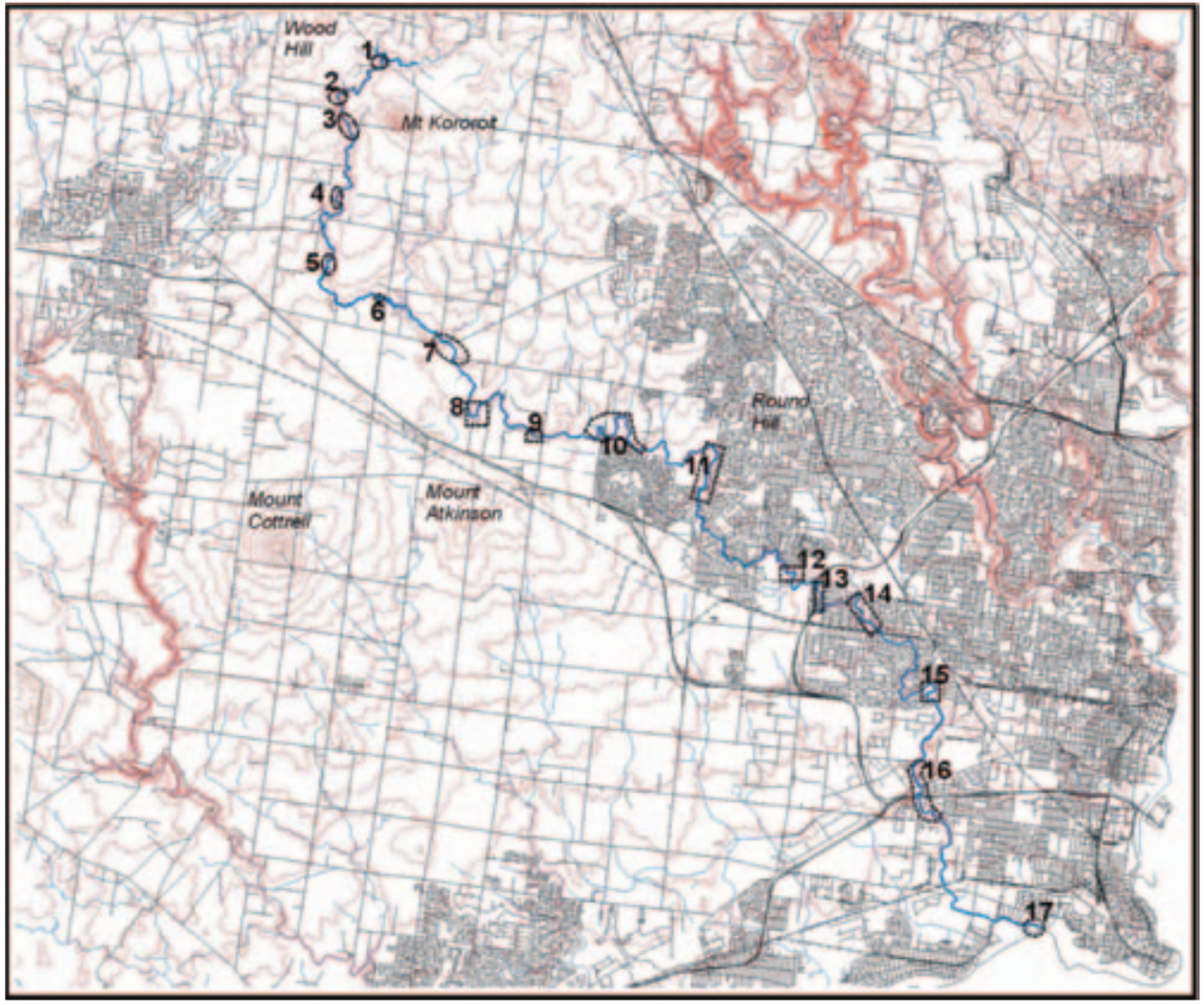
APPENDIX A **SITES OF GEOMORPHOLOGICAL IMPORTANCE**



Site Number 1 AMG
02929 08313

LOCATION
Extending from Holden Road for 400 metres south

DESCRIPTION OF FEATURES
Incised channel in alluvium developed at and downstream of junction of East Branch and West Branch. Probable cutoff meander in channel.

Site Number 2 AMG
02921 58305

LOCATION
West of Mount Kororoit

DESCRIPTION OF FEATURES
Escarpment, colluvium and alluvium from small tributary

Site Number 3 AMG
02922 58294

LOCATION
Western end of Mount Kororoit Road

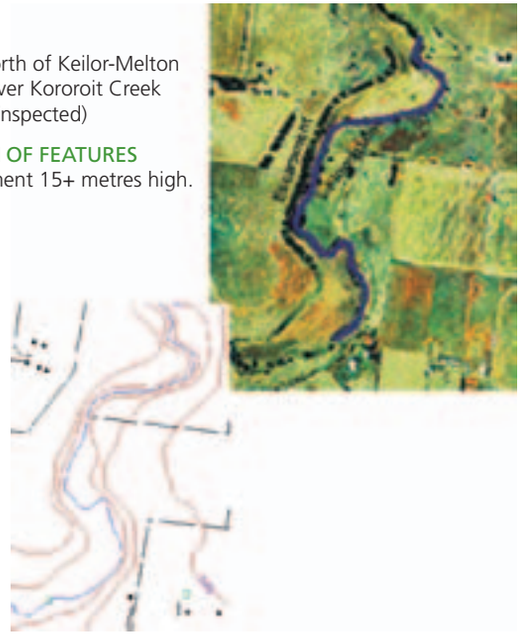
DESCRIPTION OF FEATURES
Escarpment, gravel terraces with basalt and silcrete pebbles, rock pavement in stream bed.

INTERPRETATION
Shows complex nature of alluvial infill in valley. Silcrete is a weathering product between lava flows. Shows context of Mount Kororoit in determining landscape and stream

Site Number 4 AMG
58276 02920

LOCATION
800 metres north of Keilor-Melton Road bridge over Kororoit Creek (Site not field inspected)

DESCRIPTION OF FEATURES
Basalt escarpment 15+ metres high.

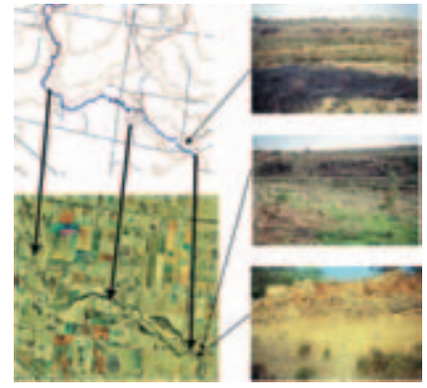


Site Numbers 5, 6, & 7. AMG
02917 58256 to 02953 58233

LOCATION
Approximately 500 metres south of Keilor-Melton Roadbridge over Kororoit Creek to Taylors Road (approximately 500 metres south of Beattys Road bridge).

DESCRIPTION OF FEATURES
Wide alluvial plain with a complex of sedimentary deposits. Deeply incised alluvial channel with complex and varied meander patterns. Good exposure of jointed basalt at Beattys Road.

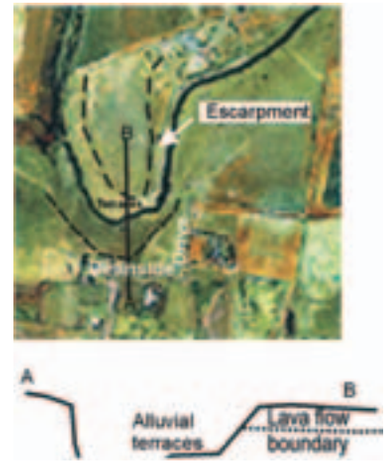
INTERPRETATION
Thickest and most complex alluvial deposit along the Kororoit Creek. Potential for sedimentary and pollen



Site Number 8 AMG
02958 58217

LOCATION
300 metres west of Deanside Drive

DESCRIPTION OF FEATURES
Ingrown meander with two alluvial terrace levels. Two lava flow units exposed in escarpment.



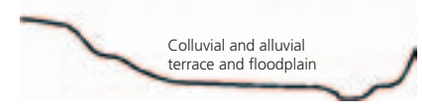
Site Number 9 AMG
02978 58209

LOCATION
West of Sinclairs Road

DESCRIPTION OF FEATURES
Bluff, escarpment, colluvial and alluvial terrace and flood plain.

INTERPRETATION
Very clear example of a common feature of the Kororoit Creek


Bluff and escarpment

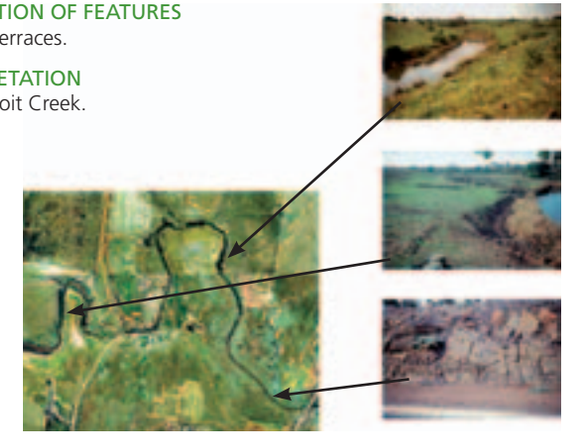


Site Number 10 AMG
02993 58209 to 03008 58206

LOCATION
One kilometre reach of creek immediately north of Caroline Springs including outcrop in cutting at bridge.

DESCRIPTION OF FEATURES
colluvial terraces.

INTERPRETATION
the Kororoit Creek.



Site Number 11 AMG
03026 58277 to 03024 58188

LOCATION
West of Opie Road and Kinterbury Drive, St Albans

DESCRIPTION OF FEATURES
Variable valley morphology – asymmetric valley profile – weakly developed slip-off slope and low opposing escarpment. Planar basal surface. Groundwater pools in creek.

INTERPRETATION
An example of the variable valley development along Kororoit Creek – probably related to

Site Number 12 AMG
03050 58172

LOCATION
Northern side of Western Highway behind the Deer Park Hotel.

DESCRIPTION OF FEATURES
Deep pools

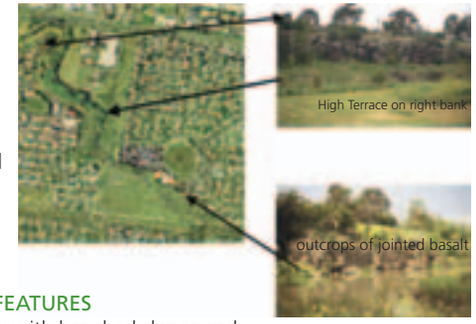
INTERPRETATION
Example of groundwater inflow.

Site Number 13 AMG
03057 58165

LOCATION
More Park opposite Esmond Street, Ardeer

DESCRIPTION OF FEATURES
Natural escarpment and deep pools

Site Number 14 AMG
03168 58165



LOCATION
South of Western Highway (opposite Yallourn Street, Hesser Street, Thwaites Street and Helene Street), and extending to opposite Selwyn Park, Ardeer

DESCRIPTION OF FEATURES
Deeply incised valley with benched slopes and unusual high level rock terrace (with operating market garden). Clear exposures of fractured basalt.

