

CITY OF BELMONT ENVIRONMENT AND SUSTAINABILITY STRATEGY 2016-2021



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Environment and Sustainability Strategy Endorsement

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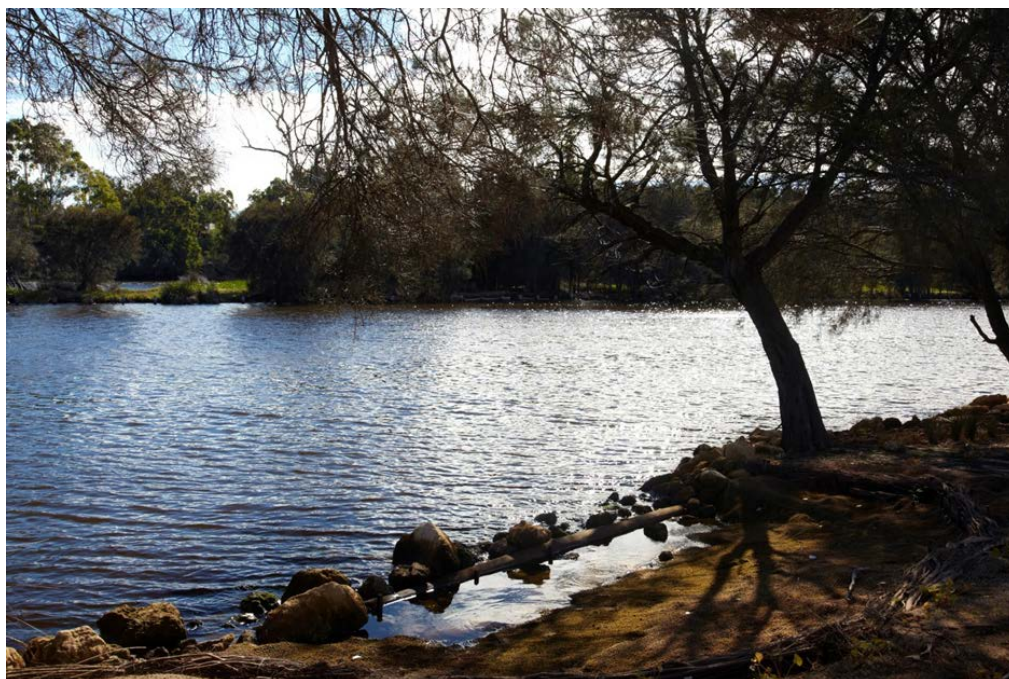
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ACKNOWLEDGEMENTS

The City of Belmont would like to thank everyone involved in the development of the Environment and Sustainability Strategy 2016-2021. Of special mention are those who provided written submissions during the public consultation period. In addition, the valuable contribution made by internal staff, Councillors and members of the Standing Committee (Environmental) is recognised.



EXECUTIVE SUMMARY

The City's 'Environment and Sustainability Policy' (NB2.19) outlines Council's commitment to develop, implement and regularly review an organisation-wide Environment and Sustainability Strategy. The Strategy aligns with the City of Belmont Strategic Community Plan 2020-2021 and directs environmental management and sustainable use of natural resources by the City.

The focus of the Environment and Sustainability Strategy is to proactively develop objectives and actions that will result in enhancement of the natural environment and improvements in environmental performance. While the Environment Section has primary responsibility for its coordination, a range of internal departments are responsible for implementing actions contained in the Strategy. In this respect, the Environment and Sustainability Strategy is an organisation-wide document.

Part I of the Environment and Sustainability Strategy provides an introduction and background information on:

- Scope of the Environment and Sustainability Strategy
- Links to the City of Belmont's Strategic Community Plan 2020-2021
- Relevant Corporate Documents and Key Relationships
- Previous Achievements
- Key Stakeholders
- Environmental Management System and Structure.

Part II outlines key current and emerging environmental issues facing the City of Belmont and its community. Both the Corporate Philosophy and Community Awareness areas relate to all identified environmental issues.

Objectives, targets, indicators and actions (ongoing and new), linked to policy commitments have been identified for each of the following chapters:

- | | |
|--|---|
| • Corporate Philosophy | • Prevention of Pollution and Environmental Degradation |
| • Community Awareness, Engagement and Behaviour Change | • Resource Use, Waste and Greenhouse Gas Emissions |
| • Natural Environment and Biodiversity | • Climate Change Adaptation |

The City's goals and targets for environmental sustainability are specified in the Resource Use, Waste and Greenhouse Gas Emissions chapter. Ongoing actions are those that the City is currently undertaking, that are included in existing budgets.

For each new action a timeframe, responsible officer, estimated budget cost and measurable outcome has been assigned. Timeframes have been classified as immediate (to be completed by 2016-17) short term (2017-18), medium term (2018-19 to 2019-20) or long term (2020-21).

The only additional direct financial costs to implement actions included in the Strategy are associated with:

- Action 2.2 'Participate in EMRC's Bush Skills 4 Youth Program'. This involves a cost of \$3500 in 2018/19 and \$7000 (plus CPI) per annum in future years.
- Action 5.6 'Undertake a Water Sensitive Cities Index benchmarking workshop' (subject to Water Corporation funding), at a cost of \$805 for EMRC support.
- Action 5.7 'Participate in EMRC's Regional Benchmarking Building Efficiency Project', at a cost of \$18,500 in 2019/20 and (if Stages 2 – 4 proceed) \$12,500 in 2020/21.

Comment [ND1]: Action numbers removed as they often change following each annual review of the Strategy

- Action 'Develop a Nature Passbook to highlight nature-rich locations within the City of Belmont and fun nature play activities for families', at a cost of \$5400 in 2020/21.

The cost of implementing all remaining actions, both ongoing and new is included in existing maintenance, capital renewal/ upgrade or operating budgets, or is accounted for in the Corporate Business Plan. A significant but unquantified cost is related to officer time, which involves not only the activities of Environment Section staff, but also those identified as responsible officers.

PART I

INTRODUCTION

The City of Belmont is located 5 kilometres east of the Perth Central Business District to which it is connected by Great Eastern Highway and the Graham Farmer Freeway. The City encompasses a total land area of 40 square kilometres, including significant river foreshore areas. Suburbs include Ascot, Belmont, Cloverdale, Kewdale, Perth Airport, Redcliffe and Rivervale. European settlement of the Belmont area dates from 1831, with land used mainly for farming. Horse racing was established in the late 1840s, and market gardening in the 1880s and 1890s. Significant development occurred in the post-war years, with the population peaking in the early 1970s at 32,000. It was not until 2007 that Belmont's population again reached this figure.

The estimated resident population of the City of Belmont at the most recent 2016 census was 41,270. Predictions of future population change as per the WA Planning Commission's WA Tomorrow (2015), indicate a median future population of 45,100 residents in 2021.

Today the City of Belmont is home to Perth Airport, Kewdale Freight Terminal, the horse racing industry, significant commercial and industrial activities, extensive residential areas and many parks and recreation reserves. As a result, the City of Belmont is a significant centre of employment as well as offering relaxed lifestyle opportunities not readily available in other inner-metropolitan localities.

Unique natural features located within the City of Belmont include the Swan River foreshore, Bush Forever sites at Perth Airport and Ascot Waters, drainage systems and natural areas such as Signal Hill bushland, Tomato Lake and Garvey Park. In addition, the positioning of the City as a gateway to Perth and the combination of residential, commercial and industrial land uses located in close proximity to the natural environment are significant considerations in environmental management.

SCOPE OF ENVIRONMENT AND SUSTAINABILITY STRATEGY

The City of Belmont Environment and Sustainability Strategy is the main strategic document directing environmental management and sustainable use of natural resources by the City. Environmental management encompasses a wide range of activities, as outlined in the definition of 'environment' below:

'The space in which the day to day activities of the City and its community function. It includes the natural aspects of air, water, land, biodiversity, flora, fauna, the human beings that act upon and interact with these elements and the social & cultural values that are directly associated with the natural environmental aspects.'

While focusing on City operations, the Strategy also includes engagement with the wider Belmont residential and business community.

LINKS TO THE CITY OF BELMONT'S STRATEGIC COMMUNITY PLAN ~~2016~~2020-2040~~36~~

The Strategic Community Plan sets the direction that Council will take, and Management will follow in the City of Belmont over the next twenty years. It establishes objectives, strategies to achieve them, and measurable performance indicators to enable Council and the Community to review progress.

~~The City's Vision~~Our -vision Statement for the future is as follows:

~~"City of Belmont -- The City of Opportunity: We The City of Belmont~~ will be home to a diverse and harmonious community, thriving from the opportunities of our unique, riverside City."

In order to achieve our vision and in consideration of the feedback received from the community, the priorities, needs and aspirations, have been grouped into the following five broad long-term goals.~~To be successful, outcomes must be achieved for:~~

Goal 1. Liveable Belmont: We are vibrant, desirable and liveable.

Goal 2. Connected Belmont: We can all get to where we want to go.

Goal 3. Natural Belmont: We care for and enjoy our environment.

Goal 4. Creative Belmont: We are innovative, creative and progressive.

Goal 5. Responsible Belmont: We are inclusive, engaging and act with integrity.

- ~~• The residential community (Social Belmont)~~
- ~~• The City's business community (Business Belmont)~~
- ~~• The natural environment (Natural Belmont)~~
- ~~• The man-made physical structure and layout of the City (Built Belmont).~~

~~These four areas of achievement make up the Key Result Areas (KRA) of the Strategic Community Plan and each KRA interacts with others. Activities identified within the 'Natural Belmont' KRA include:~~

- ~~• Environmental education~~
- ~~• Environmental management~~
- ~~• Parks and public open space~~
- ~~• Pollution management~~
- ~~• River foreshore management~~
- ~~• TravelSmart~~
- ~~• Water and energy efficiency.~~

Implementation of the Environment and Sustainability Strategy ~~directly~~ assists in achieving the following --strategies identified within the 'Natural Belmont' goal of the Strategic Community Plan 2020- 2040:

3.1 Protect and enhance our natural environment

3.2 Improve our river and waterways

3.3 Keep our City clean

3.4 Provide green spaces for recreation, relaxation and enjoyment

3.5 Promote energy and water efficiency, renewable energy sources, and reduce emissions and waste

3.6 Encourage sustainable development to guide built form.

the following Natural Belmont objectives of the Strategic Community Plan 2016-2036:

- ~~Objective 1: Protect and enhance our natural environment~~
- ~~Objective 2: Enhance the City's environmental sustainability through the efficient use of natural resources and minimise the City's carbon footprint~~
- ~~Objective 3: Ensure future resilience to a changing climate.~~

RELEVANT CORPORATE DOCUMENTS AND KEY RELATIONSHIPS

The relationship between the Environment and Sustainability Strategy and other Corporate Documents of key relevance is shown below. There are many other strategies and plans that also have linkages.



PREVIOUS ACHIEVEMENTS

Key achievements are published in the City of Belmont Annual Report for each respective financial year, under the Standing Committee (Environmental) section.

Actions completed from the City of Belmont Environment and Sustainability Strategy 2016-2021 are outlined below.

