Strategic

Environment and Biodiversity Strategy 2014-2019

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12 August 2014

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Endorsement by Mayor and CEO

To be written

1. Executive Summary

Local Government has considerable responsibility in respect to environmental management. The City of Burnside embraces our responsibility to manage and reduce environmental impacts in accordance with the *Local Government Act 1999*. In particular, Section 7(e) states that one of the functions of a Council is to "manage, develop, protect, enhance and conserve the environment in an ecologically sustainable manner, and to improve amenity."

The City of Burnside Council vision states our intention and commitment to undertaking our environmental responsibilities for our City. The Environment and Biodiversity Strategy then defines and articulates the City of Burnside's strategic commitment to working with our community to achieve a City renowned for its green and leafy character, unique integrated urban form and commitment to the environment and its biodiversity.

The purpose of the Environment and Biodiversity Strategy is to provide a focused strategic direction based on the guiding policy principles, adopted by Council, after consultation with our community. This Strategy will assist the City to progress towards resilience and living sustainably. It provides strategic direction on the management of the precious natural assets of the City of Burnside so that they are restored, protected, conserved and/or maintained, as appropriate. It will also assist and encourage the current and future generations of residents and visitors to value our environment and its biodiversity, and take care of it for the benefit of our current and future community and all of the current and potential life forms living with the City.

The Environment and Biodiversity Strategy's vision for the City's is for,

"A municipality that supports healthy ecosystems where the air, land and creeks are clean, with leafy urban forests and resilient ecosystems and connected biodiverse landscapes, where fauna habitat is maintained and protected, with a sustainable urbanised heart that seeks sustainable water supplies, reduced bushfire hazard risk, efficient buildings and transport systems and minimal waste and emissions."

The objectives of the Environment and Biodiversity Strategy Study are:

- to articulate Council's role and function in the provision, future investment and support for the environment and its natural assets;
- to investigate community aspirations and needs for the environment and biodiversity in the City, both immediately and going forward and to utilise this research to inform and refine strategy development and to assist in the formulation of actions to support these aspirations;
- to represent the views of the community after consultation with key stakeholders, current and potential partners, adjoining councils and other levels of government; and
- to guide the future development and further support for the environment and its natural assets within the Council area for the future.

The Environment and Biodiversity Strategy contains three goals, under which strategic objectives, indicators and actions are organised. To achieve each Goal the following Strategic Objectives are required to be delivered.

1. Goal 1 - Sustainable City
    - 1.1. City wide planning to build resilience
    - 1.2. Greening our organisation
    - 1.3. Manage waste sustainably
    - 1.4. Promote sustainability in the community
    - 1.5. Prevent pollution of air, water and soil

2. Goal 2 - Connected and Resilient Biodiverse Landscapes
    - 2.1. Protect and enhance remnant vegetation
    - 2.2. Protect and enhance fauna habitat
    - 2.3. Connect habitats and restore degraded areas
    - 2.4. Improve urban biodiversity
    - 2.5. Use local native plants
    - 2.6. Manage weed threats
    - 2.7. Build our knowledge
    - 2.8. Integrate fire risk management
    - 2.9. Engage community and develop partnerships

3. Goal 3 - Protected and Valued Water Resources
    - 3.1. Minimise Council water use
    - 3.2. Integrate Water Sensitive Urban Design (WSUD) features
    - 3.3. Maximise the reuse of rainwater, stormwater and wastewater
    - 3.4. Maintain and enhance the health of waterways
    - 3.5. Restore and protect waterways from erosion
    - 3.6. Provide community leadership

Implementation of the Environment and Biodiversity Strategy will involve the incorporation, prioritisation and execution of the individual actions resulting from strategic objectives of this Strategy. The action plans will be developed and considered for funding through the Council's Annual Budget Business Case process or through annual operational work programs. This will assist in enabling the right current actions to continue and new service actions to be considered and possibly be implemented in line with overall Council priorities.

As a Council we can play our part in delivering on these visions, but we cannot succeed alone. We need to unite within the organisation and utilise the expertise available to us inside as well as outside our organisation. We also need to use and value the generosity and knowledge of our volunteer community, if we are to be successful in our endeavours to implement this Strategy and achieve our visions.

The Success Indicators of the Environment and Biodiversity Strategy will be:

- the active use of the adopted Environment and Biodiversity Strategy;
- delivery of the adopted strategic goals and subsequent action plans that result in improvements to the environment and biodiversity of the City;
- delivery of environment and biodiversity programs that encourage community participation; and
- achievement of a sustainable city, which has connected and resilient biodiverse landscapes and protected and valued water resources.

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2. Definitions

Biodiversity means the variety of life forms: the different plants, animals, fungi, bacteria and other microorganisms, the genes they contain, and the ecosystem they form. (No Species Loss Nature Conservation Strategy, Department of Environment, Water and Natural Resources, May 2007).

Carbon dioxide equivalents (CO_2e) means a universal standard of measurement against which the impacts of releasing (or avoiding the release of or actively sequestering) different greenhouse gases can be evaluated. (http://www.ieta.org/)

Carbon emissions mean the emission of Carbon Dioxide (CO_2) and other greenhouse gases measured as their respective carbon dioxide equivalence (CO_2-e).

Carbon footprint means the carbon equivalent of a product, process or jurisdiction (can also include embedded carbon), expressed in kilograms / tonnes of carbon equivalent emissions. (South Australia's Waste Strategy 2011-15, Zero Waste SA, 2011)

Carbon offset means a representative of reduction or removal of greenhouse gases from the atmosphere by sinks, relative to a business-as-usual baseline.

Climate change means any change in climate over time, whether due to natural variability or as a result of human activity (Tackling Climate Change – SA's Greenhouse Strategy 2007-2020, Department of Premier and Cabinet, May 2007).

Climate change adaptation can be defined as: Adjustment in natural or human systems in response to actual or expected climatic changes or their effects, which moderates harm or exploit beneficial opportunities. This is the primary means for maximising the gains and minimising the losses associated with climate change. The adaption actions (that can be most easily implemented by Australian local governments) are those that provide a net economic, social or environmental benefit no matter what level of climate change occurs (Department of the Environment and Water Resources and Australian Greenhouse Office, 2007:63).

Climate change mitigation means actions to limit the magnitude and/or rate of long-term climate change. These actions generally involve reduction in emissions as a result of human activities through using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behaviour. It can also be achieved through increasing the capacity of carbon sinks for example through revegetation or increasing soil carbon.

Council means the City of Burnside.

Emissions of greenhouse gas means a) scope 1 emission of greenhouse gas; b) a scope 2 emission of greenhouse gas (*National Greenhouse and Energy Reporting Act, 2007*); or a scope 3 emission of greenhouse gas.

Ecosystem means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interaction as a functional unit.

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Ecosystem Services means the benefits provided to the community as a whole, from ecosystems. The services provided encompass four main groupings these are; provisioning, such as production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination; and cultural, such as spiritual and recreational benefits.

Environmental Values in relation to watercourses refers to the benefits associated with any open watercourses and open space especially those containing local native vegetation and include one or more of the following:

- Natural ground water and aquifer recharge;
- Ecosystem services including local native biodiversity conservation and restoration, connected landscape for natural corridors for plants and animals;
- Stormwater drainage capacity (ie flood control) and flow rate control;
- Water quality improvements through the removal of gross pollutants, soil, particles and pollutants;
- Bank and streambed stabilisation for control of erosion;
- Natural easements and linear parks; and
- Community health benefits associated with visual amenity and recreation in natural areas.

Greenhouse Gas Emissions means the release of greenhouse gases into the atmosphere. A greenhouse gas is an atmospheric gas that absorbs and emits infrared or heat radiation, giving rise to the greenhouse effect (SA Greenhouse Strategy).

Global Warming Potential (GWP) means a measurement of the impact of a gas on 'radiative forcing'; that is, the additional heat/energy which is retained in the Earth's atmosphere system through the addition of this gas to the atmosphere. The GWP of a gas describes its effect on climate change relative to a similar amount of carbon dioxide. As a base unit, carbon dioxide is 1.0. This allows greenhouse gases regulated under the Kyoto Protocol to be converted to the common unit of CO_2e (http://www.ieta.org/).

Green Infrastructure means to describe the network of green spaces and water systems that deliver multiple environmental, economic and social values and benefits (Botanic Gardens of Adelaide).

Hydro-zoning mean landscaping of gardens with plants of similar water requirements in areas together so that the irrigation system can be tailored to only deliver the necessary water requirements to each plant or area.

Local Native Vegetation means a plant or plants of a species indigenous to the locality (in this instance City of Burnside) i.e. of local provenance that naturally occurs or previously occurred in the locality. Local native vegetation is also referred to as indigenous flora.

Natural resources/Natural assets includes soil, water and marine resources, geological features and landscapes, native vegetation, native animals and other native organisms and ecosystems.

Phytoengineering – the use of plants in combination with engineering to achieve more resilient and natural restoration of watercourse or landscape erosion.

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Resilience means the capacity of complex systems (social, economic or environmental) to respond (and adapt) to external shocks and disturbances without losing their essential functions and identity. (State Natural Resources Management Plan South Australia 2012-17)

Riparian means the areas within and adjacent to the watercourse, with higher moisture and nutrients influencing the vegetation and associated ecosystem function.

Scope 1 emission of greenhouse gas in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of an activity or series of activities (including ancillary activities) that constitute the facility. (National Greenhouse and Energy Reporting Regulations 2008).

Scope 2 emission of greenhouse gas in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of one or more activities that generate electricity, heating, cooling or steam that is consumed by the facility but that do not form part of the facility. (National Greenhouse and Energy Reporting Regulations 2008)

Scope 3 emission of greenhouse gas in relation to a facility, means the release of greenhouse gas into the atmosphere as a result of the facility's activity by another facility.

Standard Work Method (SWM) means the work method for specific operational activities defined and documented by Council (Council's administration) to be followed by all staff who undertake this activity. The work method defines the best practice operating procedures, tools and appropriate personal protective equipment.

Sustainability means the ability to meet current needs without compromising the ability to meet future needs. Sustainable practices support ecological, human and economic health and vitality.

Urban Forest means all trees, shrubs and ground layer plants whether planted or naturally occurring, growing in public reserves, streets, parks, car parks and private gardens constitute an urban forest.

Water Affecting Activity (WAA) means activities within watercourses and/or floodplains that have the potential to impact on the health and condition of water resources and the ecosystems that depend on them they include:

- the construction or enlargement of dams or structures to collect or divert water;
- building of structures, obstructing or depositing solid materials in a watercourse, lake or floodplain (e.g. erosion control, construction of water crossings or dumping material);
- destroying vegetation in a watercourse, lake or floodplain (e.g. removal of reeds);
- draining or discharging water or brine into a watercourse or lake (e.g. desalination waste, stormwater including urban discharge, drainage and salinity control);
- drilling, deepening and back filling wells, bores and groundwater access trenches;
- excavating material from a watercourse, lake or floodplain (e.g. excavating or cleaning soaks, waterholes and on-stream dams); and
- the use of effluent or water imported to an area for commercial activities, e.g. irrigation.

Water Sensitive Urban Design (WSUD) means an alternative to traditional approaches to stormwater management that seeks to minimise the extent of impervious surfaces and

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mitigate change to the natural water balance, through onsite reuse of water as well as through temporary storage.

Watercourse (as defined in the *Natural Resources Management Act 2004*) means a river, creek or other natural watercourse (whether modified or not) in which water is contained or flows whether permanently or from time to time and includes:

- a dam or reservoir that collects water flowing in a watercourse;
- a lake through which water flows;
- a channel (but not a channel declared by regulation to be excluded from the ambit of this definition) into which the water of a watercourse has been diverted;
- part of a watercourse;
- an estuary through which water flows; and
- any other natural resources, or class of natural resources designated as a watercourse for the purposes of the *NRM Act 2004* by an NRM plan.

Weed means a plant that is either not locally indigenous to that area or is not intentionally planted to contribute function to a landscape. This includes weeds defined as environmental weeds, declared weeds (*NRM Act 2004*), and Weeds of National Significants (WONS) (National Weed Management Strategy).

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3. Introduction

3.1. Background

The Environment and Biodiversity Strategy is the City of Burnside's commitment to working with our community to achieve a City renowned for its green and leafy character, unique integrated urban form and commitment to the environment and its biodiversity.

The Environment and Biodiversity Strategy is guided by the policy principles established in the Environment and Biodiversity Policy that provides direction for Council, community and stakeholders on the actions needed to enjoy a more environmentally sustainable future.

The purpose of the Environment and Biodiversity Strategy is to provide focused strategic direction based on the guiding policy principles, endorsed in the Environment and Biodiversity Policy. This Strategy will assist the City to progress towards resilience and living sustainably. It provides strategic direction on the management of the precious natural assets of the City of Burnside so that they are restored, protected, conserved and/or maintained, as appropriate. It will also assist and encourage the current and future generations of residents and visitors to value our environment and its biodiversity, and take care of it for the benefit of our community and all of the current and potential life forms living with the City.

Current Council Environment and Biodiversity services and supporting resources also need to be strategically considered for their relevance and possible future direction, so that these services are able to meet the minimum needs in a socially, environmentally and financially sustainable and responsible manner. The Strategy will allow Council to plan for future environmental and biodiversity needs and service provision, as well as be able to consider opportunities as they arise in a strategic, regional and holistic manner.

The City of Burnside "*Be the Future of Burnside - Our Strategic Community Plan 2012-2025*" sets out four City wide strategic direction statements, which all encompass aspects of caring for our environment and biodiversity assets and maintaining the ecosystem services in the City. These four Strategic Direction statements are:

Strategic Direction 1
Our integrated urban form and living spaces.

Strategic Direction 2
Our protected and valued environment.

Strategic Direction 3
Our diverse supportive, happy and healthy people.

Strategic Direction 4
Our leading inclusive and connected Council.

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This Strategy's vision for the City's environment is for:

> *"A municipality that supports healthy ecosystems where the air, land and creeks are clean, with leafy urban forests and resilient ecosystems and connected biodiverse landscapes, where fauna habitat is maintained and protected, with a sustainable urbanised heart that seeks sustainable water supplies, reduced bushfire hazard risk, efficient buildings and transport systems and minimal waste and emissions."*

To support the delivery of the four City wide strategic directions and the vision of the Strategy, three goals have been developed. These goals will help to direct and focus the recommendations of the City of Burnside Environment and Biodiversity Strategy. These goals are then to create a sustainable City, with connected and resilient biodiverse landscapes that have protected and valued water resources.

Strategy guiding principles have been considered in context of the Environment and Biodiversity Policy. These policy statements will assist setting the development of appropriate actions arising from the strategic goals of this Strategy.

These guiding policy principles are:

Protect, Value and Enhance
Protect, value and enhance the Environmental Values and Ecosystem Services of watercourses, natural areas and open space under our control within the City.

Legal Requirement
Comply with and where practical exceed the requirements of relevant legislation, policy and standards to continually improve our environmental performance.