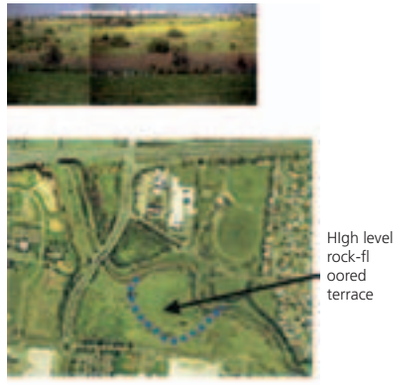
INTERPRETATION
An unusually diverse array of rocky features in the urban area, including alluvial and rock terraces.

Site Number 15 AMG
03088 58144

LOCATION
South of Wright Street, Sunshine, wrapping around Buckingham Reserve.

DESCRIPTION OF FEATURES
Ingrown, anvil-shaped meander.

Site Number 16 AMG
03090 58107



LOCATION
Right bank or Kororoit Creek, south of Blackshaws Road, Altona North

DESCRIPTION OF FEATURES
Slightly modified but basically original escarpments with a number of large fallen basalt blocks. At Blackshaws Road there is a rock-floored terrace that is either a cutoff meander or a remnant higher sea level shore platform. It does not appear to be an alluvial terrace.

Site Number 17 AMG
03120 58077

LOCATION
Estuarine sector of Kororoit Creek in Altona Coastal Park

DESCRIPTION OF FEATURES
Tidal wetland of mangrove, salt marsh and tidal creeks. Remnant coastal sand ridges.

INTERPRETATION
A remnant of the original large tidal wetland and sandridge complex at the mouth of Kororoit Creek and along Altona Bay. One of the few occurrences of mangrove in

Mangrove and saltmarsh at mouth of Kororoit Creek

APPENDIX B **Draft Planning Scheme Recommendations Planning Policy**

Planning Scheme Recommendations

Sound planning policy is seen as an important tool to support the objectives of the Kororoit Creek Regional Strategy. The strategy provides a better understanding of the environmental values of the creek corridor, and has identified heritage places that warrant assessment for planning scheme protection. The strategy has also reviewed existing planning policy in relation to land use and ownership and has identified matters that require attention.

The identified planning policy issues include:

- the inconsistent recognition and protection of the values of Kororoit Creek;
- the policy tools applying to the creek vary considerably across the municipalities of Melton, Brimbank and Hobsons Bay;
- sections of public land along the creek are not zoned to reflect its conservation or recreation purpose;
- sections of private land along the creek are inappropriately zoned for public purposes;
- ensuring that development areas have appropriate controls to avoid adverse impact on the creek corridor.

Suggested planning policy responses include:

- strengthening of policy to protect the environmental values of the creek corridor for each of the municipalities. This would be through an Environmental Significance Overlay schedule, local policy and amendments to Municipal Strategic Statements;
- a more consistent application of policy along the creek corridor;
- rezoning of public land along the creek corridor to either Public Conservation and Resource Zone or Public Park and Recreation Zone, consistent with its intended use (Melbourne Water land should remain zoned Public Use Zone 1 where appropriate);
- apply appropriate policy tools, such as the Design and Development Overlay, to protect sections of the creek corridor from adverse impacts of development;
- a local policy to acknowledge the Kororoit Creek Regional Strategy as a reference document.

An emerging issue is that the proposed Melton Growth Corridor will need to incorporate appropriate buffer areas between Kororoit Creek and the proposed residential subdivisions.

While planning policy is generally reactive and has its limitations, it provides tools that can be effective in protecting the creek values from adverse use and development. Planning policy can also be used to pursue opportunities, such as amalgamating the open space along the creek corridor either through the subdivision process or developer contributions. The Public Acquisitions Overlay is another option to secure land for public purposes, but is not recommended in the context of this strategy.

A priority policy initiative is the coordinated application of Environment Significance Overlay schedules over the full length of the creek corridor. Amendments could be handled in a coordinated process with one Planning Authority nominated to handle amendment administration.

It should be noted that the Wyndham Planning Scheme is identified as having a negligible planning policy role in this strategy as only a small section of creek corridor is located within the municipality. Wyndham has also adopted a Waterways Strategy, which uses a different application of overlay controls.

A suggested program of Planning Scheme Amendments is provided below.

Proposed Scheme Amendment (Purpose)	Planning Authority	Priority
Introduce a detailed ESO schedule which addresses the Kororoit Creek corridor. A review of the existing ESO2 Wetlands, waterways and Riparian Strips may also be desirable.	Melton Shire (or nominated PA)	High
Ensure that the Melton Growth Corridor planning is consistent with the Kororoit Creek Regional Strategy and includes appropriate buffers.	Melton Shire	High
Rezone sections of identified public land to appropriate public use.	Melton Shire	Medium
Introduce a Local Policy to recognise the Kororoit Creek Regional Strategy as a 'referred document'. This can be through a general Waterways local policy or a Kororoit Creek specific local policy.	Melton Shire	Medium
Amend the Municipal Strategic Statement to acknowledge Kororoit Creek values.	Melton Shire	Medium
Assess whether the following places warrant protection through the Heritage Overlay: Kororoit Creek Farm buildings; Rockbank Inn; bridge ruins at Beatty's Road, Deanside Farm buildings and Clarke Road Ford.	Melton Shire	Medium
Assess whether the identified landscapes warrant protection through the Significant Landscape Overlay.	Melton Shire	Low
Amend DPO 1 (Melton East Growth area) and DPO7 (Tenterfield).	Melton Shire	Medium
Introduce a detailed ESO schedule which addresses the Kororoit Creek corridor.	Brimbank CC (or nominated PA)	High
Introduce a Local Policy to recognise the Kororoit Creek Regional Strategy as a 'referred document'. This can be through a general Waterways local policy or a Kororoit Creek specific local policy.	Brimbank CC	Medium
Rezone sections of identified public land to appropriate public use.	Brimbank CC	Medium
Amend the Municipal Strategic Statement to acknowledge Kororoit Creek values.	Brimbank CC	Low
Amend DPO 6 (Cairnlea)	Brimbank CC	Medium
Assess whether the following places warrant protection through the Heritage Overlay: Rockbank Middle Road Farm ruins; Bullum Bullum Reserve and Neale Road Ford.	Melton SC	Medium
Apply a Land Subject to Inundation Overlay schedule, as identified.	Brimbank CC & Melbourne Water	High
Amend the Municipal Strategic Statement to acknowledge Kororoit Creek values.	Hobsons Bay CC	Medium
Introduce a detailed ESO schedule which addresses the Kororoit Creek corridor.	Hobsons Bay CC (or nominated PA)	High
Rezone sections of identified public land to appropriate public use.	Hobsons Bay CC	Medium
Introduce a Local Policy to recognise the Kororoit Creek Regional Strategy as a 'referred document'. This can be through a general Waterways local policy or a Kororoit Creek specific local policy.	Hobsons Bay CC	Medium
Assess whether the following place warrants protection through the Heritage Overlay: fmr residence of hermit adj Grieves Road Bridge; the vestiges of the fmr Williamstown Racecourse, BP Pipe Bridge and building on Toll Estate.	Hobsons Bay CC	Medium

Implementation of the Kororoit Creek Strategy Plan through Municipal Planning Schemes

The Kororoit Creek Strategic Plan has identified a future direction for the creek. This future includes improved public access and use, protection of biodiversity and water quality, recognition of landscape values and identification of heritage features. The plan seeks to realise the values of the creek. As mentioned, the planning scheme will be used as one of the means of implementing the directions and strategies of the plan. The planning schemes can be used to;

- Highlight the intended use of the creek environs
- Protect biodiversity values
- Protect heritage values
- Protect water quality
- Protect landscape features
- Provide for acquisition of land for public purposes, eg. public access along the creek
- Ensure adjoining development furthers the vision for the creek envisaged by this strategy.

Some of the relevant planning schemes already recognise and seek to protect the values of the creek. An aim of this project is to provide for a common direction with respect to management of the creek.

In summary implementation of the Kororoit Creek Strategy plan through the municipal planning schemes will involve:

- Common recognition of values in the MSS;
- Common local policy which incorporates the vision, directions and guiding principles of the Strategy, and provides for reference to the Strategy;
- Rezoning public land along the creek to Public Conservation and Resource Zone, in recognition of its values and intended future function. Formal recreation areas should be zoned Public Park and Recreation Zone. Areas of fundamental importance to the function of Melbourne Water should remain zoned PUZ1;
- Application of an Environment Significance Overlay over the creek and environs to further highlight the environmental values of the area and ensure the protection of natural features, remnant vegetation, stream function and water quality. Generally the ESO should be applied 30 metres beyond break of slope;
- Use of the Heritage Overlay to protect identified heritage features;
- Use of a Design and Development Overlay in some areas to ensure new development in the adjoining urban area complements the creek and supports the strategy;
- Use of the Public Acquisitions Overlay where Council wishes to acquire land for creek access.
- Clause 15.11–2 of the Victorian Planning Provisions requires that planning and responsible authorities should identify, conserve and protect places of natural and cultural values from inappropriate development. These include…places of Aboriginal cultural heritage significance, including historical and archaeological sites. Further, planning and responsible authorities 'must take account of the requirements (of Aboriginal heritage legislation) and the views of local Aboriginal communities in providing for the conservation and enhancement of places, sites and objects of Aboriginal cultural heritage value.
- Consideration should be given as to whether amended Local Policies are sufficient to protect Aboriginal cultural heritage values or whether Development Plan Overlays for areas earmarked for development adjacent to the Creek, should be amended to reflect the Guiding Principles as stated on page 3.

Note: All proposed changes to planning schemes will have regard to *Melbourne 2030* and a *Plan for Melbourne's Growth Areas*. Accordingly the following proposed planning scheme changes will be reviewed and approved prior to formal exhibition.

Program of Amendments

Melton

Stage 1

- Amend MSS
- Incorporate Local Policy
- Rezone Public Land as recommended
- Apply new ESO
- Amend DPO 1 and 7 as recommended

Stage 2

- Apply Heritage Overlay to identified heritage features
- Apply Significant Landscape Overlay to identified significant landscapes

Brimbank

Stage 1

- Amend MSS
- Incorporate Local Policy
- Rezone Public Land as recommended
- Apply new ESO
- Amend DPO 6 as recommended

Stage 2

- Apply Heritage Overlay to identified heritage features
- Apply DDO as recommended
- Introduce LSIO in conjunction with Melbourne Water (The new DDO and LSIO could be done in Stage 1 should Council resources permit)

Wyndham

Stage 1

- Incorporate Local Policy
- Rezone Public Land as recommended
- Apply new ESO

(Note – Wyndham are presently implementing a Waterways Strategy and will seek to manage their section of Kororoit Creek consistent with that as well as consistent with the Kororoit Creek Strategic Plan)

Hobsons Bay

Stage 1

- Amend MSS
- Incorporate Local Policy
- Rezone Public Land as recommended
- Apply new ESO Stage 2
- Apply Heritage Overlay to identified heritage features

Changes to the Melton Planning Scheme

21.01–11 Environment and Landscape Character

The Shire of Melton is within the area covered by the Port Phillip Catchment. Council will implement the Port Phillip and Western Port Regional Catchment Strategy within the Shire. The Catchment Authority is currently preparing its overall management strategy as well as the various detailed strategies that it is obliged to prepare. In time, the relevant details of these strategies will be included within the planning scheme. In particular, floodplain management has yet to be addressed in great detail despite there being some flooding concerns on the Kororoit Creek. It is anticipated that accurate flooding information will be an outcome of the Catchment Management Authority Floodplain Strategies.