2016/17

Action number	Action
1.1	Review Council Policy NB4. Dangerous Trees to ensure compliance with the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.
1.2	Consider WALGA's Draft Discussion Paper <i>Divestment in Fossil Fuels - Opportunities for Local Governments in WA</i> , in annual review of Council Policy BEXB35- Investment of Funds.
1.3	Consider formation of a staff Environment and Sustainability Continuous Improvement Team.
1.5	Implement an environmental induction program for new staff, with staff in relevant roles to complete Waterwise Garden and Irrigation, Water Auditing and Fertilise Wise training.
1.6	Promote relevance of environment/ sustainability to the City's values, the "Innovation Webform" and relevant categories of the Star Awards (i.e. innovation).
1.7	Review environmental legislation matrix and include in staff induction.
1.8	Create central register of updates received through Enviro Law stating relevance to City Operations, subsequent changes implemented to City procedures and communication undertaken.
1.9	Incorporate environmental considerations when planning major community events.
1.10	Advocate for regional investigation of Sustainable Development Goals (SDGs) of the <i>2030 Agenda for Sustainable Development</i> by EMRC, and consider relevance to transition of the City's EMS to the ISO 14001: 2015 standard.
2.2	Advocate for development of a regional Business Environmental Awards program by EMRC at upcoming regional workshops to plan programmes post 30 June 2017.
2.3	Consider incentives for establishment of verge landscaping that supports environmental outcomes through the Water Corporation's Waterwise Verge Enhancement Scheme or equivalent.
2.4	Pursue development of a switched on business! initiative (based on switched on schools) with switch your thinking!, to promote environmental achievements of businesses.
3.1	Implement foreshore stabilisation works at Garvey Park, Ascot Racecourse foreshore and other priority sites for erosion control.
3.3	Investigate value of undertaking regular biological surveys of natural areas to monitor changes in local ecology.
3.4	Update the City's Street Tree Plan to include information on ecological value of listed species and develop Detailed Tree Selection for environmentally sensitive areas.
3.5	Implement recommendations of the "Assessment of Visual Amenity Options for Compensating Basins" report.
4.1	Participate in the Department of Parks & Wildlife and Department of Environment Regulation's Light Industry project in 2016/17.
4.2	Review the City's Erosion and Sediment Control Work Instruction and Guidelines.

4.3	Trial use of the EMRC's Steam Weeder to determine effectiveness and efficiency of operation for weed control in garden beds, hardstand and natural areas.
4.4	At the time of next review of Policies BB4. Manholes and Stormwater Connections & NB2. Storm Water Disposal From Private Properties, consider including reference to technical and water quality standards for private connections to the City's stormwater network.
5.1	Actively monitor and manage energy and water consumption of City operated facilities through use of Planet Footprint, and review annual use in comparison to benchmarks (per FTE / per booking hour/ per m ² floor area).
5.2	Investigate potential for sub-metering to identify individual electricity use by lessees of the Youth and Family Services Centre.
5.3	Trial a commitment pledge/ Memorandum of Understanding with one lessee of a City owned building/ facility, regarding environmental sustainability initiatives.
5.5	Utilise the "energy fund" to install solar PV systems on City buildings, as per recommendations of the business case developed.
5.6	Include "whole of life" fuel use as a tender criterion for new plant purchased, based on fuel efficiency (L/hr) and expected lifetime operating hours.
5.8	Discuss opportunities for potential future use of stormwater from Perth Airport's detention basin to be created at the time of development of land adjacent Dunreath Drive.
6.1	Participate in the EMRC's "Understanding and Managing Flood Risk in Perth's Eastern Region: Stage 2" project and consider participation in Stage 3 depending on outcomes of grant application.

2017/18

Action number	Action
1.2	Advocate for regional investigation of Sustainable Development Goals (SDGs) of the <i>2030 Agenda for Sustainable Development</i> by EMRC, and consider relevance to transition of the City's EMS to the ISO 14001: 2015 standard.
1.3	Transition the City's EMS to the ISO 14001: 2015 standard, with certification achieved following 2018 external audit.
3.2	Obtain "as constructed" digital designs for stormwater drainage upon completion of the Tonkin Highway upgrade, and incorporate into the City's Intramaps system.
3.7	Revise the City's Process Map for "Obtaining Approval for Ground Disturbing Works at Aboriginal Heritage Sites", based on the Noongar Standard Heritage Agreement.
3.8	Revise the the City's Process Map for "Clearing of native vegetation" to include referrals under the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> .

2018/19

1.2	At time of next review of Policy NB1 Environmental Purchasing, investigate additional provisions to support reduction in single use disposable plastics and make reference to consideration of the life cycle impacts of procurement.
2.2	Provide information to assist local businesses and residents to adapt following introduction of the Plastic Bag ban, and promote further reduction of single use disposable plastics.
3.1	Implement foreshore stabilisation works at Garvey Park, Ascot Racecourse foreshore and other priority sites for erosion control.
3.2	Undertake biological surveys (fauna and/or- macroinvertebrates) of restoration sites to monitor changes in local ecology.
3.3	Undertake updated flora surveys of key natural areas to monitor changes and plan for future restoration.
3.6	Develop an Urban Forest Policy to reinforce and support the objectives of the City's Urban Forest Strategy and the Canopy Plan currently under development.
4.1	Undertake major report on results of stormwater monitoring of nutrient and non-nutrient contaminants and review the Sampling and Analysis Plan.
4.2	Review turf management activities within 50m of wetlands (including mowing, irrigation and application of fertiliser, wetting agents and soil amendments), against environmental best practice.
5.6	Consider relevance and benefits of evaluating the City against sustainability frameworks such as the CRC for Water Sensitive Cities Index.
5.7	Develop an Environmental Sustainability events checklist to assist City staff when planning and delivering events on behalf of the City
6.2	Review the Local Climate Change Adaptation Action Plan.
6.3	Consider WALGA's revised Climate Change Policy Statement in annual review of the Council Policy Manual.
6.4	Consider WALGA's Discussion Paper on Divestment in Fossil Fuels: Opportunities for Local Governments at time of next review of Policy BEXB 35 Investment of Funds.

2019/20

<u>1.1</u>	<u>Develop guidelines and assist and encourage applicants for developments to establish verge landscaping that supports environmental outcomes and other community benefits.</u>
<u>3.1</u>	<u>Implement foreshore stabilisation works at Garvey Park, Ascot Racecourse foreshore and other priority sites for erosion control.</u>
<u>5.2</u>	<u>Implement a commitment pledge/ Memorandum of Understanding with one lessee of a City owned building/ facility, regarding environmental sustainability initiatives.</u>
<u>5.3</u>	<u>Utilise the "energy fund" to install solar PV systems on City buildings, as per recommendations of the business case developed.</u>
<u>5.5</u>	<u>Develop a Waste Minimisation Plan for the Faulkner Civic Precinct, including the Civic Centre, Ruth Faulkner Public Library, Functions Centre and new Community Centre.</u>
<u>5.6</u>	<u>Undertake a Water Sensitive Cities Index benchmarking workshop</u>

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KEY STAKEHOLDERS FOR THE CITY OF BELMONT

Developing partnerships with external stakeholders is critical if the City of Belmont wishes to be successful in the area of environmental management, as environmental issues do not recognise Local Government boundaries. Involvement in cooperative and mutually beneficial

partnership projects facilitates information and knowledge transfer, as well as creating the potential for cost and resource sharing.

Some of the **key stakeholders** identified for environmental management in the City of Belmont include:

- Land owners, property developers, the Belmont Business Advisory Group and local businesses, including Perth Airport, Belmont Forum and Perth Racing
- State Government departments, including the Department of Water and Environmental Regulation, Main Roads, Department of Biodiversity, Conservation and Attractions, Department of Planning, Lands and Heritage, Water Corporation and WAPC
- Eastern Metropolitan Regional Council (EMRC)
- Neighbouring Local Governments particularly those with shared catchments and adjoining river foreshore
- Environmental and 'Friends Of' groups, including Perth NRM, the South East Regional Centre for Urban Landcare and the ~~Belmont and Bayswater Rivercare Association~~ Environmental Group Inc.
- River user groups such as Ascot Kayak Club
- ~~Motor Trade Association of Western Australia~~ as the operator of the Green Stamp Program
- ~~Switch your thinking program and participating local governments~~
- City of Belmont's Aboriginal ~~Reference Committee~~ Advisory Group. ~~The Western Australian Local Government Association (WALGA) and associated network groups including the Sustainability Officers Network Group, Urban Forest Working Group and Natural Area Managers Network~~
- Local schools, registered environmental volunteers and general community members.

Comment [ND2]: Rivercare group disbanded however new group has formed

ENVIRONMENTAL MANAGEMENT STRUCTURE

Standing Committee (Environmental)

~~The Standing Committee (Environmental) plays a central role in integrating environmental management into the core business of the City of Belmont and serves as the direct reporting link to Council.~~

Comment [ND3]: Changes to reflect current Terms of Reference for the Committee (updated 23 July 2019)

The broad purpose of the Committee is to consider and recommend to Council on matters of strategic environmental importance and relevance to the City of Belmont. The primary objectives of the Committee are to ~~monitor the City's performance against objectives and targets and monitor the progress of and~~ undertake review of the City of Belmont Environment and Sustainability Strategy and review outcomes of actions implemented from the Strategy requiring Council approval/ endorsement.

The Committee comprises four Councillors: the Mayor (ex officio) plus one nominated representative from each of the three wards (East, South, West). Further details on duties and responsibilities as well as meetings and membership guidelines are outlined in the Standing Committee (Environmental) Terms of Reference.



Responsible Business Units

The Parks, Leisure and Environment Department (specifically the Environment Section) within the Infrastructure Services Division has overall responsibility for the Environment and

Sustainability Strategy and environmental policies.

Specialised functions in relation to environmental management and sustainable use of natural resources are also handled by other departments within the City, as shown below.

Examples of the types of activities undertaken by these departments are also listed.

- Environment ~~and TravelSmart~~ (environmental restoration projects, the maintenance of natural areas and organisation of environmental events, activities and education programs);
- Design and Assets (sustainable transport):
 - Planning Services (environmental planning, land use planning and development control);
 - Infrastructure Development (drainage and stormwater management);
 - ~~Health and Community Safety~~ Safer Communities (inspection of stables premises, regulatory officers, setting conditions on development ~~eg e.g.~~ wash down bays, spray painting booths, oil/water separators);
 - Works (called in by Emergency Services to respond to major spills, waste management, installation of Stormwater Pollutant Traps, vehicle fleet and plant);
 - Parks (management of groundwater for irrigation, hydrozoning, use of local native species in landscaping); and
- ~~Building Services~~ City Facilities and Property (energy/water use in City buildings, ~~assessing Building Licence Applications~~).

ENVIRONMENTAL MANAGEMENT SYSTEM

The City of Belmont developed an Environmental Management System (EMS) in 2006, certified to the AS/NZ: ISO 14001: 2004 standard, which transitioned to the 2015 standard in 2018. The Environmental Management System is used to develop and implement an environmental policy, set objectives and targets, manage environmental aspects and impacts and comply with environmental legal requirements.