Precautionary Principle
Regard the natural, economic and social environment in any long-term decision making. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty will not be used as a reason for postponing measures to prevent environmental and/or biodiversity degradation.

Best Available Science
Strategies and plans will enable the best available science to be incorporated and applied as it becomes available. Modelling will help inform decision-making.

Setting Priorities for Action
Priorities for new programs and initiatives will be based on assessments of the relative and long-term potential costs and benefits (financial and non-financial).

Continuously Improving and Evaluating Projects and Programs
Commitments will be monitored and evaluated on a regular basis. Results will be used to inform and adjust our environmental and biodiversity projects and initiatives.

Place Planning
Build strategic relationships with property owners and residents, local businesses, community groups and agencies so that our management of places and the delivery of services to local communities in these places reflect their needs and aspirations.

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Integration and Holistic Planning
Ensure that environmental programs are integrated with our other strategies and planning instruments and with other agencies and stakeholders.

Lead By Example
Lead by example and encourage other community stakeholders to commit to sustainability principles. We will learn from others' success and will design programs, policies, facilities and practices in line with leading practice.

Community Engagement
Community engagement will form the cornerstone of all our environmental and biodiversity programs. We will use best practice principles to guide the delivery of education for sustainability through understanding the behavioural motivations of our community members.

Partnerships
Work in partnership with the City's community and regional organisations to enhance the City's environmental quality, while respecting cultural, social and economic values.

Environmental Responsibilities
Ensure our employees, suppliers and contractors are aware of and able to respond to their environmental responsibilities, applying the sustainable procurement principles and processes and utilising the green purchasing resources provided.

Sustainable Funding
Prioritise funding according to evidence-based strategic directions, identified needs and whole-of-life costing. Funding decisions will take a long-term view.

Staff Capacity
Staff will be provided with appropriate training and mentoring to enable sustainable delivery of the outcomes.

Purchasing Preference
Give purchase preferences, where feasible, to reusable, recycled and environmentally friendly products. Apply due diligence to verify authenticity of environmental claims and accreditations of suppliers and service providers. Refuse to purchase items that the supply of such items contributes directly on the degradation of natural habitats locally and/or globally.

Waste Minimisation
Support and implement waste reduction, reuse and recycling programs through the application of the waste minimisation hierarchy Avoid, Reduce, Reuse, Recycle.

Reduce Consumption
Reduce resource consumption, including paper, energy and water use.

Prevent Pollution
Prevent pollution at its source and continually improve Council's response to pollution incidents to minimise their impacts and occurrence.

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3.2. Study Scope

The scope of the Environment and Biodiversity Strategy is to review and set a direction for the delivery of environment and biodiversity activities that may be directly delivered or advocated for by Council. The City of Burnside Environment and Biodiversity Strategy will focus on the themes of living sustainably in our City now and into the future and conserving and restoring our natural assets, including our water resources. The study will focus on those activities that the City already has a current sound infrastructure or service delivery investment in and those activities that the City needs to consider as new or enhanced currently unfunded services.

3.3. Study Objectives

The objectives of the Environment and Biodiversity Strategy study are:

- to articulate Council's role and function in the provision, future investment and support for the environment and its natural assets;
- to investigate community aspirations and needs for Environment and Biodiversity in the City, both immediately and going forward and to utilise this research to inform and refine strategy development and to assist in the formulation of actions to support these aspirations;
- to represent the views of the community after consultation with key stakeholders, current and potential partners, adjoining Councils and other levels of government; and
- to guide the future development and further support for the environment and its natural assets within the Council area for the future.

3.4. Study Methodology

There is an identified need for a strategic vision to determine how the City can sustainably implement its desired service delivery levels and directions for environmental and biodiversity services and supporting infrastructure for the future. In order to develop a strategy and a way forward for responsible and accountable service delivery, the vision will be developed in a strategic framework, composed of four elements, namely a Policy, a Strategy, Action Plans and Annual Projects Program.

The Strategy will be the guide to how to achieve the delivery of the relevant corporate desired outcomes. In order to actually deliver the strategy action plans will be created as an outcome of this strategy work.

The Action Plans will consist of identified sets of themed actions. These actions will be assigned time frames for delivery. This plan will then form the basis for the preparation of projects to be presented to the Elected Members for consideration at the Annual Budget Review process. This allows the Environment and Biodiversity Strategy projects and especially new or enhance service projects, to be considered along with other Council projects being considered.

3.5. Strategy Development Process

This Strategy has been guided by an initial review of the Environment Action Plan 2008 and the Biodiversity Strategy 2008-2014. Both documents are sound technically and insightful but both contain mixture of strategic direction and practical action plan implementation. This

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review aims to delineate between the strategic and operational, by combining the strategic elements of the two plans into this strategy and the operational actions into future action plan documents as highlighted above. This combined strategic document draft was then supplemented by a review of recent literature and so updated to include timely and other relevant strategic objectives.

The City of Burnside would like to acknowledge the participation and support of its volunteers and associations and that of the peak body associations, neighbouring Councils and State Government Agencies and the community of the City of Burnside, without which previous strategy's would not have been the success they have been. It is this good work that this Strategy intends to acknowledge, learn from and build upon going forward.

The City of Burnside Elected Members have also played their vital role in conserving and valuing our natural assets within the City. The Council has supported and adopted many plans and projects that support the work of environment and biodiversity related endeavours.

The following diagram (Figure 1) shows a diagrammatic representation of how this new revised Strategy sits in the context of council policy, action plans and the suite of operational documentation.

FIGURE 1: Relationship and Hierarchy between Council Policy, Strategy, Action Plans and Operational Documents

By separating out the strategic statements from the operational statements, the strategy can then guide decisions for the future. The operational statements will then be placed into Action Plan documents and other facilitative documents such as operational management plans, which can be updated on a regular basis as required. This enables the actions to remain relevant and deliverable in relation to Council's available resources and programs and services.

The framework for this Strategy was based on the Environment Action Plan 2008. This plan contained four key topic areas, namely Climate Change, Waste Minimisation, Sustainable Water and Biodiversity. The framework is also based on the overarching aspiration of the key goals, each goal being facilitated by strategic objectives, using a number of measures to track the performance of Council in delivering the Strategy.

These goals have now been further refined using a review of other excellent and award winning current strategies being used by other Local Government and State Government Agencies to create the three goals used in the Strategy, namely “Sustainable City”, “Connected and Resilient Biodiverse Landscapes” and “Protected and Valued Water Resources”.

The following diagram (Figure 2) shows the step process followed for this Strategy’s development.

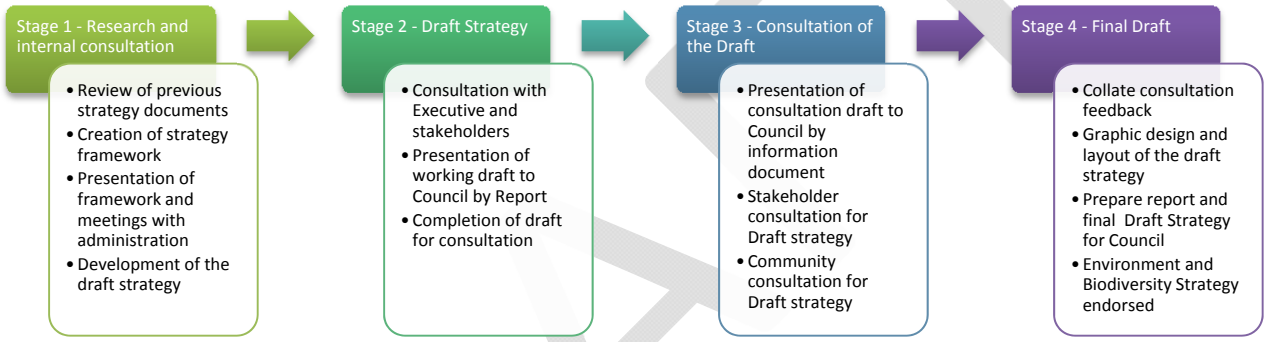

FIGURE 2: Strategy Consultation and Development

3.6. Measures of Success and Review

It is important that progress in implementing the actions of the Strategy is monitored over time to ensure that the goals, strategic objectives and actions remain relevant and are able to be effectively implemented. It is recommended that regular project delivery monitoring occur on an annual basis using target indicators and measures, possibly as part of the annual plan program review occur and that the Strategy itself is reviewed every three years.

The effective measurement and reporting of performance towards targets is essential and will support a culture of achievement, continuous improvement, accountability and transparency. Council may not be able to immediately report on progress towards all of the targets set in the Strategy and its action plans, but the development of improved data capture and monitoring systems has been identified as needing to occur, as a critical part of implementing this Strategy.

Monitoring of target indicators can be measured partly by using the results of the Annual Community Survey, achievement of departmental business plans or review of applicable qualitative and quantitative data. This measuring itself may incur a cost to the organisation. In addition every project that directly impacts on the community and commits rate payers funding, needs active project monitoring and consultation throughout the implementation process.

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The Success Indicators of the Environment and Biodiversity Strategy will be:

- the active use of the adopted Environment and Biodiversity Strategy;
- delivery of the adopted strategic goals and subsequent action plans that result in improvements to the environment and biodiversity of the City;
- delivery of environment and biodiversity programs that encourage community participation; and
- achievement of a sustainable city, which has connected and resilient biodiverse landscapes and protected and valued water resources.

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4. Community and Stakeholder Consultation

4.1. Introduction

The nature of our local community is changing. They have an increased awareness, a greater desire to be heard and a higher expectation to be involved in issues that may impact their social, cultural, economic or environmental wellbeing. Our beliefs and behaviours are all influenced by information we have access to and the knowledge we constantly acquire. It is the access to knowledge that will facilitate us as individuals, as a Council and as a local community to change our decisions and behaviours to allow for a healthier environment.

The City of Burnside is committed to achieving a best practice standard on community consultation issues and has increased both the quality and quantity of its consultation over the year and continues to refine and improve its public consultation. The Council's Public Consultation Policy has five levels of consultation and this Strategy uses techniques and principles from Levels 2 to 4 to engage, involve and collaborate with the community, both during the formulation of this Strategy and through the intended delivery of the Strategy goals.

The three most relevant levels for this Strategy are:

Level 2 – Consult with the Community

This second level of consultation aims to obtain public feedback on analysis, alternatives or decisions of Council. Council asks and listens to the community if they have ideas to make improvements; which options they prefer; or what would happen if a certain decision were made.

Level 3 – Involve the Community

This third level of consultation expands on previous levels, and aims to work directly with the public during the formulation process to ensure that their concerns/ ideas are understood and considered. Council includes the community in planning and implementation; or asks how they would like to proceed before a final decision is made.

Level 4 – Collaborate with the Community

This fourth level of consultation aims to work with stakeholders in each aspect of the decision, including the development of alternatives, the identification of a preferred solution and incorporating comments into the decision process. Council works together with the Community to find solutions, taking into account information that leads to an agreed outcome.

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4.2. Consultation to Develop the Strategy

Development of the Strategy has involved the following stages.

Stage 1
Research
- Review previous action plans and strategies
- Researching trends and challenges affecting the City
- Present framework to Administration for comment and ideas

Stage 2
Policy Context
- Alignment to South Australian State Strategic Plan
- Alignment to 30 Year Plan for Greater Adelaide
- Alignment to other relevant and required plans and legislation
- Consult experts for discussion on relevant changes and trends with experts

Stage 3
Prepare the Draft Strategy and revised Policy
- Write and revise documents
- Revise the Environment Policy and prepare the Draft Environment and Biodiversity Policy
- Present the revised Environment and Biodiversity Policy and working draft of the Strategy to selected stakeholders
- Adopt the revised Environment and Biodiversity Policy

Stage 4
Community Engagement
- Council endorse the working draft of Strategy to be prepared for consultation
- Prepare working draft for consultation purposes. Provide draft for consultation to Elected Members for information by Information Document prior to release.
- Consult with key stakeholders and community, specifically by:
    - Online and hard copy available for viewing and comment
    - Engage.Burnside
    - Messenger newspaper notification
    - Email to residents listed as interested in 'environmental' topics
- Consult with Elected Members on the consultation draft of the Strategy.

Stage 5
Revising Draft
- Incorporate outcomes from the community engagement

Stage 6
Final Strategy Adopted
- Adoption of the Environment and Biodiversity Strategy

Stage 7 (to be completed)
- Development of Action Plans

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5. Our Environment

5.1. The pre-European landscape

Prior to European settlement, all of the area now comprising the City of Burnside was covered in woodland and forests of various types determined by the soil, topography, rainfall and its management. The land was managed by the Kaurna people, who set fire to areas of woodland in autumn to encourage grass growth and to maintain an open landscape.

The pre-European habitat types that existed in the City of Burnside were:

- Grey Box Woodland,
- Blue Gum open forest,
- River Red Gum woodland of hilly country,
- SA Blue Gum Woodland,
- Mallee Box woodland,
- Sheoak woodland,
- Manna Gum woodland,
- Native Pine woodland,
- Brown Stringybark heathlands,
- Riparian vegetation, and
- Bogs and Reed beds.

The following map shows the pre European and remnant vegetation of the City of Burnside.