The Shire of Melton has a diverse environment and landscape character. The key land management and conservation issues in the Shire include the control of noxious weeds and animals; ensuring sustainable land use on Melton's generally fragile environment; and the conservation of significant natural sites and remnant vegetation. The Shire's landscape consists of the following major landscape character units:

Grass Plains

Sweeping grassland plains are the dominant and distinctive feature of the Melton landscape. These are part of the Western basalt plain and cover the central and southern areas of the Shire. Land quality on the grass plains generally improves as one moves to the north.

Lowland Pastures and Woodlands:

Located to the north of the grass plains. These areas receive a slightly higher rainfall and have deeper, more productive soil than the grass plains to its south.

Upland Pastures and Foothills:

These are located in the most northern areas of the Shire. These areas have the highest rainfall in the Shire and support a greater diversity of vegetation. There is substantial tree cover in the foothills and upper ranges. The foothill areas have the highest quality pasture in the Shire. However the upper hills due to their topography and shallow soils are extremely fragile and limited to open forest use. These areas are also most susceptible to wildfire and need to be addressed in terms of fire protection.

Water Courses:
Include the Werribee River, Arnolds Creek, Little Blind Creek, Melton Reservoir, Kororoit Creek and tributaries, Toolern Creek and tributaries and the Djerriwarrh Creek. The natural drainage and environmental fabric of the rural landscape is dependent on the conservation of these systems. The rivers and streams also provide the opportunity to realise a significant recreation network throughout the Shire. The Kororoit Creek is one of Melbourne's significant waterways, traversing a range of rural, residential and industrial environments. It has important natural and cultural values. It provides a unique open space and an opportunity to link the communities it passes through. It has environmental significance in that the water body itself and surrounds provide habitat to terrestrial and aquatic flora and fauna. Water quality is of specific importance as the creek flows into Port Philip Bay at the Altona Coastal Park and the Jawbone Marine Sanctuary. The creek area also provides an insight into the presettlement landscape of the area and also harbours heritage artefacts from pre and post contact settlement.

Significant natural sites:
Melton has a number of significant natural sites which include remnant stands of native vegetation, native grasslands, woodlands, wetlands, geological features and flood plain areas. Identified sites include the Pyrete Ranges Forest, Ryans Lane Woodland, Diggers Rest Dry Lake and the Diggers Rest Rail Reserve Grassland in the Shire's north; and North Western Rail Reserve Grasslands, the Robinsons Rd and Mt Cottrell Wetlands, and the Exford and Mt Cottrell Woodlands in the south.

21.04–2 Melton East Growth Area

Snapshot

The Melton East Growth area is located on the eastern boundary of the Melton Shire and abuts the City of Brimbank along its entire eastern border. It comprises an area of about 2,770 hectares, bounded to the south by the Ballarat railway line, to the west by Clarke Road, Monaghans Lane and the high voltage transmission line, to the north by a natural watershed and the Bendigo railway line; and to the east by the Melton Shire boundary. The Melton East Growth Area is the Shire's second urban centre. Currently, the area is experiencing high rates of growth and development, although the majority of this is occurring in the northern suburb of Hillside. Burnside, the area's southern-most suburb is currently under construction, and growth rates are increasing. It is envisaged that the area will eventually accommodate approximately 70,000 people. Given this population size, a range of community, retail and recreational facilities and activities have been planned (see Melton East Strategy Plan Revised (1997) and their development will be encouraged.

Objective

To enable the Melton East Growth Area to develop its own identity, distinctive from the established residential areas to the east, providing a range of civic, cultural, commercial, educational and employment opportunities for its residents.

Opportunities and Constraints

- The Melton East Growth Area is the Melton Shire's second largest urban settlement and will ultimately accommodate approximately 70,000 people in distinctive neighbourhood structures with a range of commercial and community facilities at the local, neighbourhood and sub-regional level.
- The area has excellent road access via the Melton Highway to the north and the Western Highway to the south.
- The Kororoit Creek is an important natural asset linking Melton East to the City of Brimbank. A significant regional park is proposed on the creek.
- A large part of the site is relatively difficult to service, due to the physical constraints imposed by the Kororoit Creek, and the capacity of existing reticulated infrastructure to the east.
- The Melbourne Airport Environs Area (MAEA) restricts development patterns in the northern-most part of the land unit.
- The western boundary of the Growth Area forms a permanent barrier to the future expansion of the metropolitan area.
- Residential development opportunities to the east of the Shire are rapidly diminishing and should, according to estimates prepared by the Department of Infrastructure, be all but exhausted in approximately ten years time.

Strategies

- Adopt the Melton East Strategy Plan (Revised) 1997 in order to provide a degree of certainty for developers and local residents. Any re-zonings for commercial purposes should be in accordance with the strategic principles outlined in this report.
- Ensure that community and commercial facilities are clustered around major intersections, and are linked by pedestrian and cycle paths.
- Create a town centre that incorporates the Kororoit Creek as an open space and recreational feature.
- Ensure Kororoit Creek is integrated into and linked with the residential area.
- Ensure new development does not compromise the Kororoit Creek landscape.
- Provide public open space along the Kororoit Creek to enable continuation of the trail.
- Incorporate the "Kororoit Creek Local Planning Policy" into the planning scheme to provide a framework for assessment of applications, consistent with the Kororoit Creek Strategic Plan.
- Include reference to the need to provide a public reserve along the creek corridor and integrate urban development with the creek corridor in DPO 1 and DPO 7.
- Rezone public land along the Kororoit Creek corridor to PCRZ. Formal recreation areas should be zoned PPRZ.
- Introduce an Environmental Significance Overlay specific to Kororoit Creek which applies to the creek corridor and its environs with the objectives of protecting remnant vegetation, protecting existing stream processes and water quality and protecting natural land forms and providing for links to the strategy document.
- Use Heritage Overlay to identify and protect heritage places including Clarke Road Ford, Drovers Hut and Aboriginal sites.
- Revise flooding controls of Kororoit Creek in conjunction with Melbourne Water.
- Adopt the following retailing hierarchy for the growth area:
  - Sub Regional Centre (20,000m^2 GLFA) around the intersection of Kororoit Creek and the main north south arterial road.
  - Community Activity Centres located in each of the three residential suburbs with 6000m^2 at Burnside; and two centres of 7500m^2 in the northern suburbs
  - Neighbourhood Activity Centres located in seven neighbourhoods each serving a catchment of between 5,000 and 10,000 people and each of approximately 3,000 to 3,500 m^2 in area.
  - Local shops distributed throughout the growth area.
- Ensure that proposed Community Activity Centre and Neighbourhood Activity Centres are designed so as to maximise social interaction and community identity.
- Locate Community Activity Centre on main north-south or east-west traffic arterials, in locations that are highly visible and accessible.
- Provide infrastructure in a timely and efficient manner that meets the needs of current and future generations.

Planning Scheme Implementation

- Adopt the Residential 1 Zone with a Development Plan Overlay for all the land north of the Western Highway excepting the Burnside Activity Centre (Business 1) and the land between the Western Hwy and the Burnside Activity Centre (Mixed Use).
- All development plans shall be prepared in accordance with the strategic principles outlined in the Melton East Strategy Plan (Revised) 1997.
- Adopt the Industrial 1 Zone for all land within the Growth Area located between the Western Highway and the Ballarat Railway Line.
- Adopt the Airport Environs Overlay No. 1 control consistent with the Melbourne Airport Master Plan pending further consideration and notification of the extension of this overlay.
- Ensure the new regional park along Kororoit Creek is zoned with an appropriate PPRZ or PCRZ. .
- Introduce and Environmental Significance Overlay to Kororoit Creek.

21.04–5 Mt. Kororoit Hills and Plains

Snapshot

The Mt. Kororoit Hills and Plains comprise a large area of rural land to the north and north-east of the Melton township. The area is currently used for broad-scale agricultural purposes, although a number of alternative farming activities have started to appear. Most of this area has always been open grassland or has long ago been cleared for agricultural purposes. The land to the north is particularly hilly, with excellent views extending to the city and beyond. A number of successful thoroughbred studs are well established in the northern sector. The low lying areas to the south are used for broad-hectare cropping and grazing activities albeit at levels that have declined in recent years.

This region abuts a number of developing or established urban settlements, namely Hillside, Diggers Rest and Melton. These edges, combined with the area's proximity to metropolitan Melbourne have resulted in instances of vandalism, theft and stock loss through dog attacks. Furthermore, the proximity of urban Melbourne has led to higher prices for rural land, brought about by the mistaken belief that urban-style development will occur in either the short or medium term.

Some conflicts between residents and Melbourne Airport (and the Melton Airfield to a much lesser extent) have occurred in the past. Future development patterns in this area will need to be mindful of the impact of these facilities on the area's amenity and should be located so as not to undermine the future viability of the airport.

Objective

To encourage and protect the Melbourne Airport environs, the thoroughbred breeding and equine research industries and ancillary activities from inappropriate land use and development patterns.

Opportunities and Constraints

- Land to the north around Mt. Aitken Road is expensive to service with reticulated services and sealed roads.
- Conflicts between broad-hectare farming and urban settlements are commonplace around the edges of Diggers Rest, Melton township and Hillside.
- Quarrying activities in Blackhill Road and on the Melton Highway, Rockbank, pose significant barriers to further development.
- The area contains significant stone resources. The two existing quarries are likely to wish to expand their operations in the future. It is likely that the owners of other sites may apply to develop these in the near future.
- Some pressure exists from rural landowners to subdivide into smaller lots.
- Efficient agricultural activities need to be protected from the effects of sensitive land uses.
- Some land in the east between Diggers Rest and Melton East is affected by the operations of Melbourne Airport.
- Kororoit Creek, with significant environmental, landscape and heritage values, flows through the area.

Strategies

- Retain land in broad hectare parcels
- Develop clear boundaries for the urban area in order to give certainty to rural landowners.
- Discourage rural living development from locating in areas that would undermine the viability of agricultural activities.
- Discourage small lot excisions from occurring, unless new lots are provided with reticulated water and are connected to a sealed road that forms part of the municipal sealed road network.
- Encourage horse-studs to establish in this area.
- Encourage intensive agricultural activities to occur, except in areas close to urban edges or sensitive land uses or in areas of high visibility (such as around tourist routes and nodes).
- Discourage quarrying activities from occurring in areas of high landscape significance and visibility, or near areas that contain sensitive rural activities such as thoroughbred horse-studs, viticulture, ostrich farms and the like.
- Discourage land use and development that would be adversely affected by or prejudicial to the continued operations of Melbourne Airport.
- Minimize development near the Kororoit Creek to protect water quality and remnant vegetation, and preserve the natural landscape.
- Incorporate "Kororoit Creek Local Planning Policy" into the planning scheme to provide a framework for assessment of applications consistent with the Kororoit Creek Strategic Plan. Identify the need to provide for fencing of the creek area if development in this area is proposed and the long term goal of acquiring public land along the creek corridor to enable extension of the trail.
- Introduce an Environmental Significance Overlay, specific to Kororoit Creek, which applies to the creek corridor and its environs with the objectives of protecting remnant vegetation, protecting existing stream processes and water quality and protecting natural land forms, including rock outcrops and alluvial deposits and providing for links to the strategy document.
- Use the Heritage Overlay to identify and protect heritage places including the bridge on Holden Road and aboriginal sites.