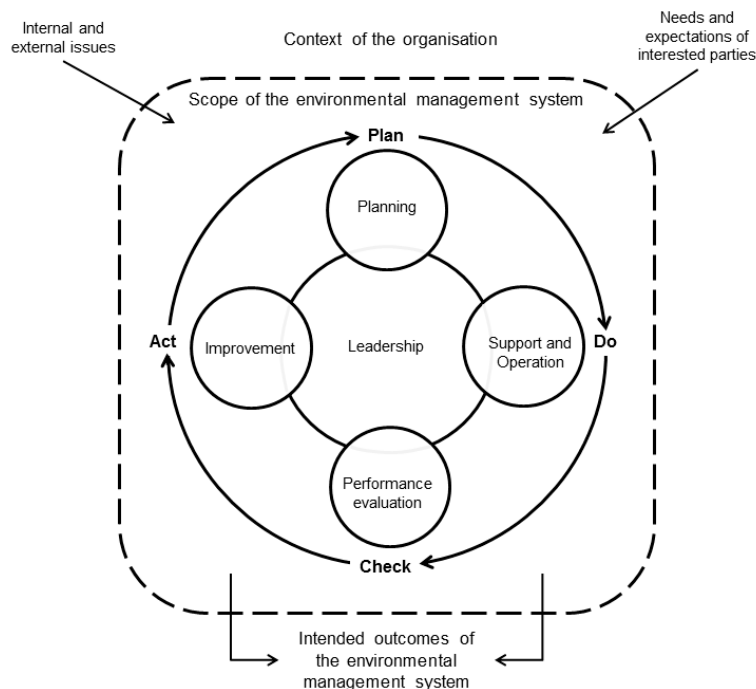
Comment [ND4]: Expansion on scope as required under ISO 14001 EMS certification

All City of Belmont employees and agency staff are within the scope of the EMS, along with contractors and volunteers undertaking work on behalf of the City.

The EMS covers all activities associated with City owned or managed facilities, buildings, parks and streetscapes (excluding leased premises but including sites managed through a contract/ tender). It also includes life cycle considerations (procurement, operations, disposal) and services provided by the City to the community, such as waste and recycling collection.

While focusing on City operations, the EMS also extends to areas that the City can influence such as engagement with lessees of City facilities and the general Belmont community (schools, residents and businesses) and through legislative compliance, strategic planning and development control.

The overall aim is to support environmental protection and the prevention of pollution in balance with socio-economic needs. The standard follows the Plan-Do-Check-Act methodology, as depicted in the diagram from the AS/NZ: ISO 14001: 2015 standard below.



The City's Business Management System Manual documents how the requirements of the ISO 14001 Standard are addressed in practice. Audits of the system are conducted twice annually, consisting of annual internal and external audits.

The City of Belmont has developed an Environment and Sustainability Policy to guide its business decisions and operational activities. This policy outlines Council's commitment to the development, implementation and regular review of an Environment and Sustainability Strategy. The policy commitments outlined provide the basis for the objectives/ targets, indicators and actions contained within this Strategy.

Monitoring and reporting of progress of Environment and Sustainability Strategy implementation is conducted via ~~the Standing Committee (Environmental)~~ Councillors, with updates provided quarterly. Results on environmental performance are reported annually to the Committee, with key findings published in the City of Belmont Annual Report.

Comment [ND5]: Amendment to reflect change to Committee Terms of Reference (reviewed July 2019)

Review and continual improvement occurs through regular review of environmental performance, and subsequent annual review of environmental policies, environmental risks and the Environment and Sustainability Strategy.

NB 32.1: Environment and Sustainability Policy

Policy Objective:

The City of Belmont will maintain an effective Environmental Management System that incorporates a continuous improvement philosophy in order to protect and enhance the natural environment.

While focusing on City operations, the City will also engage with the wider Belmont residential and business community to promote and encourage involvement in environmental programmes, sustainable behaviour change and minimise risk of pollution incidence.

The Environmental Management System shall continue to be integrated into the culture of our organisation and commitment will be demonstrated through effective leadership and communication to staff and those working under the City's control.

Policy Statement:

The City of Belmont is committed to:

1. Undertake continual improvement of the Environmental Management System in order to enhance environmental performance of City operations.
2. Protection and enhancement of the natural environment and biodiversity values within the built environment, including remnant bushland, wetlands, river foreshore and waterways.
3. Prevention of pollution to air, land or water, or damage to flora or fauna, minimising harm and degradation to the natural environment.
4. Efficient use of energy, water, paper and other resources, reducing waste generated and implementing renewable energy technologies to minimise the City's corporate carbon footprint.
5. Considering life cycle impacts and minimising single use disposable plastics.
6. Planning for and implementing measures to 'future proof' City operations against the predicted impacts of climate change.
7. Compliance with relevant environmental legislation and other obligations.

Policy Detail:

The City of Belmont will

1. Develop, implement and regularly review an organisation-wide Environment and Sustainability Strategy
2. Set objectives, targets and indicators to monitor environmental performance and review and report on outcomes
3. Identify strategic actions to achieve objectives, assigning responsibilities, timeframes and budget requirements, monitoring progress of implementation
4. Consider environmental implications in project and event management, procurement, decision-making and development of strategies and plans
5. Ensure the impact of future development on the environment is considered through land use planning and development control
6. Maintain awareness of current and emerging environmental issues relevant to the City of Belmont

7. Manage potential environmental impacts associated with City operations (“environmental” risks) and predicted impacts of climate change (“climate change” risks) as specified under City of Belmont Policy BEXB 34: Risk Management
8. Ensure awareness of and communication of environmental legislative requirements relevant to Departmental activities to employees.

Responsibilities

The development of the Environmental Management System and this policy is the responsibility of the Executive Leadership Team. Its implementation is the responsibility of the Chief Executive Officer. The application of this policy is the responsibility of all City employees and those working under the City’s control.

Reference/Associated Documents:

AS/ NZS ISO 14001- Environmental Management Systems standards
 BEXB 210.24: Occupational Safety and Health
 BEXB 9.234: Risk Management
 BEXB 10.338: Business Improvement Quality Policy
 NB 1.1: Environmental Purchasing Policy

Reference to Internal Procedure:

BelNet Related Process Maps and Work Instructions

DEFINITIONS

N/A

MONITORING, EVALUATION AND REVIEW

This policy has been risk assessed as Low.

Note: The policy will be reviewed annually as per ISO 14001 accreditation.

The policy will be reviewed annually. Failure to meet environmental legislative responsibilities and commitments could result in fines, reporting at a political and possible media level which would negatively affect the City’s reputation amongst the community and stakeholders. Clearly there are risks to the local environment and City of Belmont operations if proper procedures are not followed.

The policy will be reviewed annually.

Management of Environmental Risks

The City has completed an environmental risk assessment based on the Australian/ New Zealand Standard for Risk Management (AS/NZ ISO 31000). The risk assessment considers the environmental aspects of City activities, and their potential impacts to air, land, surface water, groundwater, the community, fauna and flora.

The management of environmental risks includes:

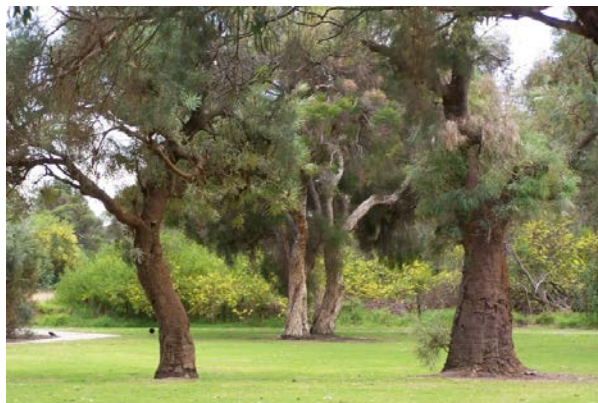
- Identification of environmental aspects (activities that can result in an environmental impact) and environmental impacts
- Documentation of current controls in place that prevent adverse environmental impacts from occurring
- An assessment of the consequence and likelihood of each impact occurring, to determine an overall risk rating
- Identification of future controls that will be implemented to further manage the 'extreme' and 'high' risks identified.

Significant environmental aspects are those associated with a High or Extreme residual risk rating, or with commitments in the Environment and Sustainability Policy.

The level of risk is evaluated as per the following tables:

Qualitative Measures of Consequence

LEVEL	DESCRIPTION	ENVIRONMENTAL
1	Insignificant	Negligible environmental impact, managed within normal operations.
2	Minor	Minor instances of environmental damage that could be reversed
3	Moderate	Isolated but significant instances of environmental damage that might be reversed with intensive efforts. Short-term environmental damage.
4	Major	Severe loss of environmental amenity and a danger of continuing environmental damage. Medium-term environmental damage.
5	Catastrophic	Major widespread loss of environmental amenity and progressive, irrecoverable environmental damage. Long-term environmental damage that could result in penalties.



Qualitative Measures of Likelihood

LEVEL	DESCRIPTION	EXAMPLES	FREQUENCY
A	Almost Certain	Expected to occur in most circumstances	More than once per year
B	Likely	Will probably occur in most circumstances	At least once per year
C	Possible	Should occur at some time	At least once in three years.
D	Unlikely	Could occur at some time	At least once in ten years
E	Rare	May occur, only in exceptional circumstances	Less than once in fifteen years.

RISK MATRIX – LEVEL OF RISK

LIKELIHOOD	INSIGNIFICANT 1	MINOR 2	MODERATE 3	MAJOR 4	CATASTROPHIC 5
A – Almost Certain	High	High	Extreme	Extreme	Extreme
B – Likely	Moderate	High	High	Extreme	Extreme
C – Possible	Low	Moderate	High	Extreme	Extreme
D – Unlikely	Low	Low	Moderate	High	Extreme
E- Rare	Low	Low	Moderate	High	High

The Environmental Risk Register is captured in the City's RMSS risk management software and is reviewed on an annual basis.

PART II

1. CORPORATE PHILOSOPHY

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 1:
“Protect and enhance our natural environment”

The City's corporate philosophy towards environmental management relates to City of Belmont operations and activities including project and event management, procurement, decision making, land use planning and development control.

It is important that the City demonstrates leadership to the community by implementing environmental 'best practice' wherever possible. Also of importance is establishing policies and procedures to minimise the risk of environmental impacts arising from City operations.

The City's internal Geographic Information System (Intramaps) includes numerous spatial datasets that assist with environmental planning and consideration of environmental risks and opportunities.

Corporate philosophy relates to all other environmental issues identified in Part II of the Environment and Sustainability Strategy, including; natural environment and biodiversity, prevention of pollution and environmental degradation, resource use, waste and greenhouse gas emissions and climate change adaptation.

It is important that the City's environmental policies and procedures are clearly communicated to Councillors, City staff and contractors, and that they are followed. Encouraging staff to suggest improvements and ensuring relevant officers are involved in any changes to procedures is essential, as it draws on a wide range of knowledge and experience from different areas of expertise.