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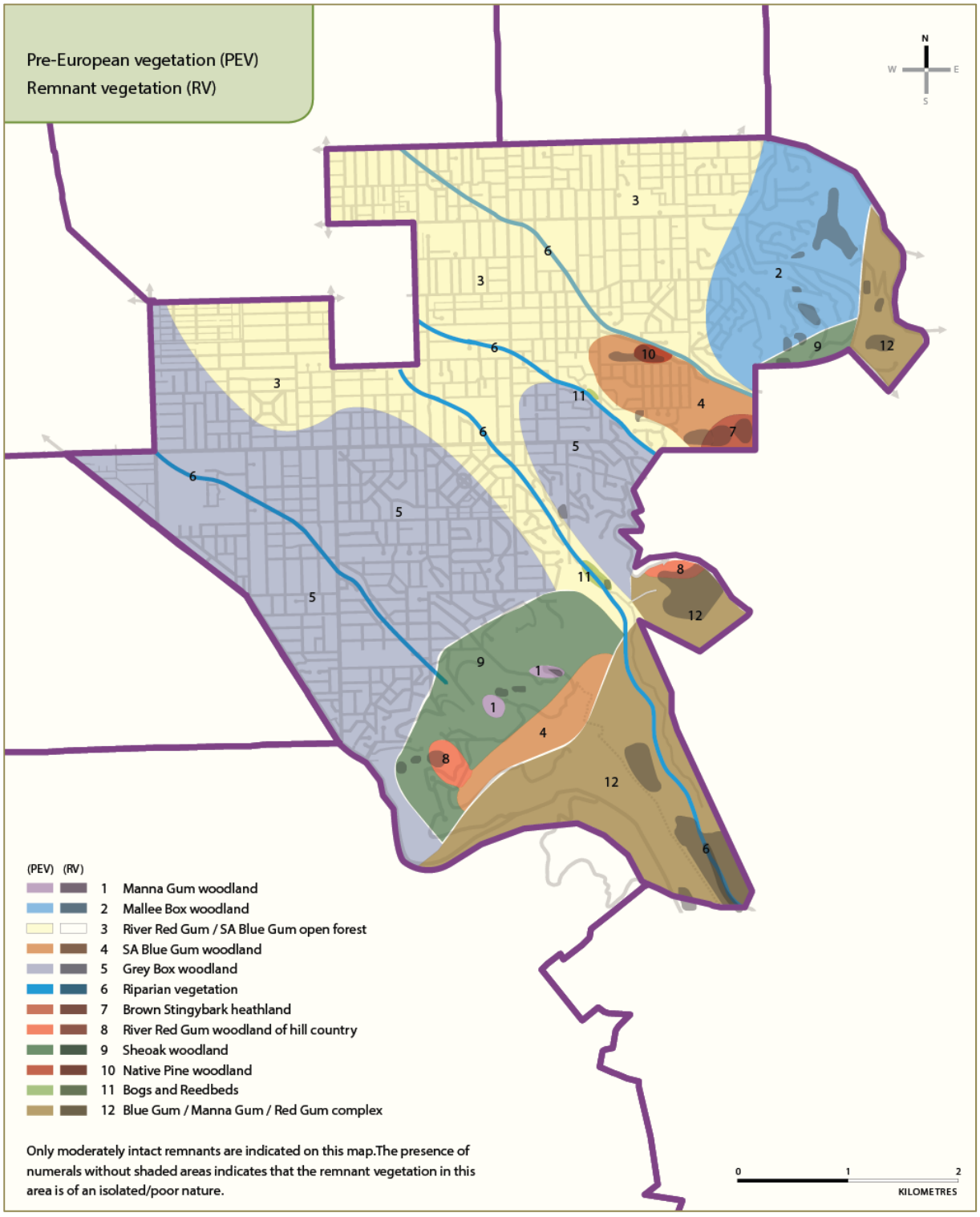

FIGURE 3: Pre-European Vegetation in the City Of Burnside (Nature Conservation in an Urbanised Landscape, Burnside Biodiversity Strategy 2008-14)

5.2. Existing Environment

The City of Burnside is located on the Adelaide plains east of the Adelaide Central Business District. It extends across the gently sloping plain to the Adelaide foothills and up into the Hills Face Zone of the Adelaide Hills. In 1856, the Burnside District Council was established in what is now the suburb of Burnside. Since then, the District has become a City with 28 suburbs and a total population of approximately 42,500. The City of Burnside contains approximately 19,840 residential properties and residential use is by far the dominant land use.

The City of Burnside is recognised as a city of wide, leafy streets, with a range of period houses that has formed a unique character over time. The plains are densely settled suburban areas, with sparser settlement in the steeper hills areas in the eastern part of the Council area. The climate is Mediterranean with most of the rain falling in winter and spring. Summers are hot and dry although storms occasionally produce short periods of intense rain.

Soils of the plains are derived from alluvial deposits washed from the Adelaide Hills. They are mostly deep clays with some areas of lighter and stony soils associated with historical locations of creek beds. In the hills face, the texture of the soil reflects the nature of the bedrock from which they are derived. They are mostly shallow loams over weathered shale. Most of the sub-soils are slightly to strongly alkaline. In the Stonyfell areas, there are areas of quartzite bedrock which weathers slowly and develops shallow skeletal acid soils. This explains the location of quarry industries in the area and the presence of healthy (low, hard-leaved) native vegetation.

There are two water catchment areas in the City: First Creek, Second Creek, Stonyfell Creek and Third Creek form part of the Torrens River Catchment; and the only creek of note in the Patawalonga Catchment flows intermittently from Gully Reserve at Mt Osmond and is now an underground stormwater system that leads to the Glenside stormwater detention basin.

The City of Burnside is noted for its diverse range of parks and reserves. These parks and reserves include active and passive recreation facilities such as playground, sporting ovals, tennis courts, swimming pools, recreation trails and picnic facilities. There are a total of 193 hectare of parks and reserves within the City (6.9% of the total area of the City). There are 103 hectares (3.6%) of reserves in the hills face towards the eastern boundary of the City.

The area is generally fairly rugged consisting of steep slopes, gullies and scarps. There are about 14 kilometres of creek line in Burnside, of which 500 metres is currently being rehabilitated by Council. There are about 14 kilometres of fire tracks and walking trails in Council reserves available for public access. There are approximately 35 hectares (2.5% of total area of the City) of parks and reserves owned and managed by the State Government.

In the City of Burnside's parks and reserves, there are approximately:

- 120 surviving indigenous plant species;
- 20 species with conservation rating for the South Mt Lofty Region (these are rare for the whole Fleurieu Region, not just locally);
- 100 indigenous species which are locally threatened (these are species which have been severely impacted by urbanisation and cannot be expected to survive in Burnside for another 50 years without an improvement in habitat);

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- 60 different indigenous species that have been propagated and reintroduced to project sites;
- 20 species that have so far been observed to regenerate in restoration sites (natural regeneration is a key performance indicator for ecological restoration projects);
- 110 invasive introduced species;
- In total, it is likely that approximately 47 mammals may have historically resided within Burnside, of these 19 animals are extinct and 8 are exotic species;
- 42 species of reptile have been noted as possibly occurring in Burnside, of these Pygmy Blue tongue is the only species which is extinct within the Mount Lofty Ranges; and
- 150 species of Birds (142 native, 8 exotic) are recorded in Burnside, of these 15 native bird species are now extinct.

In the City of Burnside's 103 hectares of Hills Face Reserves:

- 2 hectares consists of indigenous vegetation in good to very good condition;
- 8 hectares is native vegetation in moderate condition;
- 20 hectares is native vegetation in poor condition;
- 70 hectares is very degraded land with only scattered indigenous flora;
- 95 hectares is steep or very steep topography;
- 15 hectares has had a least primary weed treatment; and
- 20 hectares is slashed annually for fire hazard reduction.

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6. Our Current Strengths and Challenges

6.1. Introduction

As an organisation, the City of Burnside currently undertakes many successful and valuable environmental and biodiversity initiatives, yet it still faces many challenges if it is to successfully implement this Strategy. The following two sections provide examples of recent achievements and strengths of Council, as well as some of the challenges it still needs to consider.

6.2. Strengths

The City of Burnside has an active commitment to protect and enhance biodiversity within its area. The Council has developed and undertaken numerous programs, projects and promotional activities to support this commitment including:

- A Urban Creeks booklet, Natural Heritage map and Planting Local Species brochure which show-cases indigenous plants suited to the area and valuable conservation areas;
- Verge Development program for residents, allowing residents to beautify and create corridors of plants along their verges. This program offers indigenous plants and/or non-invasive introduced species;
- Establishing and maintain landscaped verges with local native species;
- Designated 'biodiversity' areas within a number of reserves that are actively planted with locally indigenous species;
- A show-case of Biodiversity Park located at Linden Gardens Reserve which uses a formalised gardens created using indigenous plants;
- Two full-time field staff and a Trainee, are dedicated to undertaking and managing biodiversity reserves and plantings;
- Working with residents, community groups and the State Government and not-for-profit (Bush for Life and Conservation Volunteers Australia) to establish and maintain community volunteer sites throughout the City;
- In our Council are there is one Community Group Action project, nine Bush for Life sites and a number of volunteers sites directly managed by Council for example the Burnside Biodiversity Volunteers project at Waterfall Gully Reserve;
- Actively reducing the area of irrigated grass in reserves and planting these with drought tolerant and indigenous species; and
- Recognised as local leaders in land management techniques with the Council's award winning (2013 KESAB Sustainable Cities Award for Natural Environment Conservation) Urban Biodiversity Team and Conservation Land Management Program and multi award winning Burnside Biodiversity Volunteer's project at Waterfall Gully Reserve.

Other sustainability activities undertaken by Council include:

- Progressively changing all computers to integration of energy efficiency, environment and sustainability into Council's Information and Communications Technology strategy;
- Reducing hot water use by installing efficient showers at all Council managed properties where showers are used;

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- Reducing waste to landfill and thereby reducing greenhouse gas emissions from landfill;
- Energy efficiency improvements within properties, including lighting upgrades;
- Reducing fleet car size and reviewing the type of fuel used;
- Identifying high energy use areas and reducing the activity where possible;
- Purchasing fuel offsets for all of Council's fleet fuel use;
- The use of recycled plastic products in asset upgrades where appropriate;
- Communication on Council's website information for residents to reduce their water and energy costs and increase diversion of waste from landfill; and
- Electronic and hazardous waste collection events for residents held at Council's depot.

Currently Council manages processes and procedures to support environmentally sustainable development principles and sustainability. These include managing:

- its open space to ensure both a quality recreational experiences for its residents, as well as ensuring adequate and high quality open space provision in the future;
- Council properties and premises with a view to understanding and reducing the environmental impacts of these sites; and
- its own building and construction works with an aim to improve the environmental performance of these works. Road construction waste is recycled and reused where possible, and Council pruning's are composted and used as mulch within Council reserves.

Local governments within South Australia have a fundamental position in waste minimisation through the collection and disposal of kerbside waste material. This includes waste for disposal at landfill and collection of recyclables. While 69% of waste collected in South Australia is diverted from landfill to recycling in 2005-2006 most of the waste sent to landfill in the same year could also have been diverted (Zero Waste SA 2007). A change in emphasis to 'waste to resources' is facilitating a change in attitudes towards waste and a change in kerbside collection practices in recent years.

The City of Burnside will continue to take up the increasingly important challenge of dealing with waste material as a resource to be recycled and reused. With an increased effort from Council, waste minimisation can be achieved and this will result in positive environmental outcomes.

The City of Burnside has recently successfully implemented a city wide three-bins and a basket waste collection system. Each resident and small business is provided with three bins which are collected from the kerbside. The three-bin and a basket waste collection service includes:

- A 140 litre bin with a red lid for general household waste, collected weekly;
- A 240 litre bin with a yellow lid for recyclables, collected fortnightly;
- A 240 litre green bin for green organics and food scraps, collected on the alternate week to the recycling bin; and
- Provision of a kitchen basket and compostable bags for food organics collection.

Council also provides hard rubbish collections annually. Council partners with other Council's and Zero Waste SA and other organisations to provide hazardous waste and electronic waste drop off days for residents.

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Currently, Council is active in reducing both its total water use and its use of drinking water for non-drinking purposes. Some of the ways Council is seeking to reduce its water use within its operations and the Burnside community include:

- Aquifer storage and recovery (ASR) scheme is being investigated at Tusmore Park that could recharge an aquifer and provides bore water for irrigation purposes;
- Irrigation system upgrade at the Glenunga Hub, one of Council's premier sporting facility;
- Retrofitting of all public toilets across Council properties with dual flush systems;
- Reduced irrigation within reserves by allowing 'browning off' of grassed areas, and replacing some grassed areas with mulch and plantings;
- Two active bores are within Council management and use; and
- Upgrades to irrigation systems in parks and reserves to more water efficient systems.

Some of the ways Council is working to improve stormwater quality and reduce runoff in non-storm events include:

- Maintaining a gross pollutant traps and trash racks throughout the City. Most of these are designed to remove gross pollutants, with several having a sediment trapping function as well;
- Trialling alternate stormwater management techniques including the use of permeable paving and bioswale constructions;
- Working with neighbouring councils to develop a comprehensive Stormwater Management Plan on a catchment basis, which complies with the *Local Government (Stormwater Management) Amendment Act 2007*;
- Innovation in erosion repair along watercourses that involves integration of planting and engineering treatments, results of this success can be seen at Michael Perry Reserve and Simpson Reserve along Second Creek; and
- Participating in the regional initiative "Waterproofing the East".

6.3. Challenges

The challenges that face Council when trying to achieve the vision for the City and this Strategy are many. As examples they include:

- Embedding an organisational culture of responsibility for environmental outcomes across the whole organisation;
- Controlling and minimising development in the Hills Face Zone and Fire Hazard protection;
- Financial prioritisation for Climate Change Mitigation versus Adaptation;
- Realising the immediate and justifiable other benefits of Climate Change Mitigation and/or Adaptation measures;
- Being able to differentiate between true sustainable projects and technology and those that just use the concept for marketing alone;
- Investing in environmental and biodiversity solutions that make business sense and provide social benefits;
- Valuing Volunteering without replacing necessary Administration resources in delivering environmental projects;
- Balancing a growing population with protection of environmental and social values;

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- Managing health and wellbeing risk associated with rising temperatures, increased bushfire frequency and increased wind storm events;
- Conserving energy and water to address population growth, climate change and increased costs, thereby reducing the municipalities contribution to carbon emissions;
- Ensuring security of water supplies with an aging pipe network;
- Addressing potential impacts to energy supply during heatwaves where demand for air conditioning increases, and older or unwell residents need alternative safe short term locations to keep cool;
- Acknowledging social equity and financial stress issues related to the increased cost of energy and water;
- Shading and cooling of urban areas where the heat retention of hard surfaces results in higher than average temperatures;
- Rapidly growing and changing technical and policy positions;
- Responding to increased car use and its consequences, including increased traffic congestion, air and noise pollution, injuries to people and wildlife and increased carbon footprint and increased renewal of council road surfaces required;
- Providing more opportunities for housing within convenient cycling and walking distances of established public transport infrastructure and services and carbon emissions from transport are reduced;
- Dealing with the local implications of increasing consumption of resources and the rising costs of unsustainable resource consumption and the resulting waste;
- Dealing with an increasing and aging population and its consequences, including increased pressure on natural areas that possibly may result from increased passive and active recreation use;
- Understanding and dealing with 'barriers' that prevent local businesses and households adopting behaviours consistent with sustainability principles;
- Accurately identifying, prioritising and managing risks to people and property in the City of Burnside including bushfire and wind storm event risks;
- Improving the decision making basis through collecting and consolidating reliable scientific data and evidence relating to climate change and natural hazards;
- Managing the potential exposure of existing infrastructure to current and future hazards;
- Managing any impact of hazard management on natural areas including parks and reserves;
- Reviewing and coordinating current hazard planning and management systems; standards and processes across all of Council and its affiliated agencies;
- Establishing and maintain landscape verges with local native species;
- Walking trail maintenance;
- Managing impacts of ecological fire regimes;
- Clarifying roles and responsibilities (public/private) regarding protection of private property in regards to natural hazards;
- Loss of core areas of vegetation though development and illegal land clearing;
- Fragmentation of bushland and loss of wildlife corridors and habitat areas on both public and private land;
- Pest plants, animals and fungi diminishing native biodiversity and the patrolling for the emergence of new pest plant, animal, fungi and disease threats;
- Decline in diversity and abundance of native species (threatened and non-threatened) for example mammals, marsupials, reptiles, birds and insects;
- Climate change effects on biodiversity;
- Impact of unstainable and unauthorised informal recreation activities in environmentally sensitive areas;

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- Impact of development pressures on biodiversity and appropriate strategic land-use planning to address this pressure;
- Balancing management of bushfire hazard risk, taking into account both natural values and risk factors to people and property;
- Water run-off issues;
- Inherent difficulties in measuring and monitoring biodiversity;
- Creek bank erosion and its risk to property and natural areas;
- Impact of stormwater quality and quantity on receiving water bodies;
- Impacts of climate change on catchment hydrological systems;
- Impact of aquatic and riparian pest species on existing habitat;
- Protecting creeks in good condition from declining;
- Encroachment of housing on open space areas in the hills face zone; and
- Subdivision of large blocks creating more loss of remnant vegetation and therefore a reduction in backyards contributing to habitat.

