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C221**ENVIRONMENT****21.08-1**26/04/2018
C221**Natural resource management****Overview**

Greater Bendigo has many land and water features that must be conserved and enhanced for the benefit of future generations. There is a diverse range of land types, from the granite hills of Metcalfe to the ridges and valleys in the centre of the municipality to the fertile plains in the north and west. The municipality is located within the Murray-Darling Basin, the North Central Catchment Region and the catchments of the Loddon and Campaspe Rivers with the exception of a small area in the east which is within the Goulburn Broken Catchment Region. The ongoing implementation of the regional catchment management strategies for the North Central and Goulburn Broken regions needs to be coordinated with the planning scheme.

Lake Eppalock is an important resource, which provides an increasing proportion of Bendigo's domestic water supply. The sustainable use of land and water is important and the protection of these assets and values is linked to the economic, cultural and environmental aspects of Greater Bendigo and the region. There is also a need to protect both surface and groundwater from high nutrient loads and from the impacts of dry land salinity and erosion. The protection of these resources is dependent on land use and land management practices in both urban and rural areas.

The **Box Ironbark region** is a distinctive natural area of Victoria. Its diverse vegetation covers at least 17 Ecological Vegetation Classes, and also has distinctive fauna including birds, mammals, reptiles and frogs. The diversity of invertebrates is also significant. In the City of Greater Bendigo area, there are at least 50 flora and fauna species.

Large areas of forest are essential for flora and fauna. Gully habitats within these areas are sites of high faunal richness and abundance. Important habitat resources include large old trees and an undisturbed ground layer. In the Bendigo region, examples of these forests are found in the new Greater Bendigo National Park, Bendigo Regional Park, state forests and various flora and fauna reserves and bushland reserves. Various reserves include Pilchers Bridge, Rocky Rises and Bendigo Creek, as well as privately owned-forested land adjoining and linking these areas and other localities.

Key environmental and recreational areas include Lake Eppalock and the Greater Bendigo and Heathcote-Graytown National Parks, regional parks and state forests. Heavily forested areas along with areas of native vegetation on roadsides and waterways, provide an important framework of remnant habitat and wildlife corridors surrounding Bendigo. These areas have also become an increasingly important recreation resource.

Council acknowledges its obligations under Victoria's Native Vegetation Framework for Action and will adopt the three-step approach of 'avoid, minimise, offset' in planning for residential development.

Objectives

- 1.1 To protect the environmental assets of the municipality including the national parks, regional park and areas of flora and fauna significance.
- 1.2 To maximise the retention of native vegetation in privately owned forested areas.
- 1.3 To protect the values of forested land and waterways.

Strategies

- 1.1 Reverse the incremental clearance of native vegetation that reduces landscape values and fragments wildlife corridors.
- 1.2 Implement programs to maintain and enhance the municipality's important remnant vegetation, particularly in recharge areas.

- 1.3 Implement programs to encourage the retention of existing vegetation and the revegetation of degraded private land.
- 1.4 Create flora and fauna reserves to protect the existing area of native vegetation where appropriate.
- 1.5 Control development in proximity to important native vegetation reserves and linear linkages.

Objective

- 2. To reduce the risk of erosion.

Strategies

- 2.1 Discourage inappropriate development in areas susceptible to erosion, as identified in land capability studies.

Objectives

- 3.1 To maintain and enhance ground and surface water quality.
- 3.2 To reduce pollution of watercourses.
- 3.3 To promote sustainable water management practices.
- 3.4 To minimise the impact of saline discharge and the contamination of recharge areas.

Strategies

- 3.1 Minimise nutrient discharges and urban drainage that affects the quality of water in the municipality's streams.
- 3.2 Discourage uses and activities that have the potential to reduce water quality.

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Wastewater

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Overview

Greater Bendigo has over 10,000 households that manage domestic wastewater onsite. To guide domestic wastewater disposal and management responsibilities the responsible authority has adopted the *City of Greater Bendigo Domestic Wastewater Management Strategy 2014-15* and the *City of Greater Bendigo Land Capability Mapping and Assessment Tools for Wastewater Management 2015* which will provide guidance in decisions on the environmental health and planning aspects of domestic wastewater management and provide improved environmental protection and sustainability in the municipality.