The City of Belmont is currently involved in the following ongoing actions to progress toward achieving the corporate philosophy objectives:

- Maintain the ISO 14001 certification of the City of Belmont's Environmental Management System
- Conduct an annual internal audit of the Environmental Management System
- Monitor and note changes to environmental legislation in a central register, and if relevant to the City of Belmont, corresponding changes to City procedures and communication undertaken
- Undertake an annual review of the 'Natural' Belmont section goal area of the Corporate Business Plan, Environment and Sustainability Strategy and environmental policies
- Raise Councillor and staff awareness of environmental issues and initiatives including seminars, workshops and training opportunities
- Encourage City of Belmont staff to participate in environmental events and promote environmental observance dates such as the International Day of Forests, World Water Day, Earth Hour, World Environment Day, Plastic Free July and National Recycling Week
- Provide a forum for staff to identify, share and discuss environmental sustainability initiatives
- Implement an environmental awareness training program for new staff, with those in relevant roles to complete Waterwise Garden and Irrigation, Water Auditing and Fertilise Wise training

- Promote the City's Environmental Management System, environmental policies, environmental incident reporting and Environment and Sustainability Strategy to staff and contractors
- Promote relevance of environment/ sustainability to the City's values, the "Innovation Webform" and relevant categories of the Star Awards (i.e. innovation)
- ~~Implement the City of Belmont TravelSmart Workplace Plan to. Encourage~~ active transport, car pooling and public transport by City employees, thereby reducing sole occupant vehicle transport
- Provide information and facilities to assist staff to minimise waste and reduce, re-use and recycle
- Incorporate environmental sustainability considerations when planning major community events
- Submit an annual groundwater monitoring report to the Department of Water, as per the Groundwater Use Management Plan and Operating Strategy
- Continue to participate in the Waterwise Council Program by reporting annually to the Water Corporation on water actions implemented
- Consider information disseminated by EMRC on research outcomes of the Cooperative Research Centre for Water Sensitive Cities regarding water management
- When upgrading or installing new stormwater drainage infrastructure as part of major City projects, consider retrofitting to improve ecological and water quality outcomes
- Maintain Green Stamp Advantage accreditation of the City of Belmont's Operations Centre
- Participate in the partnership Fishing Line Bin project with Department of ~~Parks & Wildlife~~ Biodiversity, Conservation and Attractions and Native Animal Rescue
- Undertake annual review of EnviroLaw Compliance Register
- Conduct annual check on compliance against commitments in:
 - Memorandum of Understanding- Waterwise Council Program
 - WA Local Government Climate Change Declaration
 - Fishing Line Bin Memorandum of Understanding.
- Provide regular progress reports to Councillors on implementation of the Environment and Sustainability Strategy
- Report annually to Councillors on environmental performance
- Publish results on environmental performance in the City of Belmont Annual Report
- Ensure environmental implications are identified for consideration in decision-making
- Ensure a risk assessment including consideration of environmental risks is undertaken when substantive change to an existing Council policy occurs, or a new policy is developed
- Complete risk assessments for all major City projects considering environmental risks and opportunities, as per the trial Project Management Process Activation and Scaling Process Map
- Continue to apply Risk Markers for all new and modified City Process Maps, including consideration of environmental risks.

Comment [ND6]: Deletion as the TravelSmart Workplace Plan is no longer in use

Comment [ND7]: Action currently undertaken as a result of 2019 External Audit against ISO 14001 EMS certification



Land Use Planning and Development Control

The City recognises the importance of ensuring that adequate provision for key environmental issues is made in the land use planning and development control process. In this way, the City can minimise the environmental impacts of the built environment.

The City's Local Planning Scheme No. 15 is supported by an Environmental Planning Strategy, which brings together key influencing factors impacting on the planning arena within the City. This Strategy examines the current statutory context and associated actions in regard to the environment and identifies the key environmental planning issues facing the City. Also included in detail within the Strategy is a list of recommended actions in relation to environmental planning.

The City must respond appropriately to the anticipated population growth to 45,100 residents in 2021, and associated increase in population density. While this represents challenges such as increased pressure on natural areas and loss of biodiversity, there is also the potential to encourage development around specific nodes, resulting in positive outcomes such as uptake of TravelSmart behaviour.

The City of Belmont is currently involved in the following activities and projects to progress toward achieving objectives relevant to land use planning and development control:

- Ensure that the aim of Local Planning Scheme No. 15 "to protect and enhance the environmental values and natural resources of the City and to promote ecologically sustainable land use and development" is realised
- Ensure the Environmental Planning and Public Open Space strategies underpinning the Local Planning Scheme are implemented through the preparation of any new planning frameworks and initiatives
- Promote Green Building Standards to businesses
- Refer relevant subdivision and development applications to the Environment Section for comment, and recommend appropriate conditions and footnotes to minimise and/or mitigate environmental impacts of subdivision and development
- Ensure that dust management measures are implemented on large scale subdivision proposals where there is likely to be significant earthworks
- Encourage redevelopment of neighbourhoods that encourage walking or cycling, through the Local Planning Scheme
- Ensure all State Planning Policies relating to the environment and sustainability are applied in all planning proposals
- Environment Section in consultation with Planning Services to review and provide comment on environmental impacts of Major Development Plans proposed for Perth Airport
- Follow Department of Water and Environmental Regulation guidelines and update City records when notification is received of sites reported or classified under the *Contaminated Sites Act 2003* (WA)
- Incorporate water sensitive urban design principles and best practice management initiatives into developments
- Conduct annual review of standard environmental planning conditions
- Ensure the risk of exposure of actual or potential Acid Sulfate Soils is considered for all developments and apply conditions for further investigation and remediation if required
- Assist and encourage applicants for developments to incorporate verge landscaping that supports environmental outcomes and other community benefits
- Provide copies of 'Grow Local Plants' and 'Maintaining and caring for your street verge' brochures to unit development applicants to encourage the establishment of local, native plants.

Comment [ND8]: As per Councillor suggestion

Indicators (Corporate Philosophy):

- Certification to ISO 14001 achieved? (Y/N)
- Annual internal and external audits of EMS conducted? (Y/N)
- Number of articles published in Team Brief annually
- Percentage of staff using TravelSmart modes to commute to and from work
- Percentage of Councillors using TravelSmart modes to commute to and from Council meetings
- Number of business trips undertaken by staff using TravelSmart modes
- Number of breaches of environmental legislation or permits/ approvals
- Waterwise Council Program Accreditation retained? (Y/N)
- Green Stamp Advantage certification maintained? (Y/N)
- % compliance in annual check against commitments with:
 - MoU- Waterwise Council Program
 - WA Local Govt Climate Change Declaration
 - Fishing Line Bin MoU

Indicators (Land Use Planning and Development Control):

- Number of Development Applications referred to Environment Section for comment or including relevant conditions/ footnotes
- Number of unit development applicants provided with 'Grow Local Plants' and 'Maintaining and caring for your street verge' brochures.

New Actions

Action	Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
1.11 Develop guidelines and assist and encourage applicants for developments to establish verge landscaping that supports environmental outcomes and other community benefits.	Manager Parks & Environment	2019/20	Officer time	Guidelines developed and published on City of Belmont website.
1.12 Contribute towards review of the City's Local Planning Scheme, particularly the Environmental Strategy Supporting Document and consider relevance of inclusion of the UN Sustainable Development Goals.	Coordinator-Environment	2018/19-2020/21	Officer time	Amended Environmental Strategy – LPS Supporting Document developed. Outcomes of consideration of SDGs noted in Divisional Report.
1.23 Consider the outcomes of WALGA's review of Sustainable Procurement in the WA Local Government Sector, in annual review of the City of Belmont Environmental Purchasing Policy.	Coordinator Environment	2017/18 and annually	Officer time	Outcomes of consideration presented to Councillors. Updates on subsequent release of tools and resources by WALGA noted in Attachment to Standing Committee (Environmental).
1.34 Incorporate environmental sustainability initiatives into the Structure Plan and Design Guidelines for DA6, as outlined in the DA6 Vision Plan and Implementation Strategy.	Manager- Planning Services	2020/21	Officer time	Initiatives incorporated into the Structure Plan and Design Guidelines.
1.45 Promote the environmental sustainability initiatives of the DA6 Vision Plan and Implementation Strategy to government agencies and potential developers.	Manager- Planning Services	2020/21	Officer time	Initiatives promoted to agencies and developers.
1.56 Advocate for environmental best practice and innovation in all new buildings and the entire precinct of DA6.	Manager- Planning Services Coordinator-Environment	2020/21	Officer time	Advocacy undertaken.

Comment [ND9]: Draft completed

Comment [ND10]: Timeframe extended to align with overall LPS review schedule

2. COMMUNITY AWARENESS, ENGAGEMENT AND BEHAVIOUR CHANGE

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 1:
 “Protect and enhance our natural environment”



The ability to influence the residential and business community is recognised as a significant strength of Local Government in achieving positive environmental outcomes. The City follows the principles of community-based social marketing to achieve behaviour change in the areas of environmental protection and sustainability. Of key concern for the future is the anticipated increase in demand for water, energy, waste and transport associated with a growing population. The impact of activities of the community on water quality of the Swan River, drainage network and groundwater are also important considerations.

The City engages with the wider Belmont residential and business community to promote and encourage involvement in environmental programmes, sustainable behaviour change and minimise the risk of pollution incidence. It is hoped that this engagement will increase the level of community appreciation for natural areas, support for environmental projects and involvement in biodiversity protection and enhancement activities.

The City of Belmont is currently involved in the following activities and projects to progress toward achieving our community awareness, engagement and behaviour change objectives:

- Improve environmental practices of small - medium sized enterprises through the Business Environmental Assessment Project
- Undertake targeted environmental assessments of businesses located within catchment areas contributing towards high nutrient/non-nutrient contaminant levels identified through the City's Stormwater Monitoring Programme
- Work with the EMRC and waste service provider to develop new methods of reducing waste to landfill
- Provide a service for community disposal of asbestos, whitegoods, car batteries, motor oil, plate glass, mattresses/bed bases and other specified waste at the Operations Centre on designated days
- Provide collection facilities for the EMRC dry cell battery and light globe recycling, Nespresso coffee pods, Cartridges 4 Planet Ark and MobileMuster recycling
- Work with Perth Region NRM, SERCUL and other relevant authorities to implement the Canning Plain Catchment Management Plan
- Continue partnerships with SERCUL, Perth Airport and environmental volunteers, including ongoing attendance at relevant meetings
- Implement the City of Belmont Sustainable Transport Plan to encourage active transport, car pooling and public transport by residents, workers and visitors to, from, and within the City, thereby reducing greenhouse gas emissions associated with transport
- Nominate local businesses demonstrating significant environmental achievements for recognition through Switch your thinking's Switched on Business program and the EMRC's Business Exemplar Project.
- Promote the Responsible Cafes Program and The Last Straw and encourage local cafes to join and provide a discount to customers who bring their own reusable takeaway cup

- Promote observance dates such as International Day of Forests, World Water Day, Earth Hour, World Environment Day, Plastic Free July and National Recycling Week
- Participate in the 'Switch your thinking' programme that aims to inspire sustainable action in the local community; through facilitation of events, provision of up to date and locally relevant information and a "Rewards for Residents and Businesses" discount program on sustainable products and services
- Encourage residents to adopt fertilise-wise and waterwise gardening practices by organising garden demonstrations and workshops and providing information at community events
- Organise environmental events/ activities including for schools and community groups to promote values of the natural environment and increase volunteer involvement in natural areas
- Encourage water and energy efficiency of residents and businesses through community information sessions
- Participate in the EMRC's Regional Waste Education Steering Group and promote engagement opportunities available through the City's waste service provider and EMRC to schools, community groups and residents
- Provide information and facilities to assist the community to reduce, re-use and recycle
- Encourage participation in Planet Ark's Clean Up Australia Day, Plastic Free July and Keep Australia Beautiful's Adopt a Spot Program.
- Encourage attendees of City events to bring their own reusable coffee cup, drink bottle and shopping bags and consider TravelSmart options.
- Erect information signage in areas of environmental significance to raise awareness and promote community appreciation of the local environment
- Seek opportunities to showcase and promote demonstration verge landscaping, including through signage
- Provide regular updates in the City's newsletters; BeNews, Belmont Business Talk and Belmont Bulletin to promote environmental and sustainability programmes, initiatives, activities and events
- Develop and upgrade environmental education material aimed at the community including fact sheets and the City of Belmont website
- Encourage schools to participate in the Water Corporation's Waterwise Schools program.