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7. Our Strategy

7.1. Delivering the Vision

Our Community Plan's "*Be the Future of Burnside 2012-25*" vision for our City is that,

> *We are renowned for our City's green and leafy character and unique integrated urban form. We are highly regarded for our sense of community spirit, support for one another, social diversity and commitment to the environment.*

Our Council vision states our intention and commitment to undertaking our environmental responsibilities to continue to create desirable future of our City.

The Environment and Biodiversity Strategy's vision for the environment is for,

> *"A municipality that supports healthy ecosystems where the air, land and creeks are clean, with leafy urban forests and resilient ecosystems and connected biodiverse landscapes, where fauna habitat is maintained and protected, with a sustainable urbanised heart that seeks sustainable water supplies, reduced bushfire hazard risk, efficient buildings and transport systems and minimal waste and emissions."*

As a Council we can play our part in delivering on these visions, but we cannot succeed alone. We need to unite within the organisation and utilise the expertise available to us inside as well as outside our organisation. We also need to use and value the generosity and knowledge of our volunteer community, if we are to be successful in our endeavours to implement this Strategy and achieve our visions.

7.2. Council's Role

Council has the ability to drive change through direct and indirect influences. Council can directly influence policy, capital works, asset management, strategic planning, development control, regulation, purchasing and investment. Indirectly, Council can influence partnerships, advocacy, lobbying, education, demonstration, grants, sponsorship and recognition.

These influences will take the form of:

- **Council as a leader**, through management, coordination, planning, advocacy, innovation, partnering & participation; and
- **Council providing leadership**, through support, engagement, building knowledge & capacity, encourage, inspire, educate & inform.

Elected Members of Council have adoped the Environment and Biodiversity Policy and Environment and Biodiversity Strategy to set strategic directions for the future management of the City's environment and its biodiversity.

The Administration will coordinate overall implementation of the Strategy using action plans, with formal and informal reporting to Council and our community. Tasks will include:

- regular review of targets and actions;
- coordination of actions with internal and external stakeholders;
- incorporating key performance indicators within the City of Burnside annual plan;

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- analysis of budgetary and staffing resources;
- communicating the implementation status to CEO and the community; and
- acquisition, interpretation and reporting of environmental indicator data.

Action arising from the Strategy will be developed in consultation with relevant staff and business units of Council. These units will be responsible for budgeting and implementing actions for their areas of operation within Council.

7.3. Strategic Plan, Statutory and Legislative Context

Local Government has considerable responsibility in respect to environmental management. The City of Burnside embraces our responsibility to manage and reduce environmental impacts in accordance with the *Local Government Act* 1999.

In particular, Section 7 (e) states that one of the functions of Council is to "manage, develop, protect, enhance and conserve the environment in an ecologically sustainable manner, and to improve amenity."

The City of Burnside's Strategic Community Plan, *Be the Future of Burnside* 2012-2025 supports this role, in many ways through the four Strategic Direction Statements:

Our integrated urban form and living spaces
Our protected and valued environment
Our diverse, supportive happy and healthy people
Our leading, inclusive and connected Council

South Australia's Strategic Plan also outlines three vision statements for our environment. The three Environment and Biodiversity Strategy goals and the State's three vision statements have direct alignment, as shown below.

South Australia's Strategic Plan Vision	Environment and Biodiversity Strategy Goals
South Australians think globally, act locally and are international leaders in addressing climate change.	Sustainable City
We look after our natural environment.	Connected and Resilient Bio-diverse Landscapes
We value and protect our water resources.	Protected and Valued Water Resources

The legislative context and related strategy and plans aligned with the goals of this Strategy are demonstrated in the following table.

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Level	Title of Document	Sustainability	Biodiversity	Water
International				
	United Nations Environment Accords - Green Cities Declaration	✓		
	United Nations Division for Sustainable Development – Agenda 21	✓		
	Montreal Ozone Protocol 1987	✓		
	Kyoto Protocol to the United Nations Framework Convention on Climate Change	✓		
	Johannesburg World Summit on Sustainable Development 2002	✓		
	Stern Review on the Economics of Climate Change 2006	✓		
	Intergovernmental Panel on Climate Change Assessment Reports	✓		
Australian Government				
	National Greenhouse and Energy Reporting Act 2007	✓		
	Clean Energy Act 2011	✓		
	Climate Change and Greenhouse Gas Emissions Reduction Act 2007	✓		
	Environment Protection and Biodiversity Conservation Act 1999		✓	✓
	South Australian Public Health Act 2011 *South Australian Public Health (General) Regulations 2013* *South Australian Public Health (Wastewater) Regulations 2013*	✓	✓	✓
	Ozone Protection and Synthetic Greenhouse Gas Management Act 1989	✓		
South Australian Government				
	Development Act 1993	✓	✓	✓
	Environment Protection Act 1993	✓	✓	✓
	Fire and Emergency Services Act 2005		✓	
	Local Government Act 1999	✓	✓	✓
	Native Vegetation Act 1991	✓	✓	✓
	Natural Resources Management Act 2004	✓	✓	✓
	South Australia's Strategic Plan 2011	✓	✓	✓
Eastern Region of Adelaide				
	Eastern Region Alliance Climate Change Adaption Plan (Currently Being Developed)	✓	✓	✓
	Eastern Region Alliance Environment Strategy & Action Plan	✓	✓	✓
	Eastern Region Stormwater Management Plan Stage 1	✓		✓
	Waterproofing the East	✓		✓
	Brown Hill and Keswick Creeks Flood Management Maser Plan 2006	✓		✓
	1st to 5th Creeks Flood Plain Mapping Study 2007	✓		✓
City of Burnside				
	Be the Future of Burnside 2012-2025	✓	✓	✓
	City of Burnside Development Plan	✓	✓	✓
	Open Space Strategy	✓	✓	✓
	Sport and Recreation Strategy	✓	✓	✓
	Urban Stormwater Management Plan	✓		✓
	City of Burnside Climate Change Adaption Plan 2009	✓	✓	✓
	Urban Forest Strategy		✓	
	Draft Public Domain Streetscape Strategy	✓	✓	✓

7.3.1. City of Burnside Community Plan, Policy and Plans

The City of Burnside's, "*Be the Future of Burnside*" Community Plan 2012-2025 provides an overarching vision statements for the City and its natural environment. All four of the plans strategic directions have implications and actions for strategically caring for our environment and biodiversity. The Strategic Direction statements are:

Strategic Direction 1
Our integrated urban form and living spaces

> Our Strategic Direction is to integrate and enhance our living spaces to meet our diverse current and future needs and to embrace our City's character to ensure our continued pride in, and enjoyment of, living in Burnside

Strategic Direction 2
Our protected and valued environment

> Our Strategic Direction is to protect and conserve the environment, living in harmony with it to ensure that future generations can experience what we value so highly today

Strategic Direction 3
Our diverse supportive, happy and healthy people

> Our Strategic Direction is for our people to be a mix of ages and from all walks of life. That they be supportive of one another, creating a sense of community spirit and a deep sense of belonging, where individuals enjoy participation, involvement, learning, happiness and health. Our local businesses will provide services and goods that support our people and our people will support our local business

Strategic Direction 4
Our leading inclusive and connected Council

> Our Strategic Direction is for Council to be engaging, open and approachable, to listen to and be representative of our views, to act on our behalf and in our best interest.

The Desired Outcomes arising from these strategic direction statements in the Community Plan and their relationship to the three Strategy Goals is shown in the following table.

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TABLE 1: RELATIONSHIP OF THE COMMUNITY PLAN DESIRED OUTCOMES AND STRATEGY GOALS

	Our Desired Outcomes	Sustainability	Biodiversity	Water
	Our integrated urban form and living spaces			
1.1	Conservation and enhancement of the historic character of the City	✓	✓	✓
1.2	A range of housing that meets the varying needs of the community	✓		✓
1.3	Environmentally sustainable development which complements the City's character	✓	✓	✓
1.4	A range of high quality sport and recreational opportunities and facilities that foster healthy lifestyle pursuits	✓		✓
1.5	Sustainable, engaging and functional community public spaces and streetscapes	✓	✓	✓
1.6	Fit for purpose and cost effective infrastructure that meets community needs	✓		✓
1.7	An effective transport network that supports safe and efficient movement, connecting people and places	✓		
	Our protected and valued environment			
2.1	Natural environments and watercourses protected and conserved in both the Hills Face and the Plains	✓	✓	✓
2.2	Sustainable use of natural resources, and minimisation of waste to address climate change	✓		✓
	Our diverse supportive, happy and healthy people			
3.3	A safe community that values and supports its people	✓	✓	
3.4	A community that can access a range of information, services and opportunities that enhance their lives	✓		
	Our leading inclusive and connected Council			
4.1	Our community is actively engaged and involved in shaping the City's future	✓	✓	✓
4.3	Delivery of good governance in Council business	✓	✓	✓
4.5	Cost-effective, leading edge technologies that deliver efficient council services to benefit the community	✓	✓	✓
4.7	An empowered Council and Administration that is visionary and innovative in meeting community needs	✓	✓	✓

Other relevant plans that have informed the Environment and Biodiversity Strategy and Environment and Biodiversity Policy include:

- Enviroplan 1994;
- LA21 Plan 1995;
- Hills Face Reserves Management Plan 1995;
- Mount Osmond Reserves Action Plan 1996;
- Open Space Strategy 1996;

- Significant Tree and Vegetation Study Report 1997;
- Biodiversity Action Plans for Council Land 1997;
- Specific policies for Biodiversity 1997;
- Environment Policy 2003;
- Watercourse Management Policy 2013;
- WSUD Policy 2011;
- Community Land Management Plan 2004;
- Tree Management Strategy 2006;
- Biodiversity Strategy 2008-2014;
- Environment Action Plan 2008;
- City of Burnside, Climate Change Adaption Plan and Risk Assessment 2009
- Sport and Recreation Strategy 2013;
- Urban Tree Management Strategy 2014; and
- Draft Public Domain Streetscape Strategy.

7.4. Developing and Delivering on the Strategy

The Environment and Biodiversity Strategy contains three goals, under which strategic objectives, indicators and actions are organised. This section outlines the intent and establishes strategic objectives for each goal. Indicators will be established to show how Council intends to record and track environmental health and well-being under each goal.

The hierarchy of goals strategic objectives, indicators and actions is described below.

- The Goals set a broad intent to support an aspect of the Vision of the Strategy, which turns supports the City wide vision and desired outcomes statements.
- The Strategic Objectives provide the directions by which Council plans to achieve the Goal.
- The Indicators are based on a pressure/state/response model and have been chosen to show either the pressures on the environmental system, the current state of the environment system or the response undertaken by Council within that environmental area. The Indicators under each Goal are based upon reasonably accessible information.
- The Actions provide a detailed plan of how Council plans to actualise the Strategic Objectives within each Goal to deliver the Vision.

The three Goals of the Environment and Biodiversity Strategy are:

Goal 1: Sustainable City
Goal 2: Connected and Resilient Biodiverse Landscapes
Goal 3: Protected and Valued Water Resources

To achieve each Goal the following Strategic Objectives are required to be delivered.

4. Goal 1 - Sustainable City
   4.1. City wide planning to build resilience
   4.2. Greening our organisation
   4.3. Manage waste sustainably
   4.4. Promote sustainability in the community

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4.5. Prevent pollution of air, water and soil

5. Goal 2 - Connected and Resilient Biodiverse Landscapes
   5.1. Protect and enhance remnant vegetation
   5.2. Protect and enhance fauna habitat
   5.3. Connect habitats and restore degraded areas
   5.4. Improve urban biodiversity
   5.5. Use local native plants
   5.6. Manage weed threats
   5.7. Build our knowledge
   5.8. Integrate fire risk management
   5.9. Engage community and develop partnerships

6. Goal 3 - Protected and Valued Water Resources
   6.1. Minimise Council water use
   6.2. Integrate Water Sensitive Urban Design (WSUD) features
   6.3. Maximise the reuse of rainwater, stormwater and wastewater
   6.4. Maintain and enhance the health of waterways
   6.5. Restore and protect waterways from erosion
   6.6. Provide community leadership

The following diagram represents the relationship between the Vision, Goals, Strategic Objectives of the Environment and Biodiversity Strategy and then the Implementation Plan and the measures of success.