Objective

- 1. To protect the environment from pollution and contamination through the appropriate management of domestic wastewater.

Strategies

- 1.1 Manage development, including land forming and effluent disposal, in an environmentally sustainable manner.
- 1.2 Encourage connection to reticulated services as the preferred method for domestic wastewater management.
- 1.3 Promote and support appropriate onsite domestic wastewater management systems where required.
- 1.4 Ensure the ongoing monitoring of areas utilising domestic wastewater management systems to ensure standards are maintained to minimise pollution and contamination.
- 1.5 Encourage the reduction of domestic blackwater and greywater offsite discharges.

21.08-3 Public land and open space

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Overview

The municipality has a significant amount of large open space reserves, either under Crown or Council ownership. Twenty-three percent (23%) of the municipality is public land. The Crown manages twenty-one percent (21%) and two percent (2%) is urban based and managed by Council, usually in the form of linear open space reserves and trails. The major reserves include the Greater Bendigo and the Heathcote-Graytown National Parks, Bendigo Regional Park and a number of state forest areas, including Wellsford, Lockwood, Mandurang South, Axedale and Knowsley and Rushworth-Heathcote.

The bushland trails, such as the O'Keefe, Bendigo and Great Divide Trails provide important linkages between these open spaces, which provide for human access as well as wildlife corridors. There is potential to expand this network over time.

Watercourse reserves, particularly along the Coliban and Campaspe Rivers provide access for fishing and passive recreation. A major water resource is Lake Eppalock, which provides for active and passive recreation on the water, the foreshore and the surrounding forests. The lake may have potential for much greater recreational activity in the long term, consistent with its role as an urban water supply.

The Bendigo urban area also contains important open space areas, including the major gardens: Rosalind Park, Canterbury Gardens, Lake Weeroona and White Hills Botanical Gardens. In addition to providing for valuable passive recreation, these areas make an important contribution to the image of the municipality.

There are a number of linear reserves within the urban area and there is great potential to increase and improve these reserves using surplus Crown land and former race reserves. In many cases, these reserves can be used to link the major open space reserves, which provide exclusively for pedestrian and cyclists.

The municipality is very well catered with facilities for active recreation. **Recreation and sporting facilities** and activities are pursued at a wide range of venues in the region including the Queen Elizabeth Oval, Bendigo Racecourse, Aquatic Centre, Lake Eppalock, Lake Weeroona, and various tennis courts, swimming pools and golf courses. It is important that this reputation be protected in order to continue to serve residents well and to attract major regional and state events.

The state forests provide areas for active recreation pursuits such as horse riding events, car rallies and gold fossicking. Recreation pursuits in national parks are more passive and include bushwalking, orienteering and sightseeing.

Objective

- 1.1 To create and protect open space corridors and networks between focal areas.

Strategies

- 1.1 Implement the revitalisation programs for Rosalind Park, Lake Weeroona, White Hills Botanical Gardens and Canterbury Gardens.
- 1.2 Improve pedestrian and cycle linkages between open spaces, activity centres and transport nodes.

21.08-4 Heritage

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Overview

Greater Bendigo has a large number of significant heritage assets of local, state and national significance. There are buildings, sites and precincts dating from all decades of post-contact settlement since the 1850's, following the discovery of gold, throughout the municipality. The total complex of buildings, infrastructure, urban spaces and natural resources represent the most significant asset and resource in central Victoria. Heritage is an important part of the economy of the municipality due to its role in attracting tourists, renovators and new residents who bring economic development initiatives and assets.

Greater Bendigo's heritage is of outstanding historical, social, aesthetic, architectural, and scientific significance according to the Statement of Significance in the *Greater Bendigo Thematic Environmental History*, 2013.