Indicators:

- Number of assessments completed as part of the Business Environmental Assessment Project (at high priority business premises and in total)
- % compliance of businesses assessed as part of the Business Environmental Assessment Project:
 - At time of first inspection during reporting period; and
 - At time of most recent inspection during reporting period.
- Annual tonnages of green waste recycled (bulk bins)
- Annual tonnages of asbestos, oil (volumes), metals & vehicle batteries, collected for correct disposal/ recycling
- Annual tonnages recycled domestic waste
- Number of participants in business / community workshops and seminars
- Number of environmental volunteer hours
- Number of greywater systems and rainwater tanks (> 5000L capacity) approved within the City of Belmont annually
- Number of 5 green star or above buildings in City of Belmont rated through National Australian Built Environment Rating System (NABERS) or Green Building Council of Australia
- Annual residential Scheme water consumption per capita.

New Actions

Action		Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
2.1	Develop updated guidelines that promote establishment of edible verge gardens and Waterwise and Fertilise Wise verges with ecological values, for release upon gazettal of the revised City of Belmont Local Law.	Parks Technical Officer <u>Manager Parks, Leisure & Environment</u>	2019/20- <u>2020/21</u>	Officer time	Guidelines developed and published on City of Belmont website.
2.2	Participate in EMRC's Bush Skills 4 Youth Program.	Coordinator Environment	2018/19 and ongoing	\$3500 (2018/19) Thereafter \$7,000 (plus CPI) per annum	Signage design competition organised for Belmont schools in 2018/19 and a minimum of two workshops/ activities held annually.
2.3	Review Community Contribution Fund criteria to consider category for environmental awareness initiatives and eligibility for schools.	Coordinator Community Development in consultation with Coordinator Environment	2019/20 <u>2021</u>	Officer time	Review completed with outcomes reported to Councillors.
<u>2.4</u>	<u>Develop a Nature Passbook to highlight nature-rich locations within the City of Belmont and fun nature play activities for families</u>	<u>Coordinator Environment in consultation with Coordinator Community Development and Coordinator Community Placemaking</u>	<u>2020/21</u>	<u>\$3700 for content development plus \$1700 to print 500 books</u>	<u>Passbook published identifying six activity locations and:</u> <u>- Six general activities</u> <u>- Four seasonal activities</u> <u>- 15 things to do list</u>

Comment [ND11]: Timeframe extended to reflect anticipated gazettal date for consolidated local law. Draft guidelines developed.

Comment [ND12]: Timeframe extended due to advice from Community Development that no changes to criteria can be considered in 2019/20

Comment [ND13]: Proposed new action – costs included in draft 2020/21 Environmental Services Budget



3. NATURAL ENVIRONMENT AND BIODIVERSITY

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 1:
“Protect and enhance our natural environment”

The City of Belmont covers an area of 4000 ha, of which approximately 10% natural vegetation remains. The majority of this is part of the 629 hectare Bush Forever Site 386- ‘Perth Airport and surrounding bushland’, which also extends into the City of Swan and Shire of Kalamunda. As Perth Airport is governed by Federal planning and environmental legislation, Bush Forever (a State planning initiative) while considered does not necessarily apply. Perth Airport Pty Ltd.’s commitments towards biodiversity are outlined in the *Perth Airport Master Plan 2014*, Chapter 9. Environment Strategy. 21 ha of Swan River saltmarsh is protected as a Bush Forever site 313 at Ascot Waters and 70 hectares is considered locally significant remnant vegetation.

The State Government’s Draft *Perth and Peel Green Growth Plan for 3.5 million*, once finalised and *South Coastal Plain- South Management Plan* (Department of Parks & Wildlife, 2016) are key regional plans with the potential to have some impact on the natural environment and biodiversity within the City. Due to the highly urbanised nature of the City and absence of reserves vested in the Conservation Commission, the impact of these plans is not as significant as for less developed municipalities.



The City contains areas of Banksia woodland, which is classified as a Threatened Ecological Community under the *Environmental Protection and Biodiversity Conservation Act 1999*.

Locally significant remnant vegetation is scattered throughout the City in small (<5 ha) isolated fragments in public open space reserves zoned Parks and Recreation, such as Garvey Park, Signal Hill, Tomato Lake, Dod Reserve and some wetland compensating basins. The Swan River foreshore is a significant biodiversity corridor within Belmont.



Many drainage reserves ~~have been zoned as are reserved~~ ‘Parks & Recreation’ with an ancillary drainage purpose. Through licensing arrangements with the Water Corporation, the City has taken over management of various drainage reserves and stormwater compensating basins and undertaken ecological restoration to enhance biodiversity values throughout the City. Some examples include the Coolgardie living stream project at Garvey Park and stormwater basins at Tomato Lake and

Centenary Park.

The City will endeavour to continue to rehabilitate pockets of remnant bushland that have been reserved and restore ecological and biodiversity values to the Swan River foreshore,

wetlands and compensating basins under its management. For a map showing natural areas maintained by the City please refer to Appendix 2.

Our partnership with SERCUL and our reliance on our valued volunteers will continue to ensure that natural resource management projects and restoration works continue on the ground.

Whilst ~~Airport~~ ~~airport~~ land is beyond local government control, the City will continue to work closely with Perth Airport Pty Ltd to encourage that any future land use planning is not undertaken to the detriment of significant natural features. The City of Belmont is a member of the Airport Consultative Environment and Sustainability (ACES) Group, which meets quarterly to discuss environmental management of the Perth Airport Estate and inform and discuss relevant updates on Perth Airport developments.

The City of Belmont is currently involved in the following activities and projects to progress toward achieving natural environment and biodiversity objectives:

- Progress the objectives and key actions of the Urban Forest Strategy and Canopy Plan 2019-2024
- Apply ~~Detailed~~ ~~detailed~~ ~~Tree~~ ~~tree~~ ~~Selection~~ ~~selection~~ for planting of verges located adjacent environmentally sensitive areas such as bushland, drainage basins and river foreshore
- Ensure use and management of the Belmont foreshore and development interface with the Parks and Recreation reserve is consistent with the adopted Belmont Foreshore Precinct Plan
- Minimise occurrence and severity of algal bloom outbreaks in major water bodies by reducing nutrient availability and nutrient inputs, ensuring aerators are operational and increasing opportunity for natural nutrient uptake or absorption
- Implement management actions for natural areas, as per the Environmental Maintenance Plan, schedules and reserve management plans
- Implement revegetation and foreshore restoration activities to protect, enhance and expand existing natural areas
- Support 'Friends Of' Groups of natural areas by providing equipment, advice and additional resources, as appropriate
- Conduct periodic reassessment of reserves using the Natural Area Assessment Template to monitor condition
- Implement the Collective Local Biodiversity Strategy, developed in partnership with the Town of Bassendean and City of Bayswater
- Work with the Department of Biodiversity, Conservation and Attractions in implementing the 'River Protection Strategy' for the Swan and Canning River System
- Undertake an annual foreshore condition assessment to determine progression of erosion and identify priority areas for future stabilisation and environmental restoration activities
- Consult with the City's Aboriginal ~~Reference Committee~~ Advisory Group, South West Aboriginal Land and Sea Council and Department of Planning, Lands and Heritage on foreshore projects involving registered Aboriginal Heritage sites
- Contribute towards development of a coordinated foreshore trails network through involvement in the Swan Canning Riverpark Trails Master Plan
- Apply for grant funding to facilitate implementation of environmental capital works and other activities
- Advocate for funding opportunities for the effective management of erosion along the Swan River foreshore.

Indicators:

- % canopy coverage
- Number of trees protected through Tree Protection/ Preservation Orders and the Municipal Heritage Inventory
- Extent of river foreshore vested in City of Belmont, rated as a “high” priority for stabilisation in annual assessment
- Length of foreshore protected
- Hectares of natural areas maintained
- m2 of new biodiversity areas created
- Number of tubestock planted annually
- Number of sedges planted annually.

New Actions

Action		Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
3.1	Implement foreshore stabilisation works at Garvey Park, Ascot Racecourse foreshore and other priority sites for erosion control.	Coordinator Environment	Subject to sourcing of external funding	Subject to sourcing of external funding	Foreshore erosion sites prioritised annually, with stabilisation works implemented subject to funding availability.
3.2	Undertake biological surveys (fauna and/or macroinvertebrates) of restoration sites to monitor changes in local ecology.	Supervisor Environment	2017/18 – 2020/21	Officer time	Monitoring plans developed and surveys undertaken.
3.3	Implement recommendations of the “Assessment of Visual Amenity Options for Compensating Basins” report.	Manager- Parks & Leisure & Environment	2016/17 and ongoing	Within existing budgets	Recommendations prioritised annually, with works implemented subject to budget availability.
3.4	Implement priority actions of the Belmont Foreshore Precinct Plan.	Coordinator Environment	2017/18 – 2020/21	Costs captured in Corporate Business Plan.	Feasibility investigation completed on ability to provide public access and stabilise the foreshore between Gould Reserve and Ford Street, should the MRS reserve be acquired.
3.5	At time of next review of Policy BB3- Streetscape Policy, consider inclusion of reference to street tree planting (compulsory) and investigate and establish a local law (head of power) to enable financial penalties for removal or damage to street trees.	Manager Parks & Leisure & Environment	2020/21	Officer time	Recommendations developed for consideration by Standing Committee (Environmental).

4. PREVENTION OF POLLUTION AND ENVIRONMENTAL DEGRADATION

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 1:
 “Protect and enhance our natural environment”

Water Quality

The City is involved in monitoring and protection of water quality of groundwater, lakes, wetlands and the Swan and Canning River systems.

There are five main stormwater catchments within the City of Belmont (see Appendix 3 for a map of the stormwater systems). Mills St Drain in Kewdale is part of the larger Canning Plains catchment, which flows south-east to the Canning River. The remaining catchments; Perth Airport North and South, Central Belmont and South Belmont Main Drains all flow north-west into the Swan River. The City also manages smaller, local stormwater systems; of particular note are the Ascot stables catchments. The majority of the Perth Airport catchments are managed by Perth Airport Pty Ltd.