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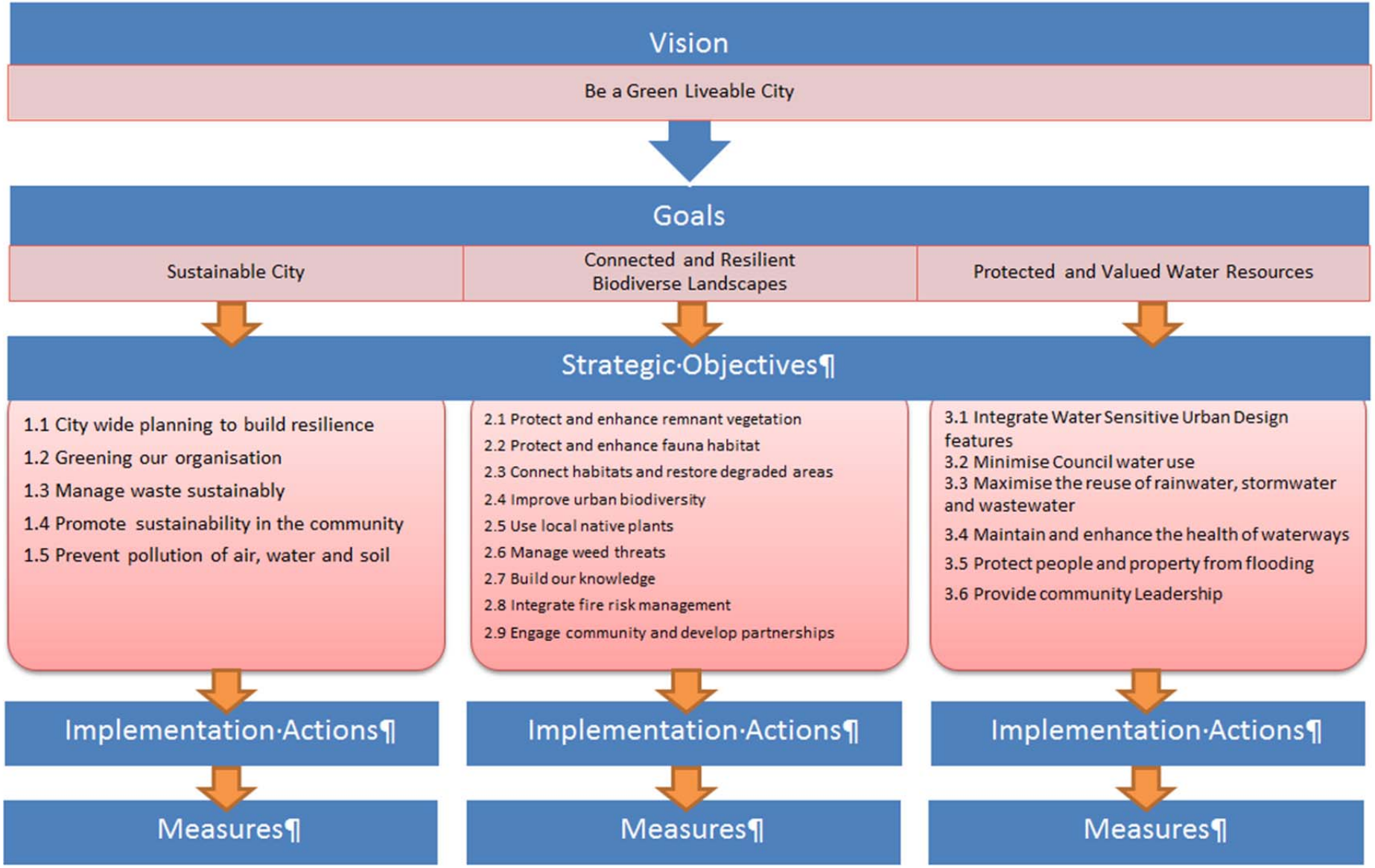
Vision
Be a Green Liveable City
Goals
Sustainable City
Connected and Resilient Biodiverse Landscapes
Protected and Valued Water Resources
Strategic·Objectives¶
1.1 City wide planning to build resilience
1.2 Greening our organisation
1.3 Manage waste sustainably
1.4 Promote sustainability in the community
1.5 Prevent pollution of air, water and soil
2.1 Protect and enhance remnant vegetation
2.2 Protect and enhance fauna habitat
2.3 Connect habitats and restore degraded areas
2.4 Improve urban biodiversity
2.5 Use local native plants
2.6 Manage weed threats
2.7 Build our knowledge
2.8 Integrate fire risk management
2.9 Engage community and develop partnerships
3.1 Integrate Water Sensitive Urban Design features
3.2 Minimise Council water use
3.3 Maximise the reuse of rainwater, stormwater and wastewater
3.4 Maintain and enhance the health of waterways
3.5 Protect people and property from flooding
3.6 Provide community Leadership
Implementation·Actions¶
Implementation·Actions¶
Implementation·Actions¶
Measures¶
Measures¶
Measures¶

7.5. Goal 1: Sustainable City

7.5.1. Overview

The City of Burnside's goal to be a Sustainable City recognises the importance of environmentally sustainable development and sustainable living. This goal comprises four strategic objectives, which are City Wide Planning to Build Resilience, Greening Our Organisation, Managing Waste Sustainably and Promote Sustainability in the Community.

Council can control how it operates as an organisation, the development and management of public open space, streetscapes, assets, buildings, community facilities and city wide infrastructure are within its control. It can also influence the provision of key services for the community which include, community support, community health programs, life style, wellbeing cultural development, knowledge and learning, waste management, planning, development and regulation.

7.5.2. Our Ideal Future

If this Strategy is successful, then...

Our City and its community are aware and prepared for the potential impacts of Climate Change. This occurs through planned and proactive approaches that have built resilience, through the management of the organisation and by provision of related services to the community.

The Council as an organisation has a positive culture with sustainability a core value, which helps the organisation to want to minimise its carbon footprint during the delivery of any service it provides.

Waste management services for the City have become considered a resource recovery service, through the City's kerbside and hard waste collection service to industry providing innovative solutions to process e-waste, hazardous wastes, street sweepings and other wastes collected.

The City's residential growth is managed with environmentally sustainable development principles applied and green infrastructure, the urban forest, diversity of native flora and fauna, open spaces, streetscapes and character of the City have been maintained and in some instances enhanced.

The community of the City of Burnside are engaged and aware, provided with City wide and regional solutions that enable them to adopt sustainability principles as a way of day to day life.

7.5.3. Strategic Objectives

Goal 1 - Sustainable City

- City wide planning to build resilience
- Greening our organisation
- Manage waste sustainably
- Promote sustainability in the community
- Prevent pollution of air, water and soil

7.5.3.1. City Wide Planning to Build Resilience

The State Government's Strategic Plan has a target for all State Government regions to have a regional climate change adaption plan by 2016 (Target 62). In November 2009, the Risk Management and Climate Change Adaption Plan in City of Burnside was completed, this plan was partly funded by the Australia Government's Local Action Pathways Program (LAPP).

Currently, the Eastern Region Alliance (which includes the Cities of Burnside, Campbelltown, Tea Tree Gully, Norwood Payneham & St Peters and Unley and the Town of Walkerville) and Adelaide City Council are working to develop a regional climate adaption plan.

The City of Burnside is also working with our community to investigate community preferred solutions for enabling residential growth occur in the City in a way in which is acceptable to the majority of residents and businesses. The work of this consultation process will inform the Development Plan Amendment process, which can seek to include more environmental sustainability initiatives.

7.5.3.2. Greening Our Organisation

Greening our organisation is important to mitigate our impact on the environment. Additionally, this greening process provides for other environmental, social and economic benefits. This strategic objective covers areas of impact that result from the way in which the City of Burnside provides its facilities, services and governance to our local community.

This impact can be managed through applying the following actions:

- sustainable purchasing principals of goods and services;
- using recycled and reused products;
- ensuring redevelopment and upgrades to buildings and facilities, maximise the opportunity to be environmentally sustainable and have reduced operational cost;
- reducing paper use through improvements to administrative systems and the use of electronic devices;
- changing over to fuel efficient, energy efficient and water efficient appliances, plant and equipment; and
- not purchasing products that have a negative impact on or are sourced from natural areas in an unsustainable method.

We need to further develop our organisations culture to support positive environmental outcomes by behaviour change, through providing Council's Administration and Elected Members opportunities to: build our knowledge about the environmental issues, current solutions and possible future innovations; be aware of this strategy and our role in assisting to deliver the strategy; develop skills to guide decision making; and plan and implement actions to assist the future sustainably of the whole city.

7.5.3.3. Manage Waste Sustainably

Management of waste is one of Council's core services, and it encompasses the management of residential waste and the management of the waste Council produces as a result of its own operations.

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This work contributes to achieving…

- South Australia's Strategic Plan Target 67, Zero Waste aims to reduce waste to landfill by 35% by 2020 (baseline 2002-03), with a milestone of 25% by 2014; and
- Be the Future of Burnside, Desired Outcome 2.2 - The sustainable use of natural resources, and minimisation of waste to address climate change.

7.5.3.4. Promote Sustainability in the Community

The City of Burnside has an important role in providing the community with consistent key messages for sustainable living. Council supports the promotion of government agency initiatives providing benefits to local residents and facilitates which increase access to knowledge and capacity building opportunities.

7.5.3.5. Prevent pollution of air, water and soil

Council has a responsibility to prevent the pollution of air, water and soil in its operations and through the authority and regulatory capacity provided under the *Environment Protection Act 1994* for Authorised Officers.

Goal 1: Sustainable City

Strategic Objective	1.1	City Wide Planning to Build Resilience	
Principle	1.1.1	Embed Climate Change Adaption measures into Council corporate management plans	
Detail		Action/s	Responsibility
Council's Climate Change Adaption Plan 2009 and the Eastern Regional Climate Change Adaption plan implementation actions will be embedded into Council's corporate documents as appropriate to facilitate implementation.		Link climate change adaption plan actions to suitable department for implementation.	Executive
		Promote and provide access to the Adaption plan to all staff.	Executive & Environment Officer
		Prioritise adaptation planning.	Executive & Environment Officer
		Update Corporate Documents.	Governance, WHS, Asset & Engineering Services, Community Services
Principle	1.1.2	Participate in regional planning to reduce vulnerability	
Detail		Action/s	Responsibility
SA Strategic Plan target for all State Government Regions to have a regional		Partner with the ERA Councils & ACC to seek funding and engage consultant to	CEO & Executive

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climate change adaption plan by 2016 (Target 62). Eastern Region Alliance and Adelaide City Council (ACC) for the East Adelaide Region, process to develop regional plan has commenced.	develop regional adaption plan.	
	Participate in consultation process.	All Council Departments as required, Coordinated by Environment Officer

Principle	1.1.3	Plan for sustainable growth	
Detail		Action/s	Responsibility
State Government released, The 30-Year Plan for Greater Adelaide. In this plan Council needs to look at how it can increase the number of dwellings in the inner metropolitan area. Opportunity exists to utilise the Development Plan to encourage new development in locations and utilising methods that maximise opportunities for additional environmental and social outcomes.		Identify opportunities for environmental and social outcomes in new development.	Planning, Strategy and Environment
		Identify most suitable location for increase dwellings in urban areas.	Planning, Strategy and Environment
		Educate community to adopt changes when planning new development.	Planning & Communications & Engagement
		Update planning processes to facilitate changes as required.	Planning

Principle	1.1.4	Develop accessible and sustainable transport solutions	
Detail		Action/s	Responsibility
The development of accessible and sustainable transport solutions, that increases cycling (SA Strategic Plan Target 2), supports safe and efficient movement, connecting people & places, developing a network of pedestrian and cycling connecting neighbourhoods, facilities and open space, and advocate for safe and reliable public transport linking local shopping, health providers and service clubs (Be the Future 2012-25, 1.7).		Include development of sustainable transport solutions with planning for sustainable growth, with transport corridors connecting communities and facilities.	Planning
		Continue development of cycling connections and working with surround Council as per the City of Burnside Bicycle Strategy 2010.	Engineering Services
		Identify main pedestrian networks in City Master Planning process to inform reserve upgrade planning and future streetscape redevelopment.	Strategic Planning Asset Services Engineering Services

Strategic Objective	1.2	Greening our Organisation	
Principle	1.2.1	Utilise Sustainable Procurement Principles	
Detail		Action/s	Responsibility
Sustainable procurement for the City with consideration of the whole life costing using Life Cycle Assessment (LCA) tools, zero waste methodology and wherever possible source products only from renewable and sustainable sources.		Develop sustainable procurement guidelines and provide staff access to current industry trends, innovations and knowledge and skills development opportunities such as through Eco-buy.	Procurement
		Support through decision making processes and business case preparation	Executive

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	the purchase of products and services based on Life Cycle Assessment, considering purchase cost, life span, operation and maintenance cost and end of life disposal.	Procurement All Council Departments involved in purchasing

Principle	1.2.2	Reduce Greenhouse Gas emissions in Council Operations	
Detail		Action/s	Responsibility
Upgrade Council owned and managed lighting for streets, car parks, walkways, parks and reserves with more energy efficient systems including where appropriate the use of renewable energy supply (e.g. solar lighting).		Track Council's carbon emissions conduct energy audits of Council facilities as appropriate to assess opportunities for improvement.	Finance, Asset Services and IT
		Upgrade Council owned and managed buildings and facilities to be more energy efficient and low emissions (e.g. air conditioning upgrade).	Asset Services Strategic Projects
		Upgrade Council owned and managed lighting for streets, car parks, walkways, parks and reserves with more energy efficient systems including where appropriate the use of renewable energy supply (e.g. solar lighting).	Engineering Services
		Include energy efficiency outcomes in Information, Technology and Communications systems planning and upgrades.	Information Technology
		Invest in renewable energy solutions.	Finance, Procurement & Asset Services

Principle	1.2.3	Offset Greenhouse Gas emissions produced in Council Operations	
Detail		Action/s	Responsibility
Offset Greenhouse Gas emissions produced in Council operations.			
		Support suppliers and service providers who provide emissions offset.	Procurement
		Develop projects and initiatives to offset carbon emissions through Council's operations.	Asset Services Engineering Services Operation Services

Principle	1.2.4	Organisational Culture for Sustainability	
Detail		Action/s	Responsibility
Encourage an organisation culture that enables staff to minimise their environmental impact in the workplace and the environmental impact of the organisation in its operations.		Support Green at Work Team.	Asset Services Whole of Council
		Incorporate environmental sustainability in staff training opportunities and organisational development including the	People & Culture

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		staff recruitment process	
		Support sustainability through all levels of Council's administration and the Elected Members.	Executive and Elected Members
Principle	1.2.5	Minimise impact of Council's operations on natural resources and environments	
Detail		Action/s	Responsibility
Minimise the impact of Council's operations on natural resources and environments, low impact work in natural environments, tree and landscape selection consideration, minimising water, paper and energy use, and sustainably sourced products.		Develop and follow Standard Work Methods (SWM) to minimise or eliminate impact of maintenance and project activities on natural resources and the environment.	Operation Services Procurement All Departments involved in procurement Planning
		Minimise water and energy use and production of waste in Council buildings, parks, reserves and community facilities.	Operation Service & Asset Services
Principle	1.2.6	Maintain Open Space for community and environment	
Detail		Action/s	Responsibility
The City of Burnside's Open Space Policy & Strategy, Community Land Management Plans, draft Public Domain Streetscape Strategy and Goal 2 of this Strategy address the management of open space for community and environment.		Continue to incorporate protection and enhancement of natural environments in relevant Council strategic document to protect the Environmental Values of these areas.	Strategy Asset Services
Strategic Objective	1.3	Manage Waste Sustainably	
Principle	1.3.1	Apply waste management hierarchy Avoid, Reduce, Reuse, Recycle	
Detail		Action/s	Responsibility
Apply the waste management hierarchy Avoid – Reduce – Reuse – Recycle in the disposal of waste produced in Council.		Apply waste management hierarchy to disposal of street sweepings and dredged silts and illegal dumping etc.	Operation Services Asset Services
		Apply waste management hierarchy to disposal of waste produced in Council events & community workshops.	Community Services & Library
		Apply waste management hierarchy to disposal of residential waste collected by Council	Asset Services
		Provide systems to enable reuse and recycling in Council buildings and facilities.	Asset Services Community Services