Planning Scheme Implementation

- Adopt the Green Wedge Zone.
- Future subdivision of land is permitted, provided the lot or land parcel is 40 hectares or more in area. The subdivision must result in the creation of one large primary lot, and one or more smaller secondary lots. Lot entitlements are calculated by dividing the total area of the lot or land parcel by 20 (and then rounding down to the nearest whole number).
- Secondary lots are to be between 1–5 hectares in area, and have a buffer zone.
- All secondary lots must be connected to reticulated water, underground power and a sealed road that forms part of the municipal sealed road network.
- All uses and development that require a permit must prepare and submit an Environmental Management Plan, prepared in accordance with the Environmental Management Guidelines (1996).
- Develop an extractive industry policy which addresses existing and proposed quarrying activities and their impact on surrounding communities and land-uses.
- Discourage urban-type uses in accordance with the Rural Land Use Policy contained at Clause 22.08
- Protect the Toolern and Kororoit Creeks from inappropriate development by the Environmental Significance Overlay.
- Apply the Airport Environs Overlay Schedules 1 and 2 to noise exposed areas as approved by the Civil Aviation Authority (23/8/93) and endorsed by Air Services Australia (2/9/96).
- Introduce an Environmental Significance Overlay to Kororoit Creek.

21.04–6 Rockbank Plains

Snapshot

The Rockbank Plains are located generally between the Melton Highway and the Western Freeway. Initially, it was considered that this area would be developed at urban densities and would provide a link between Melbourne and Melton. Current planning policy however supports this area remaining as non-urban, providing a rural buffer between Melton and the metropolitan area. The area has mostly been subdivided into 12 hectare parcels, and most broad-hectare agriculture has long since ceased. Despite this trend, a number of landowners continue to farm their land, raise stock and the like. A large percentage of landowners, however, will run only one or two horses and have bought the property for its lifestyle (rather than its productive) value. This type of lot seems to be attractive to hobby farmers pursuing activities such as viticulture, big bird farming and "boutique" grazing (deer and some cattle). Two main traffic arterials – the Melton Highway and the Western Freeway run along the edge of this area. The maintenance of rural views and vistas along these routes is essential to preserve rural character and ambience.

Objective
To maintain the Rockbank Plains as a distinctive and permanent break between the western edge of metropolitan Melbourne and Melton township by discouraging rural and urban activities that have negative impacts (such as noise, high levels of traffic or odour) on nearby properties, and by encouraging tourist activities, hobby farms and equine industries.

Opportunities and Constraints
- The land has become highly fragmented, and broad-hectare agriculture has long since retreated to other parts of the Shire.
- The land has become infested with a number of noxious weeds, in particular serrated tussock. This has reduced the area's productivity and attractiveness as well as increased management costs to landowners.
- Previous planning policy has led to land speculation, rising prices and absentee land owners. This has contributed to poor land management practices and weed infestation.
- Despite a number of passionate farmers, most people have developed the land for residential purposes, and amenity expectations are high.
- The terrain is quite flat and treeless and development can be visually intrusive if it is not appropriately sited and designed.
- Kororoit Creek, with significant environmental, landscape and heritage values, flows through the area.

Strategies
- Protect amenity by discouraging intensive and offensive agricultural use and development.
- Discourage ribbon development from occurring along the Melton Highway and the Western Freeway.
- Ensure that new residential developments are connected to a reticulated water supply and sealed road.
- Promote the Leakes Road Precinct as a priority tourist area.
- Definitively prevent urban growth beyond the existing edges of the Melton Designated Township Area and the Melton East Growth Area.
- Discourage urban uses and development from occurring within the land unit.
- Review the planning and subdivision controls in the land unit within three years.
- Minimize development near the Kororoit Creek to protect water quality and remnant vegetation, and preserve the natural landscape.

Planning Scheme Implementation
- Adopt the Green Wedge Zone.
- Adopt a minimum lot size in the area of 12 hectares.
- Protect the Kororoit Creek with an Environmental Significance Overlay.
- Protect the Deans Marsh wetlands with an Environmental Significance Overlay.
- Implement the local policy relating to highway uses for land abutting the Melton Highway and the Calder and Western Freeways.
- Incorporate "Kororoit Creek Local Planning Policy" into the planning scheme to provide a framework for assessment of applications consistent with the Kororoit Creek Strategic Plan.
- Introduce an Environmental Significance Overlay to Kororoit Creek .
- Use the Heritage Overlay to identify and protect heritage places including the Rockbank Inn, Stoneleigh and aboriginal sites.

Schedule 1 To The Development Plan Overlay
Shown on the planning scheme map as DPO1

Melton East Growth Area
Requirement before a permit is granted: Prior to the issue of a planning permit for any use or development, a Development Plan must be prepared to the satisfaction of the Responsible Authority. A Development Plan must show:
- Detailed plans of sub areas within the plan as well as supporting documentation which assists to clarify the nature of development proposed.
- The relationship of the land to existing or proposed land uses on adjoining land.
- The proposed subdivision lot layout, the road network, pedestrian and bicycle network and open space and drainage reserves.
- The layout of any proposed Activity Centre.
- The proposed land uses for sub areas within the locality.
- The location of all vehicle and pedestrian access ways within, to and from the development.
- The location and layout of all car parking areas, loading bays and access to and from these areas.
- Details of all landscaping development proposed, including the types and species of plants and any arrangements for the maintenance of the landscaping after it has been established.
- The management of vegetation to minimise fire hazard and to ensure the safety of people and property.
- The stages (if any) by which the development of the land is proposed to proceed.
- Consistency with the Kororoit Creek Local Policy and Kororoit Creek Strategy 2005.

Requirements for development plan
Before deciding to approve a Development Plan, the responsible authority must consider:
- The existing and possible future development and use of the land and of contiguous or adjacent land.
- The need for appropriate setbacks from residential areas.
- The provision of water, sewerage, drainage and electricity services.
- The orderly planning of the zone, including the management of traffic, the provision of pedestrian ways and open space.
- The need for financial or other contributions towards the provision of reticulated services
- infrastructure, community and social facilities and services, transport infrastructure and services.
- The provisions of the Melton East Strategy Plan and municipal planning policy.
- The Kororoit Creek Local Policy and Kororoit Creek Strategy 2005.

22 Local Planning Policies
22.10 Kororoit Creek
This policy applies to Kororoit Creek and its environs.

Policy basis
Kororoit Creek and its environs is a significant environmental, recreational and heritage asset of the western region of Melbourne. The creek provides some of the only flora and fauna habitat in this highly modified landscape. The in-stream values along the entire length of the Kororoit Creek are high and while the banks of the Kororoit Creek and the land at the top of the banks have generally been degraded in relation to natural pre-European settlement values, these areas do contain a number of sites which host remnant vegetation and provide valuable habitat. Water quality is a particular issue as this waterway flows into the Jawbone Marine Sanctuary within Port Phillip Bay. The creek's semi natural environment is also an important recreational asset for local residents. Kororoit Creek also provides an insight into the pre-settlement landscape and research indicates that there are a large number of identified or potential sites on the Kororoit Creek which contain relics of Aboriginal activity. Such sites are easily disturbed and lost. The Kororoit Creek corridor is also home to a number of sites from past post-contact activity.

The Kororoit Creek Strategic Plan has been developed to provide a regional management structure for this natural system. The Kororoit Creek Strategic Plan seeks to provide for the protection of the natural resource values of the creek, enhance public access and use of the creek environs and ensure the landscape is restored to its natural state and incorporated into the adjoining urban area.

Objective
To protect and enhance the environmental, landscape, cultural, heritage and recreational values of Kororoit Creek.

Policy

It is policy that:

- Land use change and development along the creek and within its environs should be consistent with and support the Kororoit Creek Regional Strategy.

Biodiversity

- Bio-diversity values of Kororoit Creek and its environs (vegetation communities, fauna habitat and flora and fauna populations) should be protected from further direct and indirect losses and degradation.
- Activity within and adjacent to the Creek must not impact negatively upon the values within the stream channel, but should, where possible, enhance them.
- Sites of remnant vegetation and habitat must be protected and not negatively impacted on by any other activity which may occur within the Creek environs.
- Developments along Kororoit Creek and its environs must be guided by principles of sustainability, including the wise use of non-renewable resources in the built environment and landscape.
- Revegetation along the creek shall be in accordance with the requirements of the Kororoit Creek Strategy Plan.

Heritage

- All heritage 'material', sites, areas, buildings, artefacts should be regarded as non-renewable assets, and protected as such.
- Development adjacent to and within the Creek corridor should seek to preserve components of the heritage inventory, and where possible incorporate a process to improve knowledge of those resources. Council may require an archaeological survey where it is considered there is a risk of disturbance to heritage assets from development.
- Loss of heritage materials due to development should only be permitted with an appropriate level of documentation and professional assessment.
- The role of heritage conservation in good land management practices should include the primacy of site protection over land development.
- The Kororoit Creek Regional Strategy should be consulted in the first instance to determine whether development may impact on heritage assets as this document includes maps of identified pre and post contact heritage sites.
- Indigenous custodial groups should be consulted with in regard to conservation of aboriginal cultural material.

Waterway Management

- New development or alterations to existing developments along the creek or within the creek environs should seek to ensure water quality is protected and if possible improved. Water sensitive urban design principles should be used to minimize potential impact on receiving waters. Emphasis should especially be placed on site management of sediment and associated nutrient run-off during the construction phase and ongoing use of the site, creation of adequate buffers and reserves to protect natural valley morphology, management of building-generated litter and stormwater treatment.
- Development should not alter natural or predevelopment hydrologic regimes and thereby cause damage to stream environments.
- Existing areas within the catchment that are in a relatively unaltered hydrologic condition should be protected.
- Stock access to waterway frontages should be minimized.
- Stream frontages should be protected from development and disturbance of alluvial deposits should be avoided.

Recreation / Linear Parkland

- Management, planning and design should aim to achieve a continuous recreational / environmental trail along the entire length of Kororoit Creek.
- The Kororoit Creek should provide opportunities for an array of active, informal recreation pursuits at the local, district and regional level.
- The Kororoit Creek corridor should provide opportunities to link and integrate recreation uses with other public/community activities (eg. schools, retail centres, community centres) adjacent to or accessible from the Creek corridor.
- Pathways, simple seats, bridges and appropriate service and safety facilities are to be encouraged. Built structures that are to be provided within the creek environment for recreational use should be planned and designed in a sensitive manner. Significant built service facilities, such as barbeques, shelters, interpretive services, toilets and parking should be discouraged along the Creek corridor.
- The provision of recreation opportunities will be subject in all instances to constraints imposed by other key principles of the Kororoit Creek Regional Strategy. For instance, the protection of significant environmental or heritage values must take precedence over provision for recreation.