Historical and social significance

Greater Bendigo was the location of one of Victoria's earliest alluvial gold rushes, followed by the establishment and expansion of quartz mining. The Bendigo-Eaglehawk field was one of the world's great nineteenth century quartz mining centres (the largest in eastern Australia and the second largest in Australia after Kalgoorlie). The colossal output helped sustain global financial systems and trade, and was a significant contributor to the development of Melbourne. The mining activity initiated significant innovations and developments in commerce, manufacturing and technology. Examples include the first mining stock exchange in Australia (in the Beehive Building on Pall Mall), one of the largest railway workshops in Australia, and the foundation of Bendigo Bank and the Myer retail empire. Construction of a reliable water supply in the Coliban Water reservoir system also influenced historical development, including the location and viability of settlements and horticulture. Trans-national immigration associated with gold mining brought a diversity of traditions and cultural practice. In particular the Cornish, German and Chinese miners have made significant and ongoing contributions to the culture and development of Greater Bendigo.

Aesthetic and architectural significance

German immigrant architects designed buildings which are now regarded as some of the most significant in regional Victoria, helping to make the municipality of aesthetic/architectural significance. Bendigo city has one of the highest concentrations of Victorian Heritage Registered properties in the State, and two of regional Australia's most architecturally distinguished boulevards in Pall Mall and View Street. Bendigo has an outstanding collection of historic civic buildings, complemented by more modest collections of civic buildings in other towns. Significant structures in Greater Bendigo include those associated with industry, public utilities, mining, transport, agriculture, engineering and manufacturing. Boom style homes and gardens built by mining speculators contrast with an extensive collection of modest German and Cornish miners' cottages.

Many small settlements also retain buildings associated with gold rushes. In addition, there are significant buildings that represent a diverse vernacular tradition. There are also fine examples of 19th century town planning layouts and botanic gardens, public parks and avenues of trees. Extensive natural areas, including Box-Ironbark forests, rivers, hills and valleys of cultural and aesthetic significance provide a contrast to the urban centres and agricultural landscapes.

Scientific significance

The municipality's heritage is of scientific significance. Numerous historical and archaeological sites associated with different phases and types of gold mining and processing survive, and demonstrate aspects of mining technology. There are also outstanding examples of manufacturing industry associated with restructuring of the mining industry, in particular foundries and engineering works for defence and agriculture, where advances in technology were also made. There are in addition natural sites of significance throughout the municipality, including geological and geomorphological sites. These include the Big Hill ridge which marks the southern gateway to Bendigo.

Important Aboriginal cultural heritage values also exist in the City of Greater Bendigo. The Jaara people are the traditional inhabitants of the Greater Bendigo region, and have contributed significant Aboriginal heritage assets that are recognized as being vital features of the environment and are irreplaceable records of cultural development. All Aboriginal places, sites and objects, whether identified or unrecorded, are important for the continued development of the community, and are protected by State and Commonwealth legislation. Protection applies equally on Crown and freehold land.

There is a need to find a balance between protecting our heritage places for current and future generations and the vibrancy of our City, but also to allow for sensitive and innovative development.

Objective

1. To identify and protect heritage places with Aboriginal and historic cultural value as well as natural value.

Strategies

- 1.1 Identify and protect Aboriginal cultural heritage values by working with traditional owners.

Objective

2. To protect and enhance the municipality’s heritage for future generations.

Strategies

- 2.1 Identify all heritage assets in the municipality.

Objective

3. To encourage the appropriate reuse of heritage buildings.

Strategies

- 3.1 Support appropriate sympathetic redevelopment.

Objective

4. To encourage compatible development adjacent to heritage places and features.

Strategies

- 4.1 Ensure that all new development in heritage areas is sympathetic to the character and heritage of the area.

21.08-5

Flooding

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Overview

Bendigo Creek and its tributaries have a long history of flooding that has historically caused damage to infrastructure and buildings throughout the Bendigo urban area. The new development areas of Maiden Gully, Strathfieldsaye and Huntly are also affected by flooding from waterways. Some of the Bendigo urban area is also subject to flooding from old drainage systems that do not have sufficient provision for overland flows.

Flood impacts can be significant. Large floods pose significant risks to the life, health and wellbeing of residents and to emergency service personnel through impacts such as road closures, loss of access/egress for residents, property isolation and damage to buildings and infrastructure. The *Bendigo Urban Flood Study*, November 2013 has determined the extent and likely impacts of flooding and is the basis of the selection of the planning scheme overlays discussed below.