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Principle	1.3.2	Increase Diversion of Residential Waste from Landfill	
Detail		Action/s	Responsibility
Increase diversion of residential waste form landfill through the provision of waste management services.		Provide collection for residential properties, for waste to landfill, mixed recycling and green waste.	Asset Services
		Provide a collection service for hard waste.	Asset Services
Principle	1.3.3	Advocate for electronic (e-waste) and hazardous waste disposal services	
Detail		Action/s	Responsibility
Advocate for and support the ongoing provision of disposal solutions for e-waste and hazardous waste for residents.		Work with Zero Waste SA and other organisations with responsibility to provide these services to meet our resident's needs.	Asset Services
Principle	1.3.4	Encourage industry innovation in Waste Minimisation	
Detail		Action/s	Responsibility
Encourage industry innovation in Waste Minimisation.		Through Council's contracting and procurement processes seek ongoing innovation from industry to minimise waste going to landfill.	Procurement & Contracts Asset Services
Strategic Objective	**1.4**	**Promote sustainability in the community**	
Principle	1.4.1	Community Engagement for Sustainable Living and Resilience	
Detail		Action/s	Responsibility
Provision of information to build knowledge and capacity in the community for sustainable living and resilience.		Develop program of Environmental topics link to life-long learning and Library guest speaker program.	Library Asset Services
		Support opportunity for volunteers to develop skills and assist community with adopting sustainable living practices	Community Services Asset Services
Principle	1.4.2	Support community garden initiatives	
Detail		Action/s	Responsibility
Council's Community Gardens Policy outlines Council's support for community driven community garden initiatives.		As opportunities arise work with community groups to develop community gardens in appropriate locations on community land.	Asset Services Community Services
Principle	1.4.3	Encourage sustainable practice in community groups, local clubs and businesses	
Detail		Action/s	Responsibility

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By community groups and local clubs adopting sustainable practices, the benefits can reach more broadly into their surround communities. Local business with our City adopting sustainable practices.	Investigate program to encourage community groups leasing Council buildings and facilities to adopt measures to reduce energy and water use.	Asset Services

Principle	1.4.4	Promote the benefits of healthy air, water and soil

Detail	Action/s	Responsibility
Increase community awareness of the benefits provided from healthy air, water and soil	Identify target groups to inform development of targeted materials	Asset Services Rangers Services
	Develop community information for residents, local business	Asset Services

Strategic Objective	1.5	Prevent pollution of air, water and soil

Principle	1.5.1	Prevent the pollution of air, water and soil in Council operations

Detail	Action/s	Responsibility
Prevent the pollution of air, water and soil in Council operations through the development and improvement to systems and protocols to manage potential risks	Review and update systems and protocol as required	Operation Services
	Ensure all contractors and service providers engaged to undertake works in the City have suitable systems in place	Engineering Services, Asset Services and Operation Services

Principle	1.5.2	Council's authorised officers to undertake the administration and enforcement for the prevention of pollution to air, water and soil

Detail	Action/s	Responsibility
Council's authorised officers to undertake the administration and enforcement of the *Environment Protection Act 1994* to the extent of the delegation provided to them for the prevention of pollution of air, water and soil.	Respond to instances that arise	Ranger Services

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7.6. Goal 2: Connected and Resilient Biodiverse Landscapes

7.6.1. Overview

The City of Burnside's Biodiversity Strategy 2008 "*Nature in an Urbanised Landscape*" and the *Biodiversity Action Plan 1997*, have set the foundation for the conservation of biodiversity in the City of Burnside. These plans support the South Australian Strategic Plan Target 69, to "lose no native species as a result of human impacts.

The protection of biodiversity is not purely about protecting the myriads of life-forms that share the world with humans; it is also about 'ecosystem services' that are of direct benefits to humans. When a naturally occurring species is lost from an area this is a "local extinction" and it is a step towards global extinction. It is the City of Burnside and the people living here who have the responsibility for ensuring the conservation of the biodiversity in the municipality.

7.6.2. Our Ideal Future

If this Strategy is successful, then...

> Remnant vegetation is protected from further degradation, through management of weed threats and buffering with suitable local native species assisted by regeneration and restoration. The area of functional natural ecosystems within Burnside's open space areas has increased and the quality of these areas improved from degraded to resilient. Strategic corridors of terrestrial and riparian habitats have been created to decrease isolation of species populations and which has helped to reduce the risk of localised extinctions. Wildlife corridors and habitats are protected and maintained with particular focus on mammals, marsupials, birds, reptiles and insects for the benefit of the environment and community of Burnside.
>
> Through landscape scale restoration and planning Council has a linked reserve system across the Hills Face Zone incorporating all local ecosystem types and provide a walking and bicycle trail network that is well planned and maintained to enhance natural values and not compete with them. Corridors of native vegetation follow creek lines through the residential areas of the City, all well vegetated with local native species for habitat, water quality and stream stability. Selected urban parks have areas of restored native forests and woodland.
>
> Bushfire fuel hazard risk has reduced across the Hills Face Zone within the asset protection and buffer zones, through the removal of weeds and establishment of managed open woodland with native grassland buffers. Pockets of dense habitat have been created and maintained within the buffer zones to balance habitat provision and bushfire hazard risk management.

7.6.3. Strategic Objectives

Goal 2 - Connected and Resilient Biodiverse Landscapes

- Protect and enhance remnant vegetation
- Protect and enhance fauna habitat

- Connect habitats and restore degraded areas
- Improve urban biodiversity
- Use local native plants
- Manage weed threats
- Build our knowledge
- Integrate fire risk management
- Engage community and develop partnerships

7.6.3.1. Protect and Enhance Remnant Vegetation

While most of the native vegetation in the City of Burnside is very degraded and fragmented, Burnside's Conservation Land Management Program has demonstrated vegetation can be restored through careful weed removal and the fostering of natural regeneration and selective planting.

This land conservation work contributes to achieving…

- Be the Future of Burnside 2012-25

  1.1 Conservation and enhancement of the historic character of the City

  1.1.1 Support the protection of the City's built and natural heritage, including trees of significance

  2.1 Natural environments and watercourses protected and conserved in both the Hills Face and the Plains

  2.1.2 Restore and improve local native vegetation and habitat ensuring biodiversity is protected

7.6.3.2. Protect and enhance fauna habitat

Pre-European vegetation communities are now completely cleared or much degraded within the City of Burnside but there are several remnant pockets of native vegetation, while modified, are still scattered throughout the district.

Retaining remnant native trees, especially old growth Eucalyptus species, within the City is vital for hollow dependent fauna. Exotic trees (Aleppo Pine, Plane Trees, Jacarandas, and other introduced trees) do not provide the same habitat functions as Eucalyptus due to the absence of tree hollows, shedding bark, flowers and leaf eating insects.

The City of Burnside is known for its large green leafy gardens, these gardens have provided habitat for a range of native species. As properties are subdivided and sold these areas are expected to reduce.

7.6.3.3. Connect Habitats and Restore Degraded Areas

Pre-European vegetation communities are now completely cleared or quite degraded within the City of Burnside; however several remnant pockets of native vegetation, while modified, are still scattered throughout the council area.

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Fragmented and degraded remnant populations of flora and fauna are vulnerable to local extinction with isolated populations and degrading influences from surrounding landscapes contributing to this vulnerability. Connecting local habitats and restoring degraded areas will contribute to creating a resilient landscape. Council should continue to consider strategic land acquisition for the creation of linkages and buffers to secure high conservation areas.

This work contributes to achieving…

- Be the Future of Burnside 2012-25

  2.1 Natural environments and watercourses protected and conserved in both the Hills Face and the Plains

  2.1.2 Restore and improve local native vegetation and habitat ensuring biodiversity is protected

  2.1.3 Consider strategic acquisition of land for "Urban Forest" purposes

7.6.3.4. Improve Urban Biodiversity

The Council has demonstrated that local natural environments can have a place in an urban setting with resulting benefits for water use efficiency, water quality, education and aesthetics.

Points of innovation have been:

- practices for the elimination of weeds from urban sites;
- development of ecological function in urban sites;
- management of aesthetics in an urban setting;
- use of urban sites for ex-situ conservation of rare local species; and
- establishment of weed-free native riparian vegetation.

7.6.3.5. Use Local Native Plants

Local, or 'Burnside', flora species are those indigenous plants which occur naturally in Burnside. When these are propagated, only seed or genetic material sourced from Burnside should be used unless the remnant population is small and an additional source of plants are needed to maintain genetic diversity. Species which probably once occurred in the City and have a use in our natural areas are propagated from sources geographically close to Burnside.

7.6.3.6. Manage Weed Threats

The management of weed threats is a cornerstone to conservation land management to achieve landscape resilience, regeneration and restoration of indigenous vegetation and reducing bushfire hazard risk in the Hills Face Zone.

There are three main categories of weeds.

1. Weeds on National Significance (WONS) – These weeds are identified in the National Weed Management Strategy and as a landholder Council is required to eradicate

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these species as the highest priority and as a regulatory authority Council is responsible to issuing notification and infringement notices to landholders to address infestations on their land.

2. Declared Pest Plants as defined in the *Natural Resources Management Act 2004*. The Act details a range of controls and responsibilities placed on the landholder depending on the plant species. The Act also details the specific controls for animals and plants declared under the Act relating to the movement of animals or plants, notification of the presence of animals or plants, the requirement of control certain animals or plants and the owner to take action to destroy or control animals or plants, the requirement to implement action plan; and how this varies in relation to native animals chapter (8), division (1), sections (175), (180), (181), (182), (183), and (184).

3. Environmental weeds are weeds that pose a risk to the environment and natural systems either locally, state wide or nationally but have not been identified in state or federal legislation.

7.6.3.7. Build Our Knowledge

The acquisition of expert applied knowledge in Council's staff, will facilitate improved efficiency in planning, resulting in the demonstration of positive changes in the landscape over time. Council's aim is for a connected and biodiverse landscape resilient to degrading influences and one which can support healthy dynamic ecosystems. To understand how our activities are improving or degrading the landscape we need to build our knowledge and create the systems and processes to manage this information.

7.6.3.8. Integrate Bushfire Risk Management

The long term sustainability of the landscape is strongly linked to the health of the ecosystems that it contains. For instance, in the Hills Face Zone reserves to be healthy requires a well maintained and indigenous flora which will in turn have a lower flammability than a weed-infested area. The philosophy for developing managed native flora in the Hills Face Zone with fuel reduction boundary buffers was adopted following the development of the Hills Face Zone Reserves Management Plans. Subsequently, Council has produced an updated plan for the Southern Hills Face Zone Reserves and is developing plans for the Northern and Central Hills Face Zone Reserves currently.

This work contributes to achieving…

- SA Strategic Plan Target 20 Bushfire preparedness, increase the number of households in high bushfire prone areas that are prepared for bushfires by 30% by 2020;

- Be the Future of Burnside

  2.1 Natural environments and watercourses protected and conserved in both the Hills Face and the Plains.

  2.1.1 Undertake responsible bushfire management strategies to protect and enhance the natural environment and property.

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7.6.3.9. Engage Community and Develop Partnerships

People often need to experience and connect with natural areas to fully value and appreciate them. Disconnection from nature or the perspective that nature exists separate to our urban world creates a misunderstanding. We exist within the environment and are in integral part of it and are dependent on it for our health and wellbeing too.

Local, state and federal government agencies as well as specific non-government organisations all have an interest in conserving the environment. Our strategic objectives align with similar targets and objectives of other organisations. This alignment then provides opportunities to partner, share knowledge and source funding.

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Goal 2: Connected and Resilient Biodiverse Landscapes

Strategic Objective	2.1	Protect and Enhance Remnant Vegetation	
Principle	2.1.1	Identify remnant species and areas and prioritize actions to protect and enhance	
Detail		Action/s	Responsibility
Identifying populations and individual remnant species within the City and prioritising actions to protect and enhance them.		Establish understanding of presences, population density, threats and degrading influences to guide prioritisation and the development of vegetation management plans.	Operation Services
		Install Native Vegetation Markers on all sites and put corresponding information on Council's website.	Operation Services
Principle	2.1.2	Manage weed threats	
Detail		Action/s	Responsibility
Manage weed threats to protect and encourage natural regeneration of remnant species.		Apply minimum disturbance bush care techniques as appropriate.	Operation Services
Principle	2.1.3	Buffer remnant areas from degrading influences	
Detail		Action/s	Responsibility
Apply landscape restoration principles to strategic areas around remnant vegetation, to buffer areas from the vegetation from degrading influences.		Conduct site planning to identify key threats and vulnerabilities to identify the area of buffer required.	Operation Services
		Apply landscape restoration methods best suited for the location and degrading influences.	Operation Services
Principle	2.1.4	Protecting Local Native Trees	
Detail		Action/s	Responsibility
Local native tree species are significant remnant vegetation for the City. The Urban Tree Management Strategy covers the protection of these tree's.		Buffer and protect local native tree's (2.1.2 & 3) where opportunity allows, improving the health of the tree.	Operation Services
Strategic Objective	2.1	Protect and enhance fauna habitat	
Principle	2.2.1	Increase area of local native vegetation that provides diverse fauna habitat in parks, reserves and roadsides	
Detail		Action/s	Responsibility
Increase areas of habitat consisting of a diversity of local native plant species and		Identify appropriate and strategic locations	Operation Services

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varied structure in parks, reserves and roadsides for the creation of a complex mosaic of habitat to support a wide range of species		Asset Services

Principle	2.2.2	Plan for staged removal of exotic species and establishment of substitute habitat with local native species

Detail	Action/s	Responsibility
Re-establish habitat where the removal of exotic species providing habitat has occurred, consider removal of exotic species in stages where feasible to reduce impact on wildlife	Include methods to minimise impact from habitat loss in planning of removal programs for exotic species	Operation Services Asset Services

Principle	2.2.3	Protect and retain remanent Eucalyptus species that provide fauna habitat

Detail	Action/s	Responsibility
Protect and retain remanent Eucalyptus species that provide habitat for wildlife for example hollows and shedding bark.	Management of remnant Eucalyptus species in accordance with the treatment of indigenous trees in the Tree Asset Management section of the Urban Tree Management Strategy.	Operation Services

Principle	2.2.4	Install nesting boxes for fauna to create additional habitat for native fauna

Detail	Action/s	Responsibility
Use nesting boxes to create additional habitat for native fauna within reserves where there is limited available habitat	Install nest boxes for a diversity in suitable location as required	Operation Services

Principle	2.2.5	Promote community awareness for the protection and management of native fauna in urban and peri-urban areas

Detail	Action/s	Responsibility
Increase public awareness of managing and protecting wildlife in urban areas including creating wildlife friendly yards, strategies to prevent harm to native wildlife from domestic pets and feral animals and appropriate management of problem wildlife	Provide information of the creation of wildlife friendly gardens	Asset Services Operation Services
	Implement strategies to prevent harm to native wildlife from domestic and feral animals	Community Engagement, Ranger Services
	Increase awareness on how to appropriately manage problem wildlife	Community Engagement

Strategic Objective	2.3	Connect Habitats and Restore Degraded Areas

Principle	2.3.1	Establish corridors of local native species to connect habitats

Detail	Action/s	Responsibility

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Establish biodiversity corridors.	Identify areas of land that could be used to create corridors and link habitats.	Operation Services Asset Services
	Apply landscape restoration methods to areas.	Operation Services

Principle	2.3.2	Apply landscape restoration methods to degraded areas

Detail	Action/s	Responsibility
Apply landscape restoration methods, managing weed threats, degrading influences, encouraging natural regeneration and supplementary planting of local species.	Protect and restore the landscape from erosion.	Operation Services Engineering Services
	Manage land to allow natural groundwater recharge.	Operation Services Engineering Services
	Establish and manage local native species to create diverse vegetation structure and habitat types.	Operation Services