Landscape / Visual Character

- Improvements to the landscape character of the Creek and its valley should also be based primarily on elements of the "parent" landscape, particularly indigenous vegetation.
- Development / improvement of the Creek corridor landscape (particularly through planting) should reflect the landform / geomorphology of the Creek valley.
- The role of Kororoit Creek as a connecting element within the diverse urban form should be reinforced through the creation of an integrated and unified landscape character, based on the use of indigenous planting materials and consistent built landscape elements, such as signage, pathways, furniture etc.
- Where important heritage elements (such as bridges, old buildings, exotic plantings) interact with the Creek landscape, these should be preserved and treated as distinct events or nodes, contrasting with the predominantly "natural' character of the Creek.
- Views to important landscape elements (such as historic bridges, trees, mountains, rock escarpments), must be protected from the visual intrusion of inappropriate elements, such as new development, utilities, signage etc.
- Adjoining spaces should be visually interlinked to lead visitors through the valley landscape, reveal key attractions and nodal points, and highlight linkages with the "hinterland".
- The existing profile of the Creek corridor should not be altered through inappropriate filling.

Urban and Landscape Design

- The Kororoit Creek corridor should have clear physical links to Activity Centres, Schools and other elements that are important in contemporary urban communities. This will also apply in creating links with significant heritage elements.
- The impacts of urban infrastructure, such as powerlines, drains, car parks etc must be dealt with sensitively so as to minimise the visual and physical impact on the natural experience of the Kororoit Creek corridor.
- The confluence of the Kororoit Creek corridor and the adjoining street system (particularly in residential areas) must be considered so that both views and access contribute to integration of the Creek corridor with its Urban Context. The creek must be incorporated into any new adjoining residential development with the aim of making it an open and accessible space. Buildings should face onto the creek, setbacks maximised and fences minimised to protect the open and accessible feeling.
- The creek area should be adjoined by roads in preference to buildings to maintain the openness of the area. Open space contributions as a part of a residential development should be based on the creek and its environs where possible.

Kororoit Creek in the Shire of Melton

It is policy that:

- The acquiring of land along the creek corridor within the rural area may be pursued in the future to enable the extension of the trail and public access.
- The rock and boulder outcrops in this section of the creek are particularly significant as geological features and should be protected.
- The alluvial deposits in this section of the creek are particularly significant as it is considered likely that they may contain undiscovered archaeological sites. These deposits should not be disturbed. If disturbance is considered necessary an archeological survey should be conducted.
- Views to Mt Kororoit and the Old Holden Road Bridge are considered significant and should be protected.
- Fencing of the creek from stock should be incorporated into any development in the rural areas where possible.

- New residential development at the urban fringe should be integrated with the creek as specified elsewhere in this policy.
- Through the new urban area, public land should be provided along the creek.
- Construction activity must be managed so that sediment and rubbish do not pollute the creek water and environs.

Changes to the Brimbank Planning Scheme

21.02 Water catchments and stormwater management

The Kororoit Creek is one of Melbourne's significant waterways, traversing a range of rural, residential and industrial environments. It has important natural and cultural values. It provides a unique open space, a touch of rural within the urban area, and an opportunity to link the communities it passes through. It has environmental significance in that the water body itself and surrounds provide habitat to terrestrial and aquatic flora and fauna. Water quality is of specific importance as the creek flows into Port Philip Bay at the Altona Coastal Park and the Jawbone Marine Sanctuary. The creek area provides an insight into the presettlement landscape of the area and harbours heritage artefacts from pre and post contact settlement.

21.03–5 Water catchments and stormwater management

Water quality of the Kororoit Creek is reasonable, although management of land use and development along the creek and surrounding areas is required to ensure it is not further degraded, and if possible is improved.

21.11 Environment

We can ensure that Brimbank develops in environmentally sustainable ways by encouraging forms of development which minimise waste and energy consumption. It is also important to preserve the features of Brimbank which give the city its character, namely the features that matter to the community, not just to the historians.

Objectives

- To promote balanced development. The aim is to maximise Brimbank's economic opportunities, create more employment, and develop a strong municipal rate base while protecting environmental features and enhancing quality of life.
- Landscape assets should be preserved and promoted as core features of the municipality's identity.
- To build on its natural advantages by introducing more landscape variety in developed and developing neighbourhoods. At present, major recreational areas are sparsely planted, and there are few outstanding examples of landscaping along major roads. The creation of treed boulevards and natural landscape reserves will increase Brimbank's visual appeal and biodiversity.

Strategies

- Retain the open landscape image of Brimbank's north-western gateway area.
- Protect and enhance the character of existing neighbourhoods such as Keilor Village, St Albans and Sunshine.
- Protect and enhance important natural assets and strongly discourage development that undermines the environmental significance of Brimbank's remnant native grasslands, the sensitive areas north of the Calder Freeway, the Maribyrnong River, Kororoit Creek and Taylors Creek Valleys, and other areas of environmental significance.
- Assist the conservation of recognised places of aesthetic, historical, cultural, scientific, natural or social significance.
- Encourage the appropriate redevelopment of both large and small under-used and visible sites.
- Upgrade Brimbank's major gateways and main arterial roads, as indicated on Figure 9.
- Upgrade the environs around and vistas from major railway lines.
- Protect and enhance the environmental, landscape, heritage and recreational values of Kororoit Creek.
- Ensure that development and use of land adjacent to Kororoit Creek integrates the creek in its design and layout.
- Pursue opportunities for land along the Kororoit Creek to be available for public access to provide a continuous trail along the creek, should the use and/or development of the Orica Site change to allow public access to the land.

Implementation

Planning Scheme

- Introduce the State public park and public land zones
- Apply local policy on urban design
- Rezone land along the Kororoit Creek to PCRZ, with the exception of formal recreation areas which should be zoned PPRZ.
- Introduce an Environmental Significance Overlay specific to Kororoit Creek and its environs with the objectives of protecting remnant vegetation, protecting existing stream processes and water quality and protecting natural land forms and providing for links to the Kororoit Creek Regional Strategy Plan document.
- Apply a DDO to land that backs onto the creek and public reserve to ensure that new development does not compromise the creek landscape and is integrated with the creek and reserve area.
- Use Heritage Overlay to identify and protect heritage places including Aboriginal sites, where appropriate.
- Introduce the Land Subject to Innundation Overlay.

Other Council Actions

. Prepare and adopt the Post-Contact Heritage Strategy
. Implement the Aboriginal Heritage Strategy
. Implement the Natural Heritage Strategy
. Implement major gateway and arterial road image improvement programs.

22 Local Planning Policies

22.xx Kororoit Creek

This policy applies to Kororoit Creek and its environs.

Policy basis

Kororoit Creek and its environs is a significant environmental, recreation and heritage asset of the western region of Melbourne. The creek provides some of the only flora and fauna habitat in this highly modified landscape. The in-stream values along the entire length of the Kororoit Creek are high and while the banks of the Kororoit Creek and the land at the top of the banks have generally been degraded in relation to natural pre-European settlement values, these areas do contain a number of sites which host remnant vegetation and provide valuable habitat. Water quality is a particular issue as this waterway flows into the Jawbone Marine Sanctuary within Port Phillip Bay. The creeks semi natural environment is also an important recreational asset for local residents. Kororoit Creek also provides an insight into the pre-settlement landscape and research indicates that there are a large number of identified or potential sites on the Kororoit Creek which contain relics of Aboriginal activity. Such sites are easily disturbed and lost.. The Kororoit Creek corridor is also home to a number of sites from past post-contact activity.

The Kororoit Creek Strategic Plan has been developed to provide a regional management structure for this natural system. The Kororoit Creek Strategic Plan seeks to provide for the protection of the natural resource values of the creek, enhance public access and use of the creek environs and ensure the landscape is restored to its natural state and incorporated into the adjoining urban area.

Objective

To protect and enhance the environmental, landscape, cultural, heritage and recreational values of Kororoit Creek.

Policy

It is policy that:

- Land use change and development along the creek and within its environs should be consistent with and support the Kororoit Creek Strategic Plan.

Biodiversity

- Bio-diversity values of Kororoit Creek and its environs (vegetation communities, fauna habitat and flora and fauna populations) should be protected from further direct and indirect losses and degradation.
- Activity within and adjacent to the Creek must not impact negatively upon the values within the stream channel, but should, where possible, enhance them.
- Sites of remnant vegetation and habitat must be protected and not negatively impacted on by any other activity which may occur within the Creek environs.
- Developments along Kororoit Creek and its environs must be guided by principles of sustainability, including the wise use of non-renewable resources in the built environment and landscape.
- Revegetation along the creek shall be in accordance with the requirements of the Kororoit Creek Strategy Plan.

Heritage

- All heritage 'material', sites, areas, buildings, artefacts should be regarded as non-renewable assets, and protected as accordingly.
- Development adjacent to and within the Creek corridor should seek to preserve components of the heritage inventory, and where possible incorporate a process to improve knowledge of those resources. Council may require an archaeological survey where it is considered there is a risk of disturbance to aboriginal heritage assets from development.
- Loss of heritage fabric due to development should only be permitted with an appropriate level of documentation and professional assessment.
- The role of heritage conservation in good land management practices should include the primacy of site protection over land development subject to the significance and integrity of the heritage places.
- The Kororoit Creek Strategy Plan should be consulted in the first instance to determine whether development may impact on heritage assets as this document includes maps of identified pre and post contact heritage sites.
- Indigenous custodial groups should be consulted with in regard to the investigation of Aboriginal cultural places.

Waterway Management

- New development or alterations to existing developments along the creek or within the creek environs should seek to ensure water quality is protected and if possible improved. Water sensitive urban design principles should be used to minimize potential impact on receiving waters. Emphasis should especially be placed onsite management of sediment and associated nutrient run-off during the construction phase and ongoing use of the site, creation of adequate buffers and reserves to protect natural valley morphology, management of building-generated litter and stormwater treatment.
- Development should not alter natural or predevelopment hydrologic regimes and thereby cause damage to stream environments.
- Existing areas within the catchment that are in a relatively unaltered hydrologic condition should be protected.
- Stock access to waterway frontages should be minimized.
- Stream frontages should be protected from development and disturbance of alluvial deposits should be avoided.

Recreation / Linear Parkland

- Management, planning and design should aim to achieve a continuous recreation / environmental trail along the entire length of Kororoit Creek.
- The Kororoit Creek should provide opportunities for an array of active, informal recreation pursuits at the local, district and regional level.
- The Kororoit Creek corridor should provide opportunities to link and integrate recreation uses with other public/community activities (eg. schools, retail centres, community centres) adjacent to or accessible from the Creek corridor.
- Pathways, simple seats, bridges and appropriate service and safety facilities are to be encouraged. Built structures that are to be provided within the creek environment for recreational use should be planned and designed in a sensitive manner. Significant built service facilities, such as barbeques, shelters, interpretive services, toilets and parking should be discouraged along the Creek corridor.
- The provision of recreation opportunities will be subject in all instances to constraints imposed by other key principles of the Kororoit Creek Strategic Plan 2003. For instance, the protection of significant environmental or heritage values must take precedence over provision for recreation.

