approved award of RFP 2018-19.01 at its meeting on 23 April 2019. The ADPNP project was scheduled to commence in June 2019. The City was unable to award the contract, secure design concepts from panel suppliers, evaluate the design concepts and complete community consultation (to identify the preferred design) prior to 30 June 2019. Consequentially, 97.1% of the funds allocated to the project were unexpended last financial year.

The City has identified the preferred playground design and supplier for the ADPNP following community consultation. The City however is unable to issue a purchase order without an approved budget. Expediting commencement of the project would be of benefit to the community in that the playground could be completed before, or early in, the summer school holiday period

Risk Management

There are numerous risks associated with delaying the SBOR project. There is a regulatory risk in respect to dust and sand drift from the site which will increase as the summer months approach. Installation of the irrigation system as early as possible in the summer period would allow suppression of dust and sand drift issues. If the irrigation system is unable to be installed until after the midyear budget process, there is a financial

risk in that managing dust and sand drift will require an alternative approach which is likely to incur additional cost.

There is a reputational risk to the City if it is unable to resolve the identified budget issues and complete both projects in a timely manner. Waiting until the midyear budget process to resolve these would result in substantial delay in delivering the projects giving rise to further potential risks.

Key Relevant Previous Council Decisions:

- Ordinary Meeting of Council 26 June 2018, Item 13.9, Adoption of the Annual Budget 2018/19.
- Ordinary Meeting of Council 26 June 2018, Item 13.9, Adoption of the Annual Budget 2018/19.

Consultation

Community consultation associated with both projects has established estimated completion dates this calendar year (i.e. before 31 December 2019). Obtaining approval to vary the adopted budget prior to the midyear budget process would allow the projects to continue and commence, minimise further delays and allow delivery of the projects in line with community expectations.

Budget/Financial Implications

One Parks and Reserves project adopted in the 2019/20 capital works budget has been identified for deferral to future financial years as the completion of the Strategic Recreational Plan will influence project decision making. Three other projects have been completed or practically completed, with no further commitments identified, significantly under the adopted project budget. The net result of the proposed variations is a surplus of \$29,321 to the capital works budget bottom line (refer to Attachment 1 for details). These items have been identified during preliminary analysis in preparation for the midyear budget review.

2019-20 Adopted Capital Works Program – Proposed Variations								
Project Account	Description	Actual	Committed	Adopted Budget	Available	Proposed Budget	Variance	Comments
14.0623	College Park – Relocate Eastern Turf Wicket	0	0	61,770	61,770	0	-61,770	It is proposed to defer this project to a future budget following completion of the Strategic Recreation Plan
14.0734	Asquith Park – Develop New Carpark	48,202	29,817	287,237	209,218	90,500	-196,737	Project has reached practical completion with no further commitments identified
14.0754	Hollywood Reserve – Upgrade Paths	0	18,619	149,100	130,481	33,600	-115,500	Project has reached practical completion with no further commitments identified
14.0767	Pt Resolution Reserve – Upgrade Irrigation	112,217	11,123	197,338	73,998	140,000	-57,338	Project has reached practical completion with no further commitments identified
14.0769	Annie Dorrington Park – New Playground	5,128	0	5,221	93	137,245	132,024	Project has not commenced as there is insufficient budget to issue purchase orders
20.0904	Swanbourne Beach Oval - Rehabilitate	49,303	53,803	0	-103,106	270,000	270,000	Project substantially progressed but has been placed on hold subject to obtaining requested budget to allow works to continue
TOTALS		214,850	113,362	700,666	372,454	671,345	-29,321	