Principle	2.3.3	Strategic land acquisition to enhance and protect Environmental Values and biodiversity

Detail	Action/s	Responsibility
Strategic land acquisition to enhance and protect Environmental Values and biodiversity.	Where appropriate consider strategic land acquisition to create corridors, improve site access for maintenance and protect and buffer remnant vegetation and valuable habitats.	Asset Services Operation Services Finance

Strategic Objective	2.4	Improve Urban Biodiversity

Principle	2.4.1	Continue to enhance Urban Biodiversity Sites

Detail	Action/s	Responsibility
Continuing to enhance Urban Biodiversity sites through landscape restoration methods.	Apply landscape restoration methods, for the elimination of weeds in terrestrial and riparian environments, development of ecological function, site aesthetics and conservation of rare species.	Operation Services

Principle	2.4.2	Increase community awareness of site value

Detail	Action/s	Responsibility
Increase community awareness of natural environments and the value of urban biodiversity sites.	Promote key biodiversity messages through signage and website information.	Operation Services Asset Services Communications
	Install Native Vegetation Markers on all sites and put corresponding information on Council's website.	Operation Services

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Principle	2.4.3	Utilise urban sites as educational tool	
Detail		**Action/s**	**Responsibility**
Utilise urban biodiversity sites as an educational tool for Council staff and local community to promote better understanding of our valuable and vulnerable local environment.		Provide opportunities for staff across Council to learn about our local natural assets and their conservation.	Asset Services Organisational Development
		Provide opportunities for residents to learn about local species through site tours.	Operation Services
Strategic Objective	**2.5**	**Use Local Native Plants**	
Principle	2.5.1	Produce Local Native Plants in Council Nursery	
Detail		**Action/s**	**Responsibility**
Produce local native plants in the Council nursery to supply restoration projects and to assist with the conservation of rare species in the City.		Collection seed and genetic material to propagate a variety of species for the conservation of local flora.	Operation Services
		Propagate a diversity of species with highest priority on conservation of species in low population levels at risk of local extinction.	Operation Services
		Manage stock quantity to meet site requirements and advance orders to meet other Council planting requirements.	Operation Services
Principle	2.5.2	Utilise in low water use landscaping	
Detail		**Action/s**	**Responsibility**
Identify areas suitable to utilise local native species in landscaping to reduce water use in reserves and streetscapes.		Include local native species selection in reserve planning where appropriate.	Asset Services Engineering Services
		Utilise in landscaping to improve tree health for local native species.	Asset Services Engineering Services
		Plan for maintenance resources for landscaping with local native species.	Asset Services Engineering Services Operation Services
Principle	2.5.3	Utilise in Water Sensitive Urban Design (WSUD)	
Detail		**Action/s**	**Responsibility**
Utilise local native species for soil stability, water detention and water quality improvements in Water Sensitive Urban Design features.		Provide information of suitable species specific to project requirements and supply plants to order as required.	Operation Services
		Specify local native species sourced from the Council nursery where vegetation is required in Water Sensitive Urban Design	Engineering Services Asset Services

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	specifications.	
	Plan for maintenance resourcing of landscaping with local native species.	Asset Services Engineering Services Operation Services

Principle	2.5.4	Utilise in phyto-engineering for watercourse and terrestrial stabilisation, protection and restoration

Detail	Action/s	Responsibility
Use local native plants in phytoengineering solutions for the prevention and restoration of landslip and erosion in the landscape or watercourses.	Provide information of suitable species specific to project requirements and supply plants to order as required.	Operation Services
	Specify local native species sourced from the Council nursery where vegetation is required.	Asset Services Engineering Services

Principle	2.5.4	Encourage resident to use local native plants in landscaping and property restoration

Detail	Action/s	Responsibility
Encourage local urban residents and larger landholders to use local native plant in landscaping and property restoration by providing planting and land management advice and access to suitable resources.	Provide information, resources and advice to local residents and landholders for the use of local native plants and land management including weed control	Operation Services Community Engagement
	Provide access to local native plants through the council nursery	Operation Services

Strategic Objective	2.6	Manage Weed Threats

Principle	2.6.1	Eradicate Weeds of National Significance (WONS) & Declared Pest Plants

Detail	Action/s	Responsibility
Eradicate Weeds of National Significance (WONS) & Declared Pest Plants	Eradicate WONS and Declared Pest Plants on Council managed land and monitor areas of known infestations.	Operation Services
	Notify landholders of their responsibilities to manage WONS & Declared Pest Plants where populations occur on their properties.	Ranger Services

Principle	2.6.2	Control Priority Environmental Weeds and Emerging Weed Threats

Detail	Action/s	Responsibility
Identify and control Environmental Weeds and Emerging weed threats based on conservation and management	Monitor and map weed populations to identify current and emerging weed threats.	Operation Services

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priorities.	Follow the weed management method best suited to the site conditions as detailed in site or area management plans.	Operation Services

Principle	2.6.3	Implement weed management for assisted regeneration and restoration

Detail	Action/s	Responsibility
Identify and prioritise weed management for assisted regeneration and restoration of degraded areas.	Follow SWM (where available) for weed management best suited to the site conditions as detailed in site or area management plans.	Operation Services

Principle	2.6.4	Implement weed management for landscape maintenance and fire fuel hazard reduction

Detail	Action/s	Responsibility
Reduce fire fuel hazard through the prioritisation and removal of weed species (in particular woody weed species) in asset protection and buffer zones based on fuel hazard.	Use fire hazard management mapping to identify Asset protection and buffer zones and develop vegetation management plans.	Ranger Services Operation Services
	Use vegetation management plans and fire hazard maps to identify priorities for staged removal of weeds which pose a high fire risk on Council land.	Ranger Services Operation Services

Strategic Objective	2.7	Build Our Knowledge

Principle	2.7.1	Landscape Mapping, Survey and Monitoring to observe change overtime

Detail	Action/s	Responsibility
Landscape Mapping, Survey and Monitoring to observe change overtime across the city from conservation land management and fuel hazard reduction.	Landscape mapping of fire fuel hazard, fire hazard management zones, priority weed species, remnant vegetation and restoration areas.	Operation Services Ranger Services Information Technology

Principle	2.7.2	Develop Management Action Plans

Detail	Action/s	Responsibility
Develop and update vegetation management plans.	Develop and update vegetation management plans as required for the management of remnant and restored sites.	Operation Services

Principle	2.7.3	Collect and Maintain a Species Database for the City of Burnside

Detail	Action/s	Responsibility
Collect and maintain a data base of species records and locations to be used to capture historical remnant vegetation, invasive species and the reintroduction of	Compile flora survey data, herbarium records and planting records.	Operation Services

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local native species.		
Principle	2.7.4	Conduct regular staff skills development

Detail	Action/s	Responsibility
Conduct regular staff skills development to promote the innovation of the Conservation Land Management Program and continue the development of innovative methodologies.	Provide staff awareness and skill building sessions for staff from across Council.	Operation Services
	Engage with industry specialists to build staff, volunteer and contractor skills relevant to current land management practice.	Operation Services Organisational Development

Strategic Objective	2.8	Integrate Fire Risk Management
Principle	2.8.1	Fire fuel hazard reduction for a sustainable landscape in asset protection and buffer zones

Detail	Action/s	Responsibility
Managing fuel hazard reduction for a sustainable landscape of local native flora.	Determine what would be a long term sustainable landscape consisting of local native flora to create fauna habitat and soil stability and other ecosystem services within the asset protection or buffer zones fire fuel level and methodology.	Operation Services Ranger Services Risk Management
	Conduct primary works and ongoing maintenance activities to meet the desired landscape goal.	Operation Services

Principle	2.8.2	Maintain habitat and manage fire risk

Detail	Action/s	Responsibility
Manage the landscape in fire prone areas to maintaining habitat but manage risk.	Plan discontinuous pockets of habitat that would allow fauna species to nest, roost, burrow and source food but not compromise fire risk levels.	Operation Services

Principle	2.8.3	Strategic land acquisition to increase access for maintenance and emergency services

Detail	Action/s	Responsibility
Strategic land acquisition to increase access for landscape maintenance activities and emergency services.	Identify high risk areas with no or limited access and areas that increase access to reduce risk to life and property.	Operation Services Strategic
	Acquire land and undertake necessary improvement for suitable access.	Asset Services

Principle	2.8.4	Use fire as a landscape management tool

Detail	Action/s	Responsibility

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Use fire as a landscape management tool.	Research and develop suitable methodology to use fire as a landscape management tool for ecological restoration and fuel reduction where appropriate.	Operation Services

Strategic Objective	2.9	Engage Community and Develop Partnerships

Principle	2.9.1	Partnership, funding and networking opportunities to enhance project outcomes

Detail	Action/s	Responsibility
Partnership and funding opportunities with ERA Council's, DWENR, AMLRNRM Board and other agencies are available to enhance and expand biodiversity projects.	Support Council co-contribution to project funding proposals in order to leverage funding. Funding often requires a co-contribution of between 20 – 50% from Council.	Executive Finance
	Develop partnership and investigate funding opportunities that align with Council project objectives as they become available.	Operation Services Asset Services
	Participate in relevant industry networks such as the Local Government Biodiversity Officers Network.	Operation Services

Principle	2.9.2	Support Volunteering and Community engaging with Nature

Detail	Action/s	Responsibility
Support Council volunteers working on biodiversity, conservation land management and community involvement in conservation.	Support Burnside Biodiversity Volunteers at Waterfall Gully and various biodiversity sites.	Operation Services Community Services, Volunteer Support
	Support Burnside Council volunteers working to achieve Biodiversity objectives.	Operation Services Community Services, Volunteer Support
	Support Bush for Life Volunteers and volunteers from other formal conservation volunteering programs (e.g. NRM or CVA).	Operation Services Community Services, Volunteer Support
	Support walking and management trails volunteers.	Operation Services Community Services, Volunteer Support

Principle	2.9.3	Promote community awareness for conservation of native flora and fauna and their habitat

Detail	Action/s	Responsibility
Promote community awareness as detailed in 2.2.5, 2.3.2 and	Utilise available information and develop locally specific information to promote community awareness	Community Engagement, Operation Services and Asset Services

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7.7. Goal 3: Protected and Valued Water Resources

7.7.1. Overview

Water is a precious resource that is essential for life. Balancing the supply of fresh water and the demand for its use is an ongoing challenge for South Australia and therefore the City of Burnside. Water is a scarce resource. It is used in our homes, on the garden, keeping our parks are reserves green including supporting a range of active recreational pursuits, supply food production and other industry and businesses within the City. Water is also the life blood of our natural environment; our big valuable trees need the surface and ground water supplies to continue to exist. The City's creeks and the quality of water they contain support diverse habitats and our natural flora and fauna each have a reliance and relationship with water present in the ecosystem.

To protect water resources for use now and in the future the City of Burnside can use Water Sensitive Urban Design (WSUD) principles, develop alternative water supplies and minimise the use of water in its operations. Aquifer storage and recovery opportunities have been identified within stormwater management plans and then developed as part of the Waterproofing the East project.

7.7.2. Our Ideal Future

If this Strategy is successful, then...

> The City of Burnside's creeks, waterways and water bodies, support diverse and health ecosystems of indigenous flora and fauna protect by the diverse structure of the vegetation and where required engineered structure. For the most part the watercourse is stable and erosion is minimised or prevented and are no longer used as stormwater drains.
>
> The management of surface water in the Council uses a range of WSUD features to treat contamination at source, improve water quality, detain flows in high rainfall events to maximise natural ground water recharge. This is part of an integrated approach to the management of excess surface water across public and private land ownership. This approach also involves capture in rainwater tanks for use in homes and buildings. The use of WSUD features in new developments, increased stormwater drainage capacity to meet predicated increasing frequency and intensity of rainfall events.
>
> The Council has reduced its demand for water and reliance on main's water sourced from the Murray River and alternative water supplies are available to service the City. Parks and reserves support a range of passive and active recreational pursuits with grassed and landscaped gardens irrigated with water efficient systems.

7.7.3. Strategic Objectives

Goal 3 - Protected and Valued Water Resources

- Integrate Water Sensitive Urban Design (WSUD) features
- Minimise Council water use
- Maximise the reuse of rainwater, stormwater and wastewater
- Maintain and enhance the health of waterways

- Protect people and property from flooding
- Provide community leadership

7.7.3.1. Integrate Water Sensitive Urban Design (WSUD) features

Water Sensitive Urban Design (WSUD) is an approach which integrates the management of all water resources and the total water cycle into the urban development process.

WSUD includes:

- Utilising water saving measures within and outside domestic, commercial, industrial and institutional premises to minimise requirements for drinking and non-drinking water supplies;
- Storage, treatment and beneficial use of runoff (at building and street level, including stormwater);
- Treatment and reuse of wastewater; and
- Using vegetation for treatment purposes, water efficient landscaping and enhancing biodiversity and landscape amenity.

This work contributes to achieving…

- Be the Future of Burnside, 2012-25

> *2.1 Natural environments and watercourses protected and conserved in both the Hills Face and the Plains*
>
> *2.1.4 Harness the city's water resources to achieve reuse, flood protection, healthy watercourses and improved stormwater quality*
>
> *2.2 Sustainable use of natural resources, and minimisation of waste to address climate change*
>
> *2.2.1 Implement sustainable water use practices through water conservation, capture and reuse*

WSUD can facilitate the detention of water in the landscape to improve water quality, detain peak flows before entering the stormwater systems or waterways and allow natural aquifer recharge. Identifying opportunities to adopt WSUD principles across all relevant aspects of Council business is vital.

The application of WSUD principles aligns with and is implemented through all of the strategic objectives for Goal 3. In addition to this integration of Water Sensitive Urban Design features actions will involve:

- Application of WSUD to stormwater detention, capture and ground water recharge projects;
- Identifying opportunities to apply WSUD principles where suitable in landscaping projects, car parks developments, streetscapes, parks and reserves.

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7.7.3.2. Minimise Council Water Use

Minimising Council's water use, using WSUD and utilising water saving measures within and outside which assist. Domestic, commercial, industrial and institutional premises also need to minimise their requirements for drinking and non-drinking water supplies.

This work contributes to achieving…

- SA Strategic Plan: Target 75 – Sustainable Water Use

To build resilience in the City of Burnside to the potential impacts of climate change, can be assisted by reducing our consumption of water, which will in turn reduce Council's vulnerability to the increasing cost of water.

Minimising Council water use will involve:

- Improving the water efficiency in Council buildings and facilities through upgrade of appliances, plumbing fixtures, conducting regular maintenance to prevent water loss and usage analysis to inform behaviour change initiatives;
- Improve the water efficiency of irrigation systems ensuring the system is fit for purpose and operated at optimal efficiency; and
- Convert suitable areas of open space from high water use garden design to low water use garden design. Additional aspects to consider in the garden design is limit areas of impermeable surface and allow the design to facilitate natural ground water recharge of surface water.

7.7.3.3. Maximise the use of Rainwater, Stormwater and Reuse of Wastewater

Applying WSUD to the storage, treatment and beneficial use of water runoff (at building and street level, including stormwater) and treatment and reuse of wastewater will maximise water use benefits.