Landscape / Visual Character

- Improvements to the landscape character of the Creek and its valley should also be based primarily on elements of the "parent" landscape, particularly indigenous vegetation.
- Development / improvement of the Creek corridor landscape (particularly through planting) should reflect the landform / geomorphology of the Creek valley.
- The role of Kororoit Creek as a connecting element within the diverse urban form should be reinforced through the creation of an integrated and unified landscape character, based on the use of indigenous planting materials and consistent built landscape elements, such as signage, pathways, furniture etc.
- Where important heritage elements (such as bridges, old buildings, exotic plantings) interact with the Creek landscape, these should be preserved and treated as distinct events or nodes, contrasting with the predominantly "natural' character of the Creek.
- Views to important landscape elements (such as historic bridges, trees, mountains, rock escarpments), must be protected from the visual intrusion of inappropriate elements, such as new development, utilities, signage etc.
- Adjoining spaces should be visually interlinked to lead visitors through the valley landscape, reveal key attractions and nodal points, and highlight linkages with the "hinterland".
- The existing profile of the Creek corridor should not be altered through inappropriate filling.

Urban and Landscape Design

- The Kororoit Creek corridor should have clear physical links to Activity Centres, Schools and other elements that are important in contemporary urban communities. This will also apply in creating links with significant heritage elements (eg. Black Powder Mill, Deanside etc).
- The impacts of urban infrastructure, such as powerlines, drains, car parks etc must be dealt with sensitively so as to minimise the visual and physical impact on the natural experience of the Kororoit Creek corridor.
- The confluence of the Kororoit Creek corridor and the adjoining street system (particularly in residential areas) must be considered so that both views and access contribute to integration of the Creek corridor with its Urban Context. The creek must be incorporated into any new adjoining residential development with the aim of making it an open and accessible space. Buildings should face onto the creek, setbacks maximised and fences minimised to protect the open and accessible feeling.
- The creek area should be adjoined by roads in preference to buildings to maintain the openness of the area. Open space contributions as a part of a residential development should be based on the creek and its environs where possible.

Kororoit Creek in the City of Brimbank

The above policy statements apply along the length of the Kororoit Creek, and seek to provide for consistency in terms of the management of the creek and its environs regardless of local government boundaries. This section of the policy highlights issues specific to the City of Brimbank.

Within the City of Brimbank the Kororoit Creek passes through new and established residential areas and industrial areas.

It is policy that:

- Development of land adjacent to the creek area should seek to enhance the principles of preserving its natural state and providing for accessibility. Buildings should face onto the creek, setbacks should be maximised and building heights minimised. Additional policy statements relating to the incorporation of the creek into urban areas are included elsewhere in this Policy.
- Should the nature of land use and/or development on the Orica site change so that public access may be appropriate, opportunities for land adjacent to the creek to be incorporated into the creek trail network maybe pursued.

Policy Reference

Kororoit Creek Regional Strategic Plan

Changes To The Wyndham Planning Scheme

22 Local Planning Policies

22.xx Kororoit Creek

This policy applies to Kororoit Creek and its environs.

Policy basis

Kororoit Creek and its environs is a significant environmental, recreation and heritage asset of the western region of Melbourne. The creek provides some of the only flora and fauna habitat in this highly modified landscape. The in-stream values along the entire length of the Kororoit Creek are high while the banks of the Kororoit Creek and the land at the top of the banks have generally been degraded in relation to natural pre-European settlement values, these areas do contain a number of sites which host remnant vegetation and provide valuable habitats. Water quality is a particular issue as this waterway flows into the Jawbone Marine Sanctuary within Port Phillip Bay. The creeks semi natural environment is also an important recreational asset for local residents. Kororoit Creek provides an insight into the pre-settlement landscape and research indicates that there are a large number of identified or potential sites. The Kororoit Creek corridor is also home to a number of sites from past post-contact activity of Aboriginal cultural heritage significance. These sites must be protected to ensure that inappropriate activites do not effect their significance,

The Kororoit Creek Strategic Plan has been developed to provide a regional management structure for this natural system. The Kororoit Creek Strategic Plan seeks to provide for the protection of the natural resource values of the creek, enhance public access and use of the creek environs and to ensure the landscape is restored to its natural state and incorporated into the adjoining urban area.

Objective

To protect and enhance the environmental, landscape, cultural, heritage and recreational values of Kororoit Creek and its environs.

Policy

It is policy that;

- Land use change and development along the creek and within its environs should be consistent with and support the Kororoit Creek Strategic Plan.

Biodiversity

- Bio-diversity values of Kororoit Creek and its environs (vegetation communities, fauna habitat and flora and fauna populations) should be protected from further direct and indirect losses and degradation.
- Activity within and adjacent to the Creek must not impact negatively upon the values within the stream channel, but should, where possible, enhance them.
- Sites of remnant vegetation and habitat must be protected and not negatively impacted on by any other activity which may occur within the Creek environs.
- Developments along Kororoit Creek and its environs must be guided by principles of sustainability, including the wise use of non-renewable resources in the built environment and landscape.
- Revegetation along the creek shall be in accordance with the requirements of the Kororoit Creek Strategy Plan.

Heritage

- All heritage 'material', sites, areas, buildings, artefacts should be regarded as non-renewable assets, and protected as such.
- Development adjacent to and within the Creek corridor should seek to preserve components of the heritage inventory, and where possible incorporate a process to improve knowledge of those resources. Council may require an archaeological survey where it is considered there is a risk of disturbance to heritage assets from development.
- Loss of heritage materials due to development should only be permitted with an appropriate level of documentation and professional assessment.
- The role of heritage conservation in good land management practices should include the primacy of site protection over land development.
- The Kororoit Creek Strategy Plan should be consulted in the first instance to determine whether development may impact on heritage assets as this document includes maps of identified pre and post contact heritage sites.
- Indigenous custodial groups should be consulted with in regard to conservation of aboriginal cultural material.

Waterway Management

- New development or alterations to existing developments along the creek or within the creek environs should seek to ensure water quality is protected and if possible improved. Water sensitive urban design principles should be used to minimize potential impact on receiving waters. Emphasis should especially be placed onsite management of sediment and associated nutrient run-off during the construction phase and ongoing use of the site, creation of adequate buffers and reserves to protect natural valley morphology, management of building-generated litter and stormwater treatment.
- Development should not alter natural or predevelopment hydrologic regimes and thereby cause damage to stream environments.
- Existing areas within the catchment that are in a relatively unaltered hydrologic condition should be protected.
- Stock access to waterway frontages should be minimized.
- Stream frontages should be protected from development and disturbance of alluvial deposits should be avoided.

Recreation / Linear Parkland

- Management, planning and design should aim to achieve a continuous recreation / environmental trail along the entire length of Kororoit Creek.
- The Kororoit Creek should provide opportunities for an array of active, informal recreation pursuits at the local, district and regional level.
- The Kororoit Creek corridor should provide opportunities to link and integrate recreation uses with other public/community activities (eg. schools, retail centres, community centres) adjacent to or accessible from the Creek corridor.
- Pathways, seats, bridges and appropriate service and safety facilities are to be encouraged. Built structures that are to be provided within the creek environment for recreational use should be planned and designed in a sensitive manner. Significant built service facilities, such as barbeques, shelters, interpretive services, toilets and parking should be discouraged along the Creek corridor.
- The provision of recreation opportunities will be subject in all instances to constraints imposed by other key principles of the Kororoit Creek Strategic Plan 2003. For instance, the protection of significant environmental or heritage values must take precedence over provision for recreation opportunities/activities.

Landscape / Visual Character

- Improvements to the landscape character of the Creek and its valley should be based primarily on elements of the "parent" landscape, particularly indigenous vegetation.
- Development / improvement of the Creek corridor landscape (particularly through planting) should reflect the landform / geomorphology of the Creek valley.
- The role of Kororoit Creek as a connecting element within the diverse urban form should be reinforced through the creation of an integrated and unified landscape character, based on the use of indigenous planting materials and uniform built landscape elements, such as signage, pathways, furniture etc.
- Where important heritage elements (such as bridges, old buildings and exotic plantings) interact with the Creek landscape, these should be preserved and treated as distinct events or nodes, contrasting with the predominantly "natural' character of the Creek.
- Views to important landscape elements (such as historic bridges, trees, mountains, rock escarpments), must be protected from the visual intrusion of inappropriate elements, such as new development, utilities, signage etc.
- Adjoining spaces should be visually interlinked to lead visitors through the valley landscape, reveal key attractions and nodal points, and highlight linkages with the "hinterland".
- The existing profile of the Creek corridor should not be altered through inappropriate filling.

Urban and Landscape Design

- The Kororoit Creek corridor should have clear physical links to Activity Centres, schools and other uses that are important in contemporary urban communities. This will also apply in creating links with significant heritage elements.
- The impacts of urban infrastructure, such as powerlines, drains, car parks etc must be dealt with sensitively so as to minimise the visual and physical impact on the natural experience of the Kororoit Creek corridor.
- The confluence of the Kororoit Creek corridor and the adjoining street system (particularly in residential areas) must be considered so that both views and access contribute to integration of the Creek corridor with its Urban Context. The creek must be incorporated into any new adjoining residential development with the aim of making it an open and accessible space. Buildings should face onto the creek, setbacks should be maximised and fences should be visually permeable to protect the open and accessible feeling.

- The creek area should be adjoined by roads in preference to buildings to maintain the openness of the area. Open space contributions as a part of a residential development should located along the creek and its environs where possible.

Policy Reference
Kororoit Creek Regional Strategic Plan

Changes to Hobsons Bay Planning Scheme

21.02–6 The Natural Environment

Hobsons Bay is on the eastern extremity of the lava plains that stretch from Melbourne to Mount Gambier in South Australia. The volcanic plains of Melbourne's Western Region are characterised by flat topography, basalt rock and originally, extensive native grasslands with relatively few substantial trees.

Soils are typically very expansive clays which provide a difficult medium for new gardens.

The Western Region has a relatively dry climate with about 15% lower rainfall than eastern parts of Melbourne. Hobsons Bay has an average annual rainfall of about 650 mm.

The climate, topography, soil conditions and lack of natural tree cover are factors that combine to produce an urban landscape that tends to be hard edged.

The watercourses of Hobsons Bay are biologically significant. For example, Cheetham Wetlands is of international faunal significance and the Williamstown Foreshore and Altona Bay are of National significance. Kororoit Creek is of state faunal significance while the Altona Foreshore, Truganina Drainage Basin and Greenwich Bay are of regional faunal significance (Schulz et al, 1991).

The Laverton North Grasslands Reserve is one of only two reserves for the conservation of Western (Basalt) Plains Grassland. It is estimated that less than 0.1% of the original grassland which once covered much of western Victoria now remains. The grassland community is listed as a threatened community under the Flora and Fauna Guarantee Act 1988 and supports a variety of rare and threatened species of plants and animals.