South Belmont Main Drain and Mills St Drain have been identified as priority catchments for nutrient reduction under the Swan Canning Water Quality Improvement Plan.

The City's stormwater drainage systems consist of numerous compensating basins and wetlands, some of which are maintained by the City with stormwater used for irrigation. Many of these are developed as passive recreation reserves, with capability for nutrient retention and stripping by macrophytes and other fringing vegetation.

The areas monitored by City of Belmont for stormwater quality are outlined in the Belmont Stormwater Monitoring – Sampling and Analysis Plan, which is reviewed every two years. The Ascot Stables area has been monitored since 1999 and South Belmont Main Drain since 2001. The City commenced regular monitoring at Ascot Racecourse lakes and the Central Belmont Main Drain in 2005 and the Canning Plains catchment in 2016.

Air Quality

Air quality continues to be a key environmental concern for the community, with the potential to affect human health and the environment. Perth experiences occasional episodes of poor air quality, primarily photochemical smog in summer and particle haze in winter. Major sources of pollution are motor vehicles and aircraft, domestic sources (principally wood heaters), industry and fire hazard reduction burns.

The Department of Water and Environmental Regulation is the responsible authority for the management of air quality in Western Australia, implementing an extensive Air Quality Management program.

The City's role in protection of air quality involves responding to complaints regarding dust, visible smoke and odour, implementation of measures through land use planning and development control process and consideration of air quality in purchase of vehicle fleet and plant.

Noise

Obtrusive and unwanted noise is as much a consequence of urban life as noise generated through poorly planned and ill-considered land use. The majority of noise complaints the City receives relates to situations, such as amplified music on residential properties, early morning construction noise with occasional complaints generated by industrial land uses.

The City's Environmental Health Officers administer the *Environmental Protection (Noise) Regulations 1997*, which aims to protect the community from unnecessary noise while letting others carry out their business and social activities. It is also the City's responsibility to assess the likely impact of noise through the Local Planning Scheme and development approval process.

Aircraft noise is a matter largely out of the City's control, as the Perth Airport is subject to Federal legislation through the *Airports Act 1996*. However, issues relating to noise and the future development of the airport are of major concern to the City which is actively involved in the operations of the Perth Airport Municipalities Group (PAMG) and the Australian Mayoral Aviation Council (AMAC).

Through these bodies the City seeks to influence the long term planning and development of the Airport with a view to reducing the impact of aircraft noise on the community.

The City of Belmont is currently involved in the following activities and projects to progress toward achieving objectives relating to prevention of pollution and environmental degradation:

- Respond to issues of littering and illegal dumping
- Respond to water quality issues such as unauthorised discharges, disposal of liquid waste and erosion/sedimentation, utilising the *Dust and Liquid Waste Local Law 2007*, *Environmental Protection (Unauthorised Discharges) Regulations 2004*, *Litter Act 1979*, and *Health Local Law 2002*
- Respond to noise and air quality issues such as dust, odour and visible smoke, utilising the *Dust and Liquid Waste Local Law 2007*, *Environmental Protection (Unauthorised Discharges) Regulations 2004*, *Environmental Protection (Noise) Regulations 1997* and *Health Local Law 2002*
- Ensure environmental incidents arising from City operations are reported and (if warranted), investigated
- Manage environmental risks associated with City operations in RMSS
- Executive Leadership Team to review all significant environmental aspects (those associated with a high or extreme residual risk rating)



- Ensure adequate Erosion and Sediment Control and assessment of Acid Sulfate Soils risk is undertaken for City construction works
- Prevent removal and/or damage to street trees when conducting City construction works through modification of design, and use of air spading
- Work with the Department of Biodiversity, Conservation and Attractions through the Drainage and Nutrient Intervention Program and Water Corporation through the Drains for Liveability program to retrofit drainage systems and sumps within the City
- Conduct leaf tissue analysis prior to fertilising of active reserves, and use slow release, phosphorus free fertilisers near waterways
- Ensure only slow release fertiliser is used within 15 metres of waterways
- Conduct analysis of nutrient concentrations in leachate from lysimeters installed within Public Open Space locations
- Limit use of herbicides near waterways to those recommended as safe for frogs and aquatic life
- Conduct an annual audit of the Operations Centre to ensure compliance with the *Environmental Protection (Unauthorised Discharges) Regulations 2004* and *Environmental Protection (Controlled Waste) Regulations 2004*
- As per Sampling and Analysis Plan, implement regular stormwater monitoring of nutrient and non-nutrient contaminants with submittal of results to the Department of Water and Environmental Regulation's Water Information Network and quarterly summary reports to internal stakeholders
- Install Stormwater Pollutant Traps at strategic locations to improve quality of water entering the Swan River, and ensure regular cleaning/education
- Schedule installation of street trees in new developments to occur after building construction has been completed, to avoid issues with removal/damage.

Indicators:

- Number of noise & air quality issues addressed/enforcement of relevant Regulations and Local Laws
- Number of water quality issues addressed/ enforcement of local laws/ *Environmental Protection (Unauthorised Discharges) Regulations 2004*
- Number of annual stormwater monitoring events
- Number of Stormwater Pollutant Traps installed
- m² of buffer zones created
- Number of trees retained as a result of air spading
- % actions or environmental risks in RMSS overdue for review
- % of significant environmental aspects reviewed by Executive Leadership Team.



New Actions

Action		Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
4.1	Undertake major report on results of stormwater monitoring of nutrient and non-nutrient contaminants and review the Sampling and Analysis Plan.	Environmental Officer	Every 2 years (2017/18 & 2019/20)	Officer time	Report completed and updated Sampling and Analysis Plan produced.
4.2	Develop a Nutrient Awareness Campaign for the Ascot Stables stormwater catchment, with an aim to improve water quality through further education, awareness and enforcement of local laws	Environmental Officer	2017/18 and ongoing	Officer time	Outcomes noted in Divisional Report.



5. RESOURCE USE, WASTE AND GREENHOUSE GAS EMISSIONS

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 2:
“Enhance the City’s environmental sustainability through the efficient use of natural resources and minimise the City’s carbon footprint”

Resource use, waste generation and greenhouse gas emissions are associated with several aspects of City operations.

These include buildings occupied by City staff; such as the Civic Centre, [Belmont Hub](#), Harman Park Community Centre, [Library](#), [Museum](#) and Operations Centre, community buildings available for casual and/or seasonal hire, premises leased to commercial or community entities and facilities managed by a contract/ tender or other arrangement.

In addition to buildings and facilities, resource use is associated with Public Open Space [management](#) (primarily for irrigation), fuel consumption by vehicle fleet and plant, street lighting and auxiliary lighting.



In 2016 the City commenced subscription to Planet Footprint monitoring software [\(now named Azility\)](#), to assist in managing energy and [Scheme](#) water consumption. The majority of water for irrigation is sourced from groundwater or stormwater, with a superficial groundwater licence allocation of 7500 kL per hectare of Public Open Space, per year.

The City of Belmont is currently involved in the following additional activities and projects to progress towards achieving resource use objectives:

- Request information from contracted Council facilities (Belmont Oasis and Faulkner Retirement Village) and Independent Living Units on energy and water consumption, and review annual use (per patron/ resident) against accepted benchmarks
- [Support the Belmont Oasis in the Waterwise Aquatic Centre Program](#)
- At time of scheduled upgrade of City buildings, set benchmarks for environmental sustainability.

Comment [ND14]: Currently underway as a compulsory criteria to achieve Waterwise Gold

As specified in the Owners Project Requirements document, the following performance targets have been set for the [Faulkner Civic Precinct Community Centre](#) [Belmont Hub](#):

- 60% reduction in energy consumption in comparison to BCA Minimum Practice
- 20% renewable energy
- 20% reduction in water consumption over benchmark
- 75% + recycling in operations
- >90% recycling in construction.

The initial environmental targets that have been set for the first year of occupancy are as follows:

Performance Indicator	Target	Measurement Method
Greenhouse Gas Emissions	55 kgCO _{2(e)} /m ² per annum	Meter reading system, checked monthly and reported on quarterly and annually.
Potable Water Consumption	0.11 kL/m ² per annum	
Ground Water Consumption (Irrigation)	0.75 kL/m ² per annum	
Total Water Consumption	0.2 kL/m ² pa	

Energy Management and Carbon



Solar pool heating system on the roof of Belmont Oasis Leisure Centre

City operations resulting in the generation of greenhouse gas emissions include energy use associated with buildings, streetlights, auxiliary lighting and parks (pumps, lighting and BBQs), emissions from vehicle fleet and plant, as well as the breakdown of waste resulting in methane generation.

Previously the City of Belmont has been involved in the International Council for Local Environmental Initiatives' (ICLEI) Cities for Climate Protection (CCP) Program, having achieved Milestones 1-5. Following dissolution of CCP, the City participated in the EMRC's ACE_R (Achieving Carbon Emissions Reduction)

program to reduce energy use and greenhouse gas emissions from 2009- 2019. Under the ACE_R program, the City joined the WALGA Emissions Reporting Platform hosted by Greensense Consulting in 2010/11 and participated until its discontinuation in June 2015.

From 2005 to 2012 the City was involved on an annual basis with the Carbon Neutral Program to offset carbon dioxide emissions from the City's light vehicle fleet. From 2012-2015, designated carbon sequestration planting sites were established as an alternative to involvement in the Carbon Neutral Program. This was due to new advice regarding the ineligibility of public land for the lodgement of carbon rights or carbon covenants, and subsequent inability to refer to Carbon Neutral trees as offsets. This program provided a great opportunity for City staff to be involved in a corporate tree planting day within the City, and will continue if suitable planting sites are identified in future.

Current goals for energy efficiency and carbon emission reduction for City managed buildings/ facilities are to:

- **Maintain annual energy consumption per FTE at the Operations Centre to within 10% of 2015/16 levels until 2021**
- **Reduce annual electricity consumption at Harman Park Community Centre by 10%, from 2014/15 levels by 2020/21**
- **Reduce the average 'CO₂ tailpipe emissions rating' of the City's light vehicle fleet between 2016 and 2021.**



The City of Belmont is currently involved in the following additional activities and projects to progress towards achieving energy management and carbon objectives.

- **Participate in the Cities Power Partnership program**
- Consider the CO₂ tailpipe emissions (g/km) as per the Green Vehicle Guide when selecting replacement vehicles for the operational and light vehicle fleet
- Consider environmental benefits of electric vehicles and potential incorporation into the light vehicle fleet
- Include “whole of life” fuel use as a tender criterion for new plant purchased, based on fuel efficiency (L/hr) and expected lifetime operating hours
- Conduct an annual re-inventory of greenhouse gas emissions, for sites/ facilities operated by the City
- Investigate new energy efficient technology when replacing assets such as street and civic lighting, internal lighting, HVAC systems and pumps
- Purchase 25% renewable energy or equivalent in “Gold standard” carbon offsets certified under the National Carbon Offset Standard, for the City’s contestable electricity consuming sites and to fully offset the City’s light vehicle fleet emissions
- Reinvest the equivalent value of purchasing 25% renewable energy for these sites (the “energy fund”) based on Synergy’s Natural Power rate, into renewable power generation or energy efficiency upgrades
- Monitor performance of solar PV systems installed on City buildings
- All new carpark lighting to consist of energy efficient technology
- Upgrade sports field lighting to energy efficient alternatives at the time of facility upgrade.