The City of Burnside in partnership with a number of Council's from the Eastern Region Alliance (ERA) have commenced an aquifer storage and recovery project, Water Proofing the East.

This work contributes to achieving…

- SA Strategic Plan: Target 73 – Recycled stormwater; and Target 74 – Recycled wastewater

Maximising the use of rainwater, stormwater and reuse of waste water will involve:

- increase capacity to harvest, store and utilise rainwater in Council buildings and facilities;
- implement processes to detain, harvest, treat and utilise stormwater; and
- monitor industry innovation in water harvest and investigate opportunities to reuse wastewater.

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7.7.3.4. Maintain the Enhance the Health of Waterways

Currently, watercourses in the urban areas of the City are substantially altered environments. Limited original native vegetation remains to protect them and they're impacted by a suite of degrading forces. WSUD promotes the use of vegetation for treatment purposes, water efficient landscaping and enhancing biodiversity and amenity.

Watercourses traverse land used for a wide variety of purposes, forming linear tracks of land through Council's built up areas. They are formed from the natural drainage lines that flow in response to rainfall, runoff and groundwater discharge. The riparian zone comprises of aquatic and semi-aquatic flora and fauna. Healthy watercourses provide many ecosystem services and it is important that we protect these environmental values.

This work contributes to achieving…

- SA Strategic Plan, Target 69 – Lose no species

- Be the Future of Burnside, 2012-25

  2.1 Natural environments and watercourses protected and conserved in both the Hills Face and the Plains

  2.1.4 Harness the city's water resources to achieve reuse, flood protection, healthy watercourses and improved stormwater quality

Maintaining and the enhancement of the health of waterways will involve:

- Protecting and enhancing the natural values of creeks and waterways to prevent erosion and improve water quality;
- Management of watercourse vegetation to maximise opportunities for biodiversity protection and enhancement;
- Restoration and protection of the watercourse from erosion through a combination of revegetation with local native plants and engineering referred to as phyto-engineering: and
- Prevention of pollution.

7.7.3.5. Protect People and Property from Flooding

Potential increased intensity and frequency of flooding is anticipated as a result of climate change. This will place increased pressure on stormwater infrastructure, mapping vulnerability and identifying short, medium and longer term upgrades and projects to increase the system capacity as part of the Council's ongoing infrastructure upgrades to build the City's resilience.

Protecting people and property from flooding will involve:

- Removal of weed species, in particular woody weeds from within the watercourse as they provide a high risk of causing blockages resulting in flooding;
- Planting design along the watercourse to reduce flood risk utilising local native plant species; and

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- Regular routine maintenance of stormwater drainage infrastructure, upgrade stormwater infrastructure for increase capacity and installing WSUD features to detain water during peak flow events.

7.7.3.6. Provide Community Leadership

Promoting the maintenance and restoration of watercourses as open channels with fringing of indigenous vegetation, to the owners of property adjoining the watercourses is needed.

Council has successfully restored a number of sections of watercourse throughout the City that demonstrate the improved habitat, bank stability and water quality that can be achieved. The development and provision of the Urban Creeks brochures, interpretive signage on restored watercourses and access to local native plants and advice to property owners will assist to remove some of the barriers for them to maintain and restore a watercourse on their property.

Providing community leadership will involve:

- Promotion of the maintenance and restoration of watercourses to protect Environmental Values; and
- Promote methods to improve water efficiency around the home.

Goal 3: Protected and Valued Water Resources

Strategic Objective	3.1	Integrate Water Sensitive Urban Design (WSUD) features	
Principle	3.1.1	Apply WSUD to stormwater detention, capture and ground water recharge projects	
Detail		Action/s	Responsibility
Apply WSUD to stormwater detention, capture and groundwater recharge projects, all vegetation used in these projects should be local native plants.		Consider WSUD principles in design and construction of stormwater detention or retention features, including capture of stormwater for ground water (aquifer) recharge.	Engineering Services Operation Services
Principle	3.1.2	Identify opportunities to apply WSUD principles where suitable in landscaping projects, car parks, street scapes, parks and reserves	
Detail		Action/s	Responsibility
Identify opportunities to apply WSUD principles where suitable in landscaping projects, car parks, streetscapes, parks and reserves.		Prepare design guidelines for WSUD in landscaping, car parks, street scapes and reserves.	Strategy Asset Services Engineering Services
		Identify issue areas and opportunities where WSUD would provide benefit.	Engineering Services Operation Services Asset Services

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Strategic Objective	3.2	Minimise Council Water Use	
Principle	3.2.1	Improve water efficiency in Council Buildings and Facilities	
Detail		Action/s	Responsibility
Improve water efficiency in Council buildings and facilities through upgrade of appliances, plumbing fixture and conduct regular maintenance to prevent water loss and usage analysis to inform behaviour change initiatives.		Analyse water use to identify opportunities and priorities for improvements and behaviour change.	Asset Services
		Upgrade appliance and plumbing fittings priorities based on a best outcome and as required basis, with more water efficient appliances.	Asset Services
		Consult and develop target communications or modify systems to encourage water wise behaviour.	Asset Services Community Engagement
Principle	3.2.2	Improve water efficiency of irrigation systems	
Detail		Action/s	Responsibility
Improve the water efficiency of irrigation ensuring it is fit for purpose and operated at optimal efficiency.		Audit current irrigation use and analyse for opportunities to improve efficiency.	Asset Services Operation Services
		Engage industry to provide fit for purpose and innovation in water efficient irrigation systems.	Asset Services Operation Services
Principle	3.2.3	Convert suitable areas in open space areas to low water use gardens	
Detail		Action/s	Responsibility
Convert suitable areas in public open space to low water use garden design including the following key principles, soil improvement for increase water retention, climate appropriate plant selection, appropriate mulching, hydro-zoning and the use of local native plants.		Landscape areas of high water use that are due for upgrade or renewal for low water use or un irrigated garden areas.	Asset Services Operation Services
Strategic Objective	3.3	Maximise the use of rainwater, stormwater and reuse of wastewater	
Principle	3.3.1	Increase harvest, storage and utilisation of rainwater	
Detail		Action/s	Responsibility
Increase harvest, storage and utilisation of rain water		Include installation of rainwater tanks or larger subterranean storage tanks in new buildings and facilities where appropriate.	Asset Services
SA Strategic Plan Target 73		Conduct regular checks and maintain existing rainwater capture and use	Asset Services

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		systems.	
		Include rainwater tanks in building and facility upgrade projects.	Asset Services
Principle	3.3.2	Implement processes to detain, harvest, treat and utilise stormwater	
Detail		Action/s	Responsibility
Implement processes to detain, harvest, treat and utilise stormwater. Stormwater detention and harvest of peak flows can be used to reduce flooding. The Waterproofing the East, ASR project has investigated the stormwater harvest capacity across the city and currently testing the viability of potential sites identified. SA Strategic Plan Target 73		Participate in regional partnerships for catchment level stormwater management solutions.	Engineering Services
		Use WSUD detention basins and other features to treat and manage stormwater.	Engineering Services Asset Services
Principle	3.3.3	Monitor innovation and investigate opportunities to reuse wastewater	
Detail		Action/s	Responsibility
Ongoing monitoring of industry innovation in the harvest of alternative water sources for use including investigation of opportunities to reuse wastewater. SA Strategic Plan Target 74		Monitor current industry trends, participate in relevant industry networks.	Engineering Services Asset Services Planning
		Participate in professional development opportunities and share knowledge with relevant staff.	Engineering Services Asset Services Planning
Strategic Objective	3.4	Maintain and enhance the health of waterways	
Principle	3.4.1	Protect and improve water quality of watercourses	
Detail		Action/s	Responsibility
Protect and enhance the natural values of creeks and waterways, to prevent erosion and to improve water quality.		Determine routine maintenance activities that require Council to obtain a Water Affecting Activities (WAA) permit (NRM Act 2004).	
		Develop Best Practice Operation Procedure (BPOP) for routine maintenance activities as required by the *NRM Act 2004* defined as WAA and have it approved by the AMLRNRM Board for exemption from requiring a WAA permit.	Operation Services Engineering Services Asset Services
		Follow SWM/WAA-BPOP to guide Management of watercourse vegetation and restoration of watercourse erosion.	Operation services
Principle	3.4.2	Management of Watercourse Vegetation	

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Detail	Action/s	Responsibility
Management of watercourse vegetation to maximise opportunities for biodiversity protection and enhancement.	Follow SWM/WAA-BPOP for removal weed species.	Operation Services
	Follow SWM/WAA-BPOP for the establishment of local native riparian vegetation.	Operation Services

Principle	3.4.3	Restore and protect watercourses from erosion

Detail	Action/s	Responsibility
Restore and protect watercourses form erosion though a combination of revegetation with local native species and engineering referred to as phytoengineering.	Stabilise watercourse banks, and streambed with phytoengineering	Engineering Services Operation Services

Strategic Objective	3.5	Protect People and Property from Flooding

Principle	3.5.1	Removal of weed species that create a flood risk

Detail	Action/s	Responsibility
Removal of weed species in particular woody weeds from within the watercourse as they provide a high risk of causing blockages resulting in flooding.	Assess watercourses for weed infestation and flood risk to priorities work.	Engineering Services Operation Services
	Use SWM/WAA - BPOP where appropriate to guide the removal of weed species in the watercourse.	Operation Services

Principle	3.5.2	Planting design using local indigenous species to minimise flood risk

Detail	Action/s	Responsibility
Planting design principle utilising local native species the watercourse is to use plant species that will protect the watercourse banks and will lie down in high flow posing a lower flood risk.	Follow SWM/WAA BPOP for watercourse revegetation to guide planting design for flood risk minimisation.	Operation Services Asset Services Engineering Services

Principle	3.5.3	Maintain and upgrade stormwater infrastructure

Detail	Action/s	Responsibility
Regular routine maintenance of stormwater drainage infrastructure, upgrade of stormwater infrastructure for increased capacity and installing WSUD features to detain water during peak flow events.	Routine maintenance of stormwater infrastructure.	Operation Services
	Assess stormwater infrastructure capacity and potential future capacity requirements to identify vulnerabilities.	Engineering Services
	Increase stormwater infrastructure capacity and install WSUD features as required to address system vulnerabilities.	Engineering Services

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Strategic Objective	3.6	Provide Community Leadership
Principle	3.6.1	Promote maintenance and restoration of watercourses to protect Environmental Values

Detail	Action/s	Responsibility
Promotion of the maintenance and restoration of watercourses to protect the environmental values.	Use and develop communications materials on watercourse restoration, using Council's leading restoration examples.	Engineering Services Communications & Engagement
	Provide advice on watercourse restoration and support available for major works require and legal requirements.	Engineering Services Operation Services
	Provide local native plants from Council's nursery.	Operation Services

Principle	3.6.2	Promote methods to improve water efficiency around the home

Detail	Action/s	Responsibility
Promoting methods to improve water efficiency around the home is covered in strategic objective 1.4.1.	Include in communications plan for sustainable living in strategic objective	Communications & Engagement Asset Services

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8. Implementation

Implementation of the Environment and Biodiversity Strategy will involve the incorporation, prioritisation and execution of the individual actions resulting from Strategic Objectives of this Strategy. The action plans will be considered for funding through the Council's Annual Budget Business Case process or through annual operational work programs. This will assist in enabling the correct current actions to continue and new service actions to be implemented in line with overall Council priorities. This process will also provide the opportunity for projects in need of new capital expenditure to be considered for inclusion into the annual budget.

Another key factor in the implementation of this Strategy will be working with identified partners to achieve outcomes for our community. Strategic partnerships with key government agencies, community organisations, volunteers and other councils will maximise resource expenditure within the community and prevent duplication.

8.1. The Action Plans

Each Action in an action plan developed from this Strategy will be allocated the following attributes to assist with the Strategy's delivery:

Action Plan Table Headings

- Action name
- Action statement
- Action purpose/outcome
- Strategic Direction
- Key Sites
- Timing Priority
- Funding Source
- Approximate Cost
- Responsibility
- Role

Role Statement

- Advocate
- Agent
- Direct Provider
- Facilitator or Initiator
- Information Provider
- Leadership
- Owner or Custodian
- Part Funder
- Partner
- Regulator

Sites

As per the Community Land Management Plans, Open Space Strategy and Asset Management Plans.

Funding Source

- Internal Recurrent Funding
- Internal Capital Funding
- External Grant Funding

Timing Priority

The timeframe is as follows:

- Current and continue
- New and start in the Short Term – less than 3 years
- New and start in the Mid Term – 3 to 6 years
- New and start in the Long Term – 7 to 10 years

8.2. Funding Options

Funding is a major issue for all councils when attempting to improve environment and

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biodiversity service provision. The goal of Council should be to ensure that limited resources are allocated efficiently and equitably in relation to the delivery of environment and biodiversity related services and care of environmental assets. Some of the new initiatives suggested in this Strategy are currently unfunded.

Councils have several options for increasing funding, especially capital funding. Examples of these options of are:

- increase Council rates to provide a greater revenue source;
- cease the delivery of a particular service being delivered and redirect resources to other areas or services of Council;
- reduce the level of service of a particular service(s) and redirect resources to other areas or services of Council;
- sale of open space or a building asset to cover the cost of improvements to and/or purchase of another asset (capital improvements only, will not cover additional ongoing costs of a new or enhanced service);
- seek and obtain project funding grants for capital investment (grants will not cover ongoing costs associated with new or improved services generally and often require matching funding);
- obtain corporate funding through advertising associated with Council facilities;
- pool resources with neighbouring Councils to save or share the cost of a new regional facility or service;
- lease out to commercial business at a rate greater than the cost of maintenance and depreciation;
- increase fees and charges on other services; and/or
- user pays for an increase in service level provided by new or upgraded facilities.

Increasing rate revenue is typically politically unpopular and redirecting resources from other parts of Council is an issue that requires substantial Elected Member and community consideration and agreement. Grant income is limited, sporadic and generally usually only pays for capital improvements.

The most critical issue for Council is funding ongoing recurrent costs each year, especially when a major project occurs. Therefore there is a critical need to balance our desires for best practice stewardship of our environmental and biodiversity assets and service delivery excellence of environment related services with sustainable fundable service levels that the current and future community can afford. With many environmental and biodiversity assets, service delivery and objectives, there is only one chance to get it right and so it is imperative that this Strategy is implemented to the best of Council and its community's ability, in a timely manner.

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10. Appendices

Appendix 1: Alignment of the Environment and Biodiversity Strategy with South Australia's Strategic Plan and the City of Burnside's Community Plan 2012-25

Appendix 2: Biodiversity Sites in the City of Burnside

Appendix 3: Flora | Native Flora, Introduced Flora

Appendix 4: Fauna | Birds, Amphibia, Mammalia, Reptilia, Insecta, Indigenous Fauna List

Appendix 5: Climate Change Adaption in the City of Burnside Risk Management Climate Change Adaption Plan, November 2009 (provided on request)

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