The Coast

The municipality occupies the coastline of Port Phillip Bay from the west bank of the Yarra River to Skeleton Creek. The coastline is a major feature of the geography of Hobsons Bay. Unlike the coastline of the eastern bayside suburbs of Melbourne, it contains sections that are relatively unchanged by urban or recreational development.

Creeks, Watercourses and Wetlands

In addition to the coast, several creeks flow through the municipality, including Kororoit, Cherry, Skeleton, Laverton and Stony. The Cherry Creek wetlands were enlarged to create Cherry Lake to alleviate flooding problems caused by the confluence of Cherry and Kororoit Creeks. This is now a valuable ecological and recreation area. The Newport Lakes and surrounding natural recreation area have been created from the former quarry site. The Truganina Swamp covers an area of 143 ha west of Altona, eventually forming a tributary to Laverton Creek. The Altona Coastal Park at the mouth of Kororoit Creek, formally containing the Williamstown racecourse, is a significant mangrove and saltmarsh habitat. The Jawbone Flora and Fauna Reserve and Williamstown Wetlands also contain a very important remnant of the original saltmarsh / mangrove community. The Cheetham Wetlands Coastal Park, 505 ha of which was formally used as the Cheetham Saltworks, is an area in regeneration and a feeding ground for a wide variety of birds.

The Kororoit Creek is one of Melbourne's significant waterways, traversing a range of rural, residential and industrial environments. It has important natural and cultural values. It provides a unique open space, a touch of rural within the urban area, and an opportunity to link the communities it passes through. It has environmental significance in that the water body itself and surrounds provide habitat to terrestrial and aquatic flora and fauna. Water quality is of specific importance as the creek flows into Port Philip Bay at the Altona Coastal Park and the Jawbone Marine Sanctuary. The creek area also provides an insight into the presettlement landscape of the area and also harbours heritage artefacts from pre and post contact settlement.

These natural open areas are prized by residents and visitors. They have cultural significance and help to give the municipality its unique character.

21.11 Open Space, Environment and Conservation

Objective 5
Add in…

- Protect and enhance the environmental, landscape, heritage and recreational values of Kororoit Creek.

Using policy and the exercise of discretion as follows:
Add in…

- Incorporate "Kororoit Creek Local Planning Policy" into the planning scheme to provide a framework for assessment of applications consistent with the Kororoit Creek Strategic Plan.

Applying zones and overlays as follows:
Add in…

- Rezone PPRZ public land along Kororoit Creek with conservation values to PCRZ. Formal recreation areas should be zoned PPRZ.
- Introduce an Environmental Significance Overlay specific to Kororoit Creek which applies to the creek and its environs with the objectives of protecting remnant vegetation, protecting existing stream processes and water quality and protecting natural land forms and providing for links to the strategy document.
- Apply a DDO to land that backs onto Kororoit Creek and public reserve ensure that new development does not compromise the creek landscape and is integrated with the creek and reserve area.
- Apply the PAO to land along the creek required for public use.

22 Local Planning Policies

22.xx Kororoit Creek

This policy applies to Kororoit Creek and its environs.

Policy basis

Kororoit Creek and its environs is a significant environmental, recreation and heritage asset of the western region of Melbourne. The creek provides some of the only flora and fauna habitat in this highly modified landscape. The in-stream values along the entire length of the Kororoit Creek are high and while the banks of the Kororoit Creek and the land at the top of the banks have generally been degraded in relation to natural pre-European settlement values, these areas do contain a number of sites which host remnant vegetation and provide valuable habitat. Water quality is a particular issue as this waterway flows into the Jawbone Marine Sanctuary within Port Phillip Bay. The creeks semi natural environment is also an important recreational asset for local residents. Kororoit Creek also provides an insight into the pre-settlement landscape and research indicates that there are a large number of identified or potential sites on the Kororoit Creek which contain relics of Aboriginal activity. Such sites are easily disturbed and lost.. The Kororoit Creek corridor is also home to a number of sites from past post-contact activity.

The Kororoit Creek Strategic Plan has been developed to provide a regional management structure for this natural system. The Kororoit Creek Strategic Plan seeks to provide for the protection of the natural resource values of the creek, enhance public access and use of the creek environs and ensure the landscape is restored to its natural state and incorporated into the adjoining urban area.

Objective

To protect and enhance the environmental, landscape, cultural, heritage and recreational values of Kororoit Creek.

Policy

It is policy that:

- Land use change and development along the creek and within its environs should be consistent with and support the Kororoit Creek Strategic Plan.

Biodiversity

- Bio-diversity values of Kororoit Creek and its environs (vegetation communities, fauna habitat and flora and fauna populations) should be protected from further direct and indirect losses and degradation.
- Activity within and adjacent to the Creek must not impact negatively upon the values within the stream channel, but should, where possible, enhance them.
- Sites of remnant vegetation and habitat must be protected and not negatively impacted on by any other activity which may occur within the Creek environs.
- Developments along Kororoit Creek and its environs must be guided by principles of sustainability, including the wise use of non-renewable resources in the built environment and landscape.
- Revegetation along the creek shall be in accordance with the requirements of the Kororoit Creek Strategy Plan.

Heritage

- All heritage 'material', sites, areas, buildings, artefacts should be regarded as non-renewable assets, and protected as such.
- Development adjacent to and within the Creek corridor should seek to preserve components of the heritage inventory, and where possible incorporate a process to improve knowledge of those resources. Council may require an archaeological survey where it is considered there is a risk of disturbance to heritage assets from development.
- Loss of heritage materials due to development should only be permitted with an appropriate level of documentation and professional assessment.
- The role of heritage conservation in good land management practices should include the primacy of site protection over land development.
- The Kororoit Creek Strategy Plan should be consulted in the first instance to determine whether development may impact on heritage assets as this document includes maps of identified pre and post contact heritage sites.
- Indigenous custodial groups should be consulted with in regard to conservation of aboriginal cultural material.

Waterway Management

- New development or alterations to existing developments along the creek or within the creek environs should seek to ensure water quality is protected and if possible improved. Water sensitive urban design principles should be used to minimize potential impact on receiving waters. Emphasis should especially be placed on site management of sediment and associated nutrient run-off during the construction phase and ongoing use of the site, creation of adequate buffers and reserves to protect natural valley morphology, management of building-generated litter and stormwater treatment.
- Development should not alter natural or predevelopment hydrologic regimes and thereby cause damage to stream environments.
- Existing areas within the catchment that are in a relatively unaltered hydrologic condition should be protected.
- Stock access to waterway frontages should be minimized.
- Stream frontages should be protected from development and disturbance of alluvial deposits should be avoided.

Recreation / Linear Parkland

- Management, planning and design should aim to achieve a continuous recreation / environmental trail along the entire length of Kororoit Creek.
- Kororoit Creek should provide opportunities for an array of active, informal recreation pursuits at the local, district and regional level.
- The Kororoit Creek corridor should provide opportunities to link and integrate recreation uses with other public/community activities (eg. schools, retail centres, community centres) adjacent to or accessible from the Creek corridor.
- Pathways, simple seats, bridges and appropriate service and safety facilities are to be encouraged. Built structures that are to be provided within the creek corridor environment for recreational use should be planned and designed in a sensitive manner. Significant built service facilities, such as barbeques, shelters, interpretive services, toilets and parking should be discouraged along the Creek corridor.
- The provision of recreation opportunities will be subject in all instances to constraints imposed by other key principles of the Kororoit Creek Strategic Plan 2005. For instance, the protection of significant environmental or heritage values must take precedence over provision for recreation.

Landscape / Visual Character

- Improvements to the landscape character of the Creek Corridor and its valley should also be based primarily on elements of the "parent" landscape, particularly indigenous vegetation.
- Development / improvement of the Creek Corridor landscape (particularly through planting) should reflect the landform / geomorphology of the Creek Corridor valley.
- The role of Kororoit Creek as a connecting element within the diverse urban form should be reinforced through the creation of an integrated and unified landscape character, based on the use of indigenous planting materials and consistent built-landscape elements, such as signage, pathways, furniture, etc.
- Where important heritage elements (such as bridges, old buildings, exotic plantings) interact with the Creek Corridor landscape, these should be preserved and treated as distinct events or nodes, contrasting with the pre-dominantly "natural' character of the Creek Corridor.
- Views to important landscape elements (such as historic bridges, trees, mountains, rock escarpments), must be protected from the visual intrusion of inappropriate elements, such as new development, utilities, signage etc.
- Adjoining spaces should be visually interlinked to lead visitors through the valley landscape, reveal key attractions and nodal points, and highlight linkages with the "hinterland".
- The existing profile of the Creek corridor should not be altered through inappropriate filling.

Urban and Landscape Design

- The Kororoit Creek corridor should have clear physical links to Activity Centres, Schools and other elements that are important in contemporary urban communities. This will also apply in creating links with significant heritage elements.
- The impacts of urban infrastructure, such as powerlines, drains, car parks etc must be dealt with sensitively so as to minimise the visual and physical impact on the natural experience of the Kororoit Creek corridor.
- The confluence of the Kororoit Creek corridor and the adjoining street system (particularly in residential areas) must be considered so that both views and access contribute to integration of the Creek corridor with its Urban Context. The creek must be incorporated into any new adjoining residential development with the aim of making it an open and accessible space. Buildings should face onto the creek, setbacks maximised and fences minimised to protect the open and accessible feeling.
- The creek area should be adjoined by roads in preference to buildings to maintain the openness of the area. Open space contributions as a part of a residential development should be based on the creek and its environs where possible.

Kororoit Creek in the City of Hobsons Bay

The above policy statements apply along the length of the Kororoit Creek, and seek to provide for consistency in terms of the management of the creek and its environs regardless of local government boundaries. This section of the policy highlights issues specific to the City of Hobsons Bay

Within the City of Hobsons Bay the Kororoit Creek largely passes through industrial areas.

It is policy that:

- Development of land adjacent to the creek corridor area should seek to enhance the principles of preserving its natural state and providing for accessibility. Buildings should face onto the creek corridor, setbacks should be maximised and building heights minimised. Additional policy statements relating to incorporation of the creek corridor into urban areas are included elsewhere in this Policy.
- The rock and boulder outcrops in the section of the creek adjacent to the Altona Memorial Park are particularly significant as a geological feature and should be protected.

Policy Reference

Kororoit Creek Regional Strategic Plan

A New Environmental Significance Overlay

Kororoit Creek

Schedule number to the environmental significance overlay. Shown on the planning scheme map as ESO number.

Statement of environmental significance

The Kororoit Creek is a major environmental feature of the western suburbs. It provides some of the only flora and fauna habitat in this highly modified landscape. Water quality is a particular issue as this waterway flows into Port Phillip Bay and the Jawbone Marine Sanctuary. This semi natural environment is also an important recreational asset for local residents.

Environmental objective to be achieved

To enhance the quality of water in the Kororoit Creek;
To protect existing remnant vegetation along the Kororoit Creek and provide for enhancement of this habitat;
To maintain this landscape and landform in as close to its natural state as possible.

Permit requirement
A permit is required to construct a fence.