Objectives

- 1.1 To minimise the risk to life, health and safety from the effects of flood waters.
- 1.2 To minimise the potential damage to new buildings and works from flood waters.
- 1.3 To preserve the natural function of floodplains, including their inherent wetland values.

Strategies

- 1.1 Manage urban development in areas of lower hazard flooding risk and discourage development in these areas unless the likely effects of flooding can be minimised to acceptable levels.

- 1.2 Discourage urban development in the higher hazard portion of the floodplain, where deep and fast flowing floodwater can be expected unless stringent design, siting and construction standards can be met.
- 1.3 Manage urban development in areas where flooding is caused by overland flows from the urban drainage system, and discourage development in these areas unless the likely effects of flooding can be minimised to acceptable levels.
- 1.4 Manage development within areas that are protected by the earthen levees along Bendigo Creek, and discourage development in these areas unless the likely effects of flooding can be minimised to acceptable levels.
- 1.5 Discourage infill development and subdivision that contains lots wholly within the 1 per cent annual exceedance probability flood extent.
- 1.6 Discourage new greenfield development and subdivision that will not enable all new buildings to be appropriately sited above the 1 per cent annual exceedance probability.
- 1.7 Ensure that all new buildings that are subject to flooding risk are sited on the highest available ground and have road access that provides for safe passage in a flood event.
- 1.8 Ensure that new lots and road reserves are set back from waterways.
- 1.9 Discourage development that disrupts flood water flows.
- 1.10 Discourage development that reduces the flood storage capacity of waterways.

21.08-6 Implementation

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The objectives and strategies will be implemented by:

Policy and the exercise of discretion

- Using local policy to manage the interface between residential areas and the forest in accordance with the Residential Development Strategy, 2004 (Development at the Urban-Forest Interface Policy at Clause 22.01).
- Using local policy to protect the operation of rural enterprises from the encroachment of residential activities (Rural Dwellings Policy at Clause 22.02).
- Using local policy to discourage the fragmentation of rural land or with significant environmental values (Rural Subdivision Policy at Clause 22.03).
- Using local policy to encourage sustainable natural resource management (Salinity and Erosion Risk Policy at Clause 22.04).
- Using local policy to maintain and protect Greater Bendigo's heritage assets and encourage the reuse and redevelopment of heritage places by using the Greater Bendigo Heritage Design Guidelines, August 2015 (Heritage Policy at Clause 22.06).
- Implementing appropriate overlays and local policies to ensure sound management of areas of environmental value or risk.
- Considering the wider strategic issues involved in the conservation of native vegetation and habitats when assessing applications for removal of native vegetation.
- Continuing to work with Coliban Water to determine where connection to reticulated sewer is required.
- Using the *City of Greater Bendigo Domestic Wastewater Management Strategy 2014-15* together with the accompanying *Land Capability Mapping and Assessment Tools for Wastewater Management, 2015* to guide domestic wastewater management in the municipality, particularly to:
 - Ensure the appropriate installation, approval and alteration of onsite domestic wastewater management systems or alternative waste treatment

systems where connection to reticulated sewer is not required by the responsible authority.

- Guide programs for the maintenance and monitoring of onsite wastewater management systems.
- Investigate and manage risks to public health.
- Plan and manage growth and development across the municipality.
- Using the *Bendigo Local Floodplain Development Plan*, February 2018 to guide development and subdivision in areas that are subject to flooding.