Comment [ND15]: Currently underway as approved by Executive Leadership Team

Indicators:

- Annual Corporate greenhouse gas emissions (CO₂e)
- Number of energy efficiency retrofits of City facilities implemented
- Annual energy (electricity & gas) consumption at City managed sites and facilities
- Average ‘CO₂ tailpipe emissions rating’ rating of vehicle fleets as per the Green Vehicle Guide
- Annual energy consumption per FTE (Civic Centre) at the Administration Building account
- Annual energy consumption per FTE at the Operations Centre
- Total size of solar PV systems installed on City buildings
- Total annual electricity generated by solar PV systems installed on City buildings.

Water Efficiency

The City seeks to improve water efficiency in both scheme water and groundwater consumption. This primarily occurs through the City’s involvement in the Water Corporation and Department of Water [and Environmental Regulation](#)’s Waterwise Council Program and the implementation of operational documents such as the Groundwater Licence Operating Strategy and Water Efficiency Action Plan.

In 2011 the City was recognised as a Waterwise Council, an accolade that identifies the City as having implemented best practice water management strategies with an ongoing commitment to water efficiency. As per the Waterwise Council Memorandum of Understanding (MoU), to which the City is a signatory, the City still remains committed to maintaining its accreditation into the future. To achieve annual re-endorsement, the City is required to meet a range of criteria as outlined in the MoU.

Historically, the City has been involved with the International Council for Local Environmental Initiatives (ICLEI) Water Campaign Program. Since joining the Water Campaign in 2004, the City progressed through the milestones which included:

- Milestone 1: completion of an inventory of water consumption and a water quality practices gap analysis
- Milestone 2: setting goals to improve water management
- Milestone 3: development of a Local Action Plan
- Milestone 4: implementation of the Local Action Plan
- Milestone 5: completion of a second inventory and reporting on progress.

Upon completing Milestone 5 in 2010, the City continued to undertake an annual re-inventory of Scheme water consumption, with assistance from the Eastern Metropolitan Regional Council (EMRC), demonstrating continued commitment towards improved water management.

The City's success in meeting previous water consumption goals is summarised below.

Associated program	Goal	Results
Milestone 2 of Water Campaign	45% reduction in Corporate Scheme water consumption from 1999-00 levels by 2010-11	41.1% reduction
	30% reduction in Community Water Consumption per residential property from 2000-01 levels by 2009-10	Residential usage (per property) decreased by 21%
Environment Plan 2010-2016	Maintain Corporate scheme water consumption at or below 2009-10 levels by 2014-15	Increased by 4%
	Maintain residential water consumption at or below 125 kL per capita by 2014-15	Met (89kL per capita)
	Manage groundwater abstraction to remain within the City's total licensed allocation for the duration of the licence.	Met

Current goals for water efficiency set in the Water Efficiency Action Plan 2016-2021 are to:

- **Maintain corporate scheme water use to within 10% of 2014/15 levels (72,878 kL) by 2021**
- **Promote through City events the efficient use of water and for its residents to maintain water consumption below 125 kL per person.**

The City of Belmont is currently involved in the following additional activities and projects to progress towards achieving water efficiency and water conservation objectives:

- Irrigate public open spaces (active and passive recreational reserves, streetscapes and gardens) with groundwater or, where practicable, stormwater
- Hold regular meetings of Groundwater Use Strategic and Operational Teams to manage the use of the City's groundwater resources, utilising the Groundwater Use Management (GUM) Software package
- Where appropriate, reduce turf water requirements through the modification of fertiliser applications, the application of wetting agents and the trialling of soil amendments
- Contribute to the UWA Turf Research Projects, including 'Application of soil amendments to maintain turf quality on sandy soils under reduced irrigation'
- Upgrade irrigation systems incorporating hydrozones, as per Asset Management Plans, taking into account future demand for turf due to increases in population density
- Create passive reserves and landscaped areas with low water requirement plant species
- Conduct an annual water reinventory for scheme water consumption in City buildings and facilities and investigate changes in annual water use of >15% for each facility

- Investigate and invest in new technologies that assist in gaining maximum efficiencies in groundwater management.
- Investigate new water efficient technology when replacing existing assets such as cisterns and taps.

Waste Reduction



Waste management is an important consideration, with an anticipated growing population within the City of Belmont. The amount of space available for landfill is limited, and waste produces methane, a greenhouse gas, when breaking down. In addition, valuable resources can be lost in the disposal of waste to landfill, increasing demand on natural resources.

The City of Belmont promotes the 4Rs of waste management; Reduce, Reuse, Recycle and Recover to the community and internally to City staff.

- **REDUCE** is to limit the amount of waste you create in the first place. This includes buying products with less packaging
- **REUSE** means to use something again that you would normally throw away (e.g. Glass jar for food or plastic bags for bin liners.)
- **RECYCLE** means the product goes through a mechanical process to change its form. This is only recommended when reducing and reusing are not possible
- **RECOVER** is to convert waste into resources (such as electricity, heat, compost and fuel) through thermal and biological means. Resource Recovery occurs after reduce, reuse and recycle has been attempted.

The City's current goals for waste reduction are to:

- Reduce the percentage of recyclable material and quantity (by weight and volume) of single use disposable plastics in the Civic Centre general waste (landfill) at the time of the annual audit in comparison to previous audit results
- Minimise sheets of paper printed annually (calendar year) for Councillor communications below 2016 figures.



The City of Belmont is currently involved in the following activities and projects to progress toward achieving waste minimisation objectives:

- Implement the Waste Minimisation Plan and Work Instruction- Waste Minimisation and Management for Faulkner Civic Buildings
- Recycle waste materials including organic waste, mobile phones, ink cartridges, paper, cardboard, fluorescent lights, batteries, road base and scrap metal
- Compost organic waste generated from the Civic Centre, Ruth Faulkner Public Library, Harman Park



Comment [ND16]: These documents has been developed associated with completed action 5.5

Comment [ND17]: Removed due to Kooda ceasing operations in January 2020

New Actions

Action		Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
5.1	Actively monitor and manage energy and water consumption of City operated facilities and review annual use in comparison to benchmarks (per FTE / per booking hour/ per m ² floor area).	Coordinator Environment	2016/17 and ongoing	Costs captured in Corporate Business Plan	Annual review conducted based on financial year and results presented to Councillors.
5.2	Implement a commitment pledge/ Memorandum of Understanding with one lessee of a City owned building/ facility, regarding environmental sustainability initiatives.	Coordinator Environment Coordinator Property & Economic Development Manager City Facilities and Property	2017/18 and ongoing	Officer time	Outcomes noted in Divisional Report.
5.3	Utilise the "energy fund" to install solar PV systems on City buildings, as per recommendations of the business case developed.	Coordinator-Environment Manager City Facilities and Property Building Services	2016/17 and 2020/21	Approximately \$20,000 per annum (Costs captured in existing budgets).	Solar PV system installed at Belmont Sports and Recreation Centre in 2016/17, Operations Centre in 2019 and future facility (dependent on business case) in 2020/21.
5.4	Achieve a 5 Star Green Star rating (Design and As Built) for the new Faulkner Civic Precinct Community Centre.	Manager Building Services City Facilities and Property	2020/21	\$900,000 (Costs captured in existing budgets)	Rating met following construction, and following 12 month occupancy of building (early 2021).
5.5	Develop a Waste Minimisation Plan for the Faulkner Civic Precinct, including the Civic Centre, Ruth Faulkner Public Library, Functions Centre and new Community Centre.	Coordinator Environment Manager Building Services Manager Property & Economic Development Manager Works	2019/20	Officer time	Waste Minimisation Plan developed prior to opening of Faulkner Civic Precinct Community Centre estimated to be early 2020.

Comment [ND19]: Draft Waste Minimisation Plan has been developed

Action	Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
5.6 Undertake a Water Sensitive Cities Index benchmarking workshop	Coordinator Environment	2019/20	Officer time (subject to Water Corporation funding) and \$805 for EMRC support	Benchmarking workshop held with outcomes documented.
<u>5.5</u> Implement Action 3: <u>Energy audit and energy-water strategy of the Water Sensitive Cities Benchmarking and Assessment Report</u>	<u>Coordinator Environment</u>	<u>2020/21</u>	<u>Officer time</u>	<u>Energy and emissions associated with water supply pumps and water quality improvement such as lake aerators identified, utilising existing data.</u>
5.6 Participate in EMRC's Regional Benchmarking Building Efficiency Project	Coordinator Environment	2019/20-2020/21	\$18,500 in 2019/20 and (if Stages 2 – 4 proceed) \$12,500 in 2020/21	Completion of Stage 1: 'Targets and baseline data collection' in 2019/20 and decision made in participation in following stages: Stage 2: Building audits Stage 3: Benchmarking performance Stage 4: Continuous improvement Regional Sustainability Expo.
5.7 Implement actions and submit for Gold Standard Waterwise Council recognition	Environmental Officer	2019/20-2020/21	Officer time	Actions required to achieve Gold Standard implemented in 2019/20 and application submitted in October 2020.
5.8 Work with the EMRC to develop a plan for the phased introduction of a three bin Food Organics and Garden Organics (FOGO) kerbside collection system	Manager Works	2019/20-2020/21	Officer time	Plan developed and endorsed by Council for public consultation.

Comment [ND20]: Action completed February 2020

Comment [ND21]: As per MoU with Water Corporation, the City is required to pursue one action identified in the benchmarking assessment report within 12 months. This action can be undertaken with no additional budget requirements and within existing resources.

6. CLIMATE CHANGE ADAPTATION

RELATES TO

Strategic Community Plan Natural Belmont Objective Number 3:

“Ensure future resilience to a changing climate”



Human-induced climate change is recognised as a key environmental issue facing the City of Belmont now and into the future, with Council a signatory to the WALGA Local Government Climate Change Declaration. Scientific modelling indicates that the south west of Western Australia, including the City of Belmont will continue to be hard hit by forecast reductions in rainfall, increased temperatures and further reductions in surface and groundwater resources.

The City was previously involved with the EMRC's 'Future Proofing' Program which identified and evaluated risks of the predicted impacts of climate change to the City. Now integrated with the City's overall risk management system, the management and regular review of climate change risks will ensure that the City is positioned to respond to the predicted impacts of climate change.

The City is a participant in EMRC's 'Understanding and Managing Flood Risk' project, with outcomes to date including revised flood mapping and associated risk, vulnerability and visualisation outputs.

The City of Belmont is currently involved in the following activities and projects to progress toward achieving our climate change adaptation objectives:

- Identify, evaluate and mitigate risks of climate change through the City's risk management framework
- Keep informed of new information on climate change research, modelling and predictions through the WALGA Sustainability Officers Network Group
- Review climate change risks in RMSS annually, considering updated science on future climate projections
- Executive Leadership Team to review all climate change risks with a “high” or “extreme” residual risk rating to determine tolerability.



Indicators:

- % actions or climate change risks in RMSS overdue for review
- % climate change risks with high or extreme residual risk rating reviewed by Executive Leadership Team.

New Actions

Action		Responsible Officer	Timeframe for implementation	Estimated Budget Cost	Measurable outcome
6.1	Participate in the EMRC's "Understanding and Managing Flood Risk in Perth's Eastern Region" project Stage 4: Flood Intelligence and Adaptation Planning.	Coordinator Environment	2018/19-2020/21	Costs captured in Corporate Business Plan.	Project updates reviewed and relevant officers involved in development of Adaptation Strategies.

Comment [ND22]: Timeframe extended to reflect EMRC schedule



CITY OF BELMONT
ENVIRONMENT AND SUSTAINABILITY
STRATEGY 2016-2021

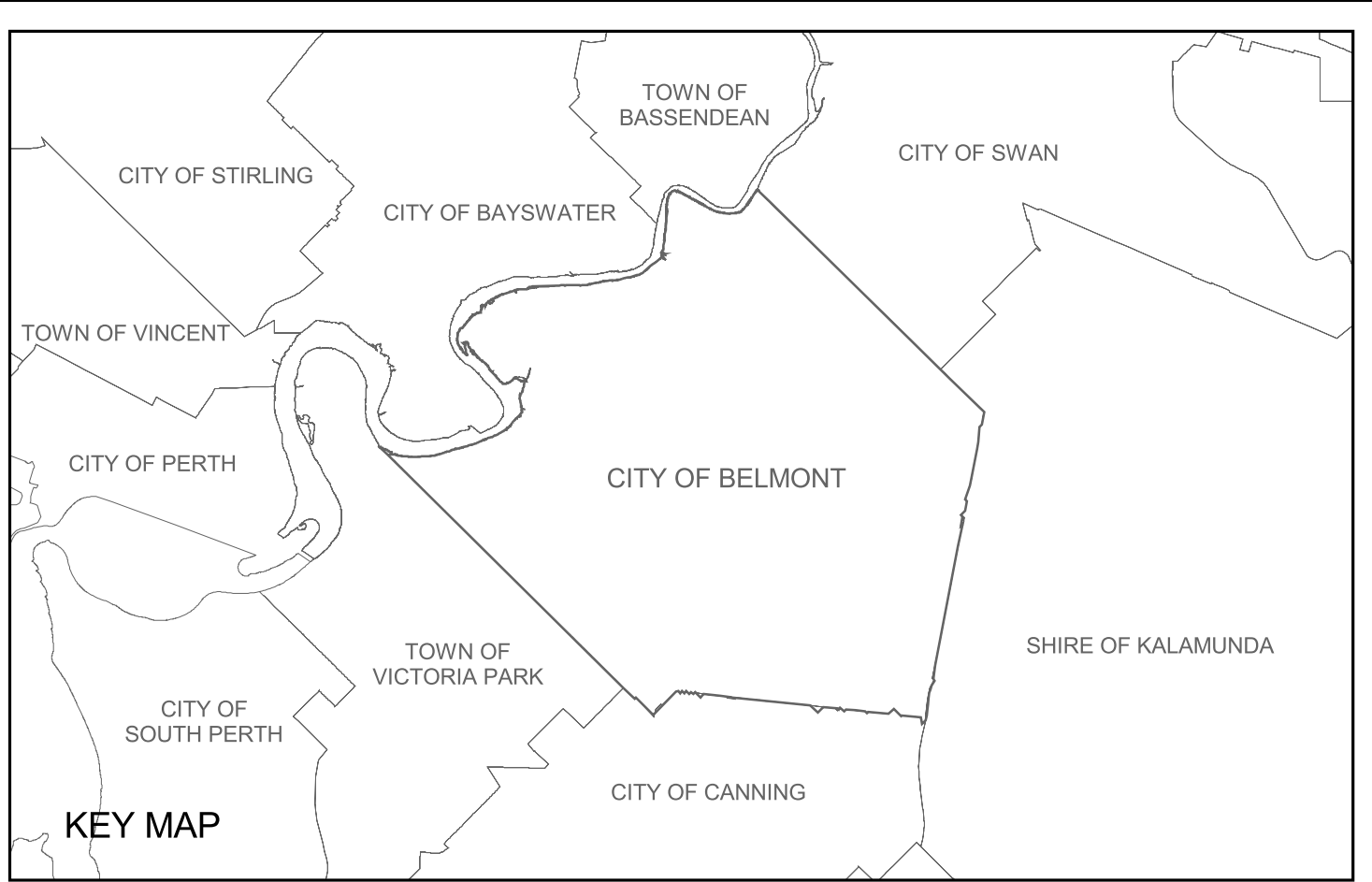
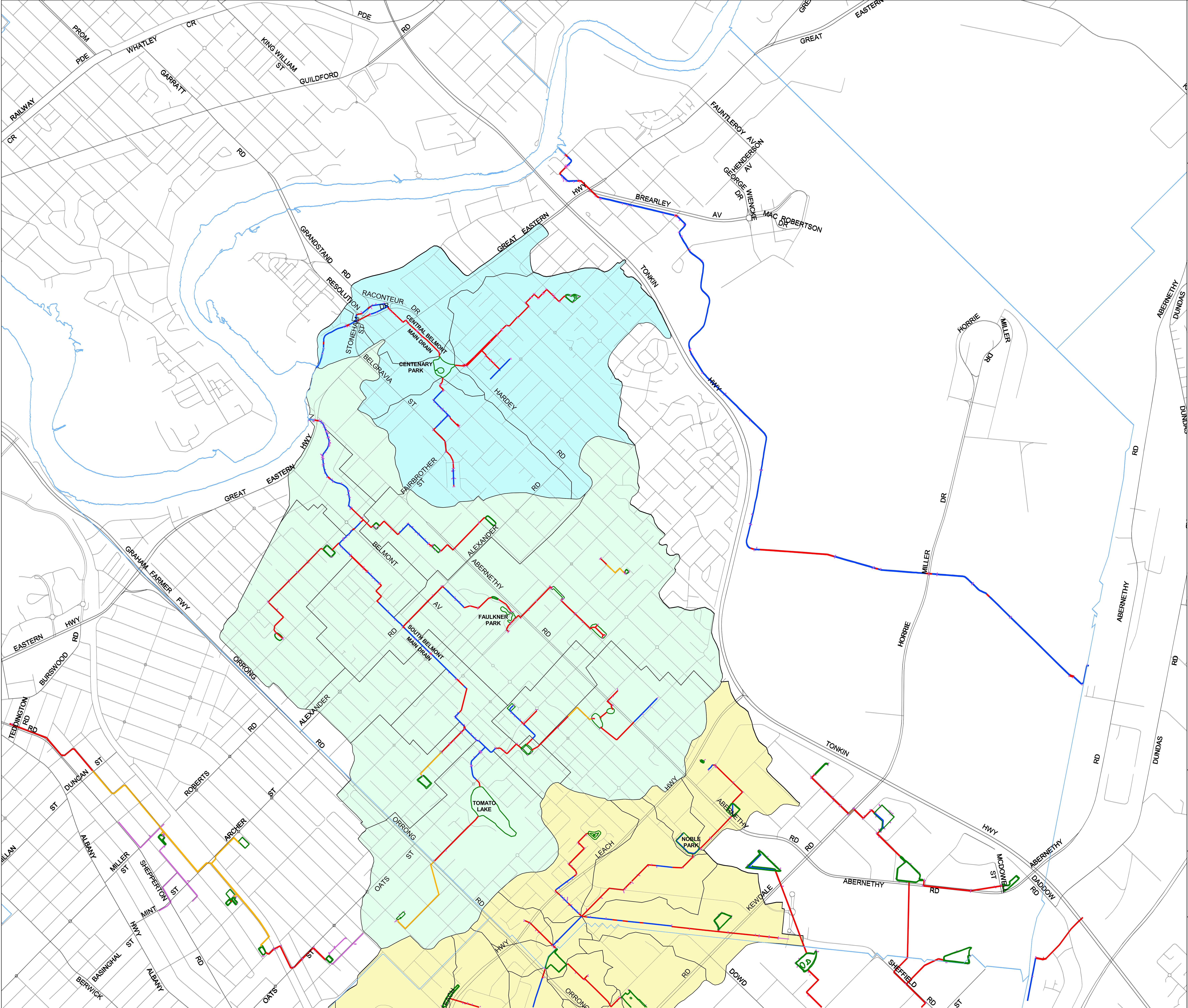
APPENDICES

Creating opportunities

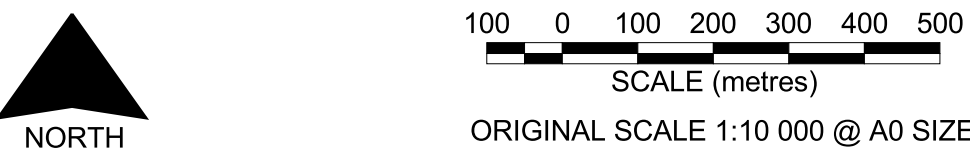


ACRONYMS

ACEr=	Achieving Carbon Emission Reduction
ACES=	Airport Consultative Environment and Sustainability Group
CCP=	Cities for Climate Protection Program
DWER=	Department of Water and Environmental Regulation
DPLH=	Department of Planning, Lands and Heritage
EMRC=	Eastern Metropolitan Regional Council
EMS=	Environmental Management System
ESD=	Ecologically Sensitive Design
FTE=	Full Time Equivalent
GPT=	Gross Pollutant Trap
GUM=	Groundwater Use Management
KRA=	Key Result Area
ICLEI=	International Council for Local Environmental Initiatives
ISO 14001=	Australian/ New Zealand standard for Environmental Management Systems
MoU=	Memorandum of Understanding
NABERS=	National Australian Built Environment Rating System
SERCUL=	South East Regional Centre for Urban Landcare
UWA=	University of Western Australia
WALGA=	Western Australian Local Government Association
WAPC=	Western Australian Planning Commission
WSUD=	Water Sensitive Urban Design
WQIP=	Water Quality Improvement Plan



- LEGEND
- DRAINS**
- COMPENSATING BASIN
 - LOCAL AUTHORITY DRAIN
 - OPEN DRAIN
 - PIPED DRAIN
 - RISING MAIN
 - SUB-SURFACE DRAIN
- DRAIN CATCHMENT AREAS**
- CENTRAL BELMONT MAIN DRAIN
 - SOUTH BELMONT MAIN DRAIN
 - MILL ST CATCHMENT
- OTHER**
- LOCAL GOVERNMENT AUTHORITY BOUNDARY



WATER CORPORATION
MAIN DRAINS

PRODUCED BY.....City of Belmont, Planning Department
DATA SOURCE.....DOE (catchments) and WC (drains)
CURRENT AS AT.....2004
PRINTED.....6 October 2005

FILE LOCATION.....planning on 'Beldo' (u:\MAPPING\ARCVIEW\catchments.apr
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APPENDIX 3 (Part 1)



— Piped drainage structures

— Open channels along the SMD and NMD

APPENDIX 3 (Part 2)