Zones and overlays

- Applying the Rural Conservation Zone on all land in the Lake Eppalock catchment and in areas of Heathcote, Junortoun, North Harcourt, Strathfieldsaye and Axe Creek and inliers to land abutting national parks.
- Applying the Public Conservation and Resource Zone on Crown land river frontages and national and regional parks, state forests and nature conservation reserves.
- Applying the Public Park and Recreation Zone on urban open space areas managed by Council.
- Applying the Public Use Zone on Council owned land.
- Applying the Environment Significance Overlay to areas for watercourse protection, groundwater recharge protection areas and the Eppalock Proclaimed Catchment.
- Applying the Vegetation Protection Overlay to areas of significant roadside vegetation, wildlife corridors and areas of native vegetation.
- Applying the Significant Landscape Overlay to residential areas on the fringe of Bendigo and Heathcote with identified landscape characteristics.
- Applying the Erosion Management Overlay to areas subject to high risk of erosion.
- Applying the Wildfire Management Overlay to areas of high fire risk.
- Applying the Land Subject to Inundation Overlay to areas within the 100-year floodplain.
- Applying Schedule 1 to the Land Subject to Inundation Overlay to the edge of the floodplain, where flooding is shallower, slower moving and of less than 350 millimetres in depth.
- Applying Schedule 2 to the Land Subject to Inundation Overlay to the higher hazard portion of the floodplain, where deep and fast flowing floodwater can be expected, of greater than 350 millimetres in depth.
- Applying the Special Building Overlay to areas affected by flooding from the urban drainage system.
- Applying Schedule 1 to the Special Building Overlay to land that is affected by overland flows from the urban drainage system of 50 millimetres or greater, and where drainage catchment areas are significant during the 1 per cent annual exceedance probability design flood event.
- Applying Schedule 2 to the Special Building Overlay to land that is protected by the earthen levees along Bendigo Creek and is potentially affected by overland flows from the urban drainage system of 50 millimetres or greater that could be significant during the 1 per cent annual exceedance probability design flood event.
- Applying the Salinity Management Overlay to discharge and recharge areas.
- Applying the Heritage Overlay to buildings, areas, places and sites of heritage significance.

- Applying Schedule 6 to the Design and Development Overlay to residential areas at the forest edge to protect the forest interface.

Further strategic work

- Identifying all areas of environmental importance in terms of vegetation, habitat quality and environmental risk (including flooding, salinity and erosion) on a map with documented information.
- Providing design and development guidelines for land use and development in and near flood plains, waterways, recharge areas and important native vegetation.
- Investigating strategies to reduce the impact of existing blackwater offsite discharges as well as greywater offsite discharges.
- Investigating options for domestic wastewater management in unsewered townships.
- Implementing a mapping and monitoring program for domestic wastewater management systems to inform priorities and management strategies.
- Completing a landscape assessment of rural areas such as Big Hill.
- Applying the new fire mapping in statutory controls (Wildfire Management Overlay).
- Incorporating sites on the Contaminated Sites Register into the Environmental Audit Overlay where appropriate.
- Investigating the opportunity for including significant landscapes in the Significant Landscape Overlay.
- Investigating in association with the Department of Sustainability and Environment the further use of the Salinity Management and Erosion Management Overlays.
- Finalising the Open Space Strategy.
- Identifying opportunities to protect and improve the appearance and use of open space reserves.
- Reviewing the Salinity and Erosion Risk Policy at Clause 22.04.
- Implementing the recommendations of the Northern Corridor and Huntly Local Structure Plan 2005, in particular:
 - Applying a Vegetation Protection Overlay in Huntly following a native vegetation assessment.
- Complete the recommendations for future heritage studies identified in the *Greater Bendigo Thematic Environmental History, 2013*, including:
 - Bendigo CBD.
 - Urban areas of the former Shire of Strathfieldsaye.
 - Former Shire of Huntly.
 - Review of the Eaglehawk and Bendigo Heritage Study.
 - Twentieth century development.
 - Industrial heritage places.
 - Aboriginal heritage places.
 - Places on public land.
- Completing a heritage strategy for the City.

Other actions

- Continuing to work with the Department of Environment, Land, Water & Planning and Parks Victoria on the “City in a Forest” Project.

- Retaining the high standard of active sporting facilities that the municipality offers.
- Integrating areas of public open space with pedestrian and cycling networks.
- Extending the Linear Park Walkway to Huntly.
- Managing the spread of pest animals and plants in open space areas containing important native vegetation through community education and other initiatives.
- Utilising fire as a management tool for environmental health and safety of settlements.
- Ensuring all owners of heritage assets are aware of funding sources and available advice.
- Improving community awareness of the value of heritage assets and their role in establishing the character of the municipality.
- Investigating the sporting requirement needs of local communities.
- Developing a new regional outdoor sports complex at Epsom.
- Investigating the further potential of Lake Eppalock and its surrounds for tourism and recreation.

Natural resources strategic framework plan