Decision guidelines
Buildings or works must be consistent with and supportive of the objectives, directions and identified values of the Kororoit Creek Strategic Plan; Any buildings or works must not compromise remnant native vegetation; Any buildings or works must not compromise the creek landscape or natural landform; Any buildings or works must not threaten stream processes or water quality.

A New Design Development Overlay
Kororoit Creek neighbourhood
Schedule number to the Design and Development Overlay. Shown on the planning scheme map as DDO number.

Design objective
To ensure that new urban development is integrated with the creek environs, does not compromise the creek corridor landscape and is consistent with the Kororoit Creek Strategy Plan.

Buildings and works
Subdivision
Advertising signs
Decision guidelines
- Clear physical links should be maintained or provided between the Kororoit Creek corridor and Activity Centres, Schools and other elements that are important in contemporary urban communities.
- Urban infrastructure, such as powerlines, drains, car parks etc must be dealt with sensitively so as to minimise the visual and physical impact on the experience of the Kororoit Creek corridor.
- The adjoining street system must be designed so that both views and access contribute to integration of the Creek corridor with its Urban Context.
- The creek must be incorporated into any new adjoining residential development with the aim of making it an open and accessible space. Buildings should face onto the creek, setbacks maximised and fences minimised to protect the open and accessible feeling.
- Industrial development must be designed in such a way that the values of the creek are protected. Setbacks of buildings must be maximised, security fencing should be either well setback or not visually intrusive, and opportunities to incorporate open space for staff with the creek area should be maximised. Other opportunities such as incorporating administrative buildings with the creek environs should be pursued if possible.
- New urban development must support the directions of the Kororoit Creek Strategic Plan

APPENDIX C **Weed Management**

At all geographic scales in the study area – from the landscape level downwards – exotic plant species (weeds) are the overwhelming dominants of the vegetation and very little now remains of the indigenous vegetation. Of the 445 plant species recorded from the study area some 207 (47%) are exotic species which include agricultural (or noxious) weeds affecting agricultural production as well as environmental weeds of primary concern for their negative impacts on biodiversity. Numerous weed species have occupied all available habitats and are now ubiquitous and extremely abundant in the region. Other weed species by contrast have occupied a fraction of the available habitat and some are rare and localised. The capacity of such species to expand their range within the region depends on many factors.

Weed invasions are overwhelmingly the most important degradation process for remnant indigenous vegetation and fauna habitats, and weed control is the major vegetation management issue. While weeds pose a direct threat to flora and fauna (biodiversity) values, they may also have major impacts on landscape and amenity values. For example, if left unmanaged, exotic trees (notably Desert Ash, *Fraxinus angustifolia* ssp. *angustifolia*) are eventually likely to fully occupy the riparian environment with profound modification to the landscapes of the Kororoit Creek corridor, as well as negative impacts on biodiversity amenity and water quality parameters.

Weeds are generally perceived as undesirable, but in some instances weed populations provide fauna habitat components otherwise unavailable in the landscape, or some indigenous fauna species are able to utilise exotic vegetation because of similar structural attributes to indigenous vegetation. Examples of fauna habitats otherwise unavailable include nesting or roosting sites for birds, such as the willows (*Salix* spp.) utilised by Nankeen Night Herons for roosting, and spiny Boxthorn (*Lycium ferocissimum*) utilised by nesting birds such as Red-browed Finches. The Striped Legless Lizard, one of the most endangered animal species in the study area, is known to occur in exotic grasslands such as those dominated by Chilean Needle-grass (*Nassella neesiana*), but this floristically impoverished exotic vegetation is likely to be much inferior to indigenous Plains Grassland in which the species naturally occurs.

With such a large list of weed species recorded for the study area it is necessary to identify and prioritise species amenable to management, as well as identify important sites requiring weed management to protect defined biodiversity or amenity values.

Some 53 weed species for which management is appropriate in a given context. It includes seven species which are listed as Regionally Controlled under the Catchment and Land Protection Act 1994 – see (Keith Turnbull Research Institute 1998) for obligations of land owners and land managers under the Act. However, none of the species are State or Regionally Prohibited weeds or Restricted Weeds listed under the Act. Eight of the weed species are among the 20 Weeds of National Significance (www.weeds.org.au) which have major biodiversity, economic and social impacts at the national level. These are Bridal Creeper (*Asparagus asparagoides*), Chilean Needle-grass (*Nassella neesiana*), Serrated Tussock (*Nassella trichotoma*), Blackberry (*Rubus anglocandicans*) and Gorse (*Ulex europaeus*). The regional approach to Serrated Tussock management is overseen by the regional Serrated Tussock Task Force, comprising members from the Department of Sustainability and Environment and Primary Industry, Municipal Councils and the farming community.

The following approach to weed management along the Kororoit Creek corridor should be undertaken:

1. Invasive weedy tree species should be eliminated from the streamside environments and saltmarsh. These include Box-elder Maple (*Acer negundo*), Hawthorn (*Crataegus monogyna*), Desert Ash (*Fraxinus angustifolia*), Norfolk Island Hibiscus (*Lagunaria patersonia*), Canary Island Date-palm (*Phoenix canariensis*), Sweet Pittosporum (*Pittosporum undulatum*), Cherry Plum (*Prunus cerasifera*) and Willows (*Salix* spp.).
   Of these Desert Ash is unquestionably the most serious invader and if unmanaged will eventually form closed riparian forests. Norfolk Island Hibiscus is a very rare weed in Victoria but it is invasive in saltmarshes of lower Kororoit Creek where it has high visual impact, and will ultimately have significant negative impacts on saltmarsh biodiversity.
2. On a site-by-site basis, various weed species should be targeted for management (control or elimination) to protect defined biodiversity and amenity values.
3. Prevent further destruction of saltmarshes in lower Kororoit Creek by targeting seriously invasive species, notably Spiny Rush (*Juncus acutus*) and Toowoomba Canary-grass (*Phalaris aquatica*). These two robust herbaceous weed species are extremely abundant along Kororoit Creek and populations are now so large as to be unmanageable, except in the context of protecting saltmarsh values.
4. Ensure that significant fauna values are not compromised by the removal of woody weeds which form habitats for such species. In some cases staged removal may be appropriate, coupled with revegetation using indigenous species.
5. Ensure that no weedy plant species (those listed by Carr et al. 1992) are used in landscaping and horticultural applications connected with developments along Kororoit Creek. Approximately 70% of all environmental weed species have been deliberately introduced for horticulture (Carr 1993).
6. Phased removal should be undertaken of weedy street trees in the urban municipal catchments of Kororoit Creek. Few species are significant in this context but overwhelmingly the most significant is Desert Ash, the seeds of which are dispersed into creek environments via stormwater. It has been commonly planted historically as a street tree but is now rarely planted.

APPENDIX D **Revegetation Templates/EVC Lists**

The revegetation templates aim to guide revegetation undertaken along the Kororoit Creek both within the urban and rural reaches. They have been developed for the riparian zone of the Kororoit Creek only and do not attempt to cover some of the vegetation communities found on the upper escarpments of the creek. As such, three templates have been developed that attempt to incorporate those EVCs located within the riparian zone. They do not reflect the eight separate EVCs that have been recorded for the study area.

They provide an outline for revegetation designed to ensure that the physical condition of the creek is sustained and improved. This is achievable through re-establishment of a robust riparian vegetation corridor that will be resilient to current degradation pressures. Many urban waterways have been physically and hydraulically modified. Often they are engineered structures modelled for flood management in the absence of woody vegetation. In these modified urban settings, revegetation styles require some modification and are often limited to use of ground-storey vegetation or a combination of ground-storey and tree canopy planting which have the least flow resistance.

In other areas particularly those used for public open space and in greenfield developments, revegetation is developed so that there is more focus on the landscape presentation. This revegetation often has large areas of ground-storey around wetland or water features and utilises a full range of vegetation types.

Central to the planning of riparian zone rehabilitation is the use of natural templates (or models) derived from representative remnant vegetation communities. The revegetation templates use some selected plant groups from the local EVCs across the wetted perimeter of the stream channel and the riparian verge area to out-compete undesirable plants and weeds that cause problems to flooding or long term maintenance.

Successful revegetation of the Kororoit Creek that is sustainable with low maintenance species requires an awareness of the appropriate species and their preferred locations within the riparian zone. Some ecological advice as to the correct planting regimes and placement may still need to be sought prior to the revegetation works.

Revegetation of sites that already support native vegetation should be undertaken with caution. Advice should be sought from the environmental unit of the local Council so that the revegetation complements and enhances the existing remnant vegetation.

Revegetation at sites where non-indigenous vegetation exists should also be undertaken after consultation with the environmental unit of the local Council. Revegetation at these sites should aim to revegetate with indigenous species and restrict the spread of the existing non-indigenous vegetation.

It should be noted that certain sites along the Kororoit Creek have an historical or cultural significance. These sites may support vegetation that is not indigenous to the creek environs, however will warrant retention based on cultural significance.

The selection of species for revegetation should aim to maximise opportunities to provide environmental, economic and social benefits. Local native (indigenous) species, grown from local seeds or plant material are generally the preferred choice for revegetation. They provide the greatest range of long-term benefits because they:

- are best suited to the local conditions and can still fulfil all of the functional roles required of non-indigenous trees and shrubs;
- maximise biodiversity in the local area;
- provide the best habitat for local wildlife;
- benefit the health of existing remnants;
- are well suited to regenerating without assistance;
- benefit rural land productivity;
- will maintain the natural character of the local landscape.

Where indigenous species are not available, do not meet the project needs, or if the environment at the site has been so modified that local native species cannot survive, for example, highly salt affected sites, other native species may be appropriate. A strategic approach to revegetation that results in multiple benefits and the creation of a healthy and productive environment into the future is recommended.

Revegetation Techniques: a guide for establishing native vegetation in Victoria by Greening Australia is a great guide and is available on their website www.greeningaustralia.org.au

Coastal Saltmarsh

Botanical name	Common name	% No of plants	Planting zone	Dominance
Shrubs				
Atriplex paludosa ssp. paludosa (W)	Marsh Saltbush			O
Avicennia marina ssp. australasica (W)	White Mangrove			D
Halosarcia pergranulata ssp. pregranulata (D)	Black-seed Glasswort			D
Halosarcia halocnemoides ssp. halocnemoides (D)	Grey Glasswort			D
Sclerostegia arbuscula (W)	Shrubby Glasswort		1	D
Grasses, Rushes, Sedges & Dicot Herbsl				
Apium prostratum ssp. prostratum s.l. (W)	Sea Celery		2	O
Atriplex cinerea+	Coast saltbush		3	(D)
Disphyma crassifolium subsp. clavellatum (W/D)	Rounded Noon-flower		2	C
Distichlis distichophylla (W/D)	Australian Salt-grass		2	D
Frankenia pauciflora var. gunnii (W/D)	Southern Sea-heath		2	C
Gahnia filum (W/D)	Chaffy Saw sedge		3	D
Hemichroa pentandra (W/D)	Trailing Hemichroa			C
Juncus kraussii ssp. australiensis (W)	Sea Rush			D
Lawrencia spicata (W/D)	Salt Lawrencia			O
Limonium australe (W)	Yellow Sea-lavender			O
Lobelia irrigua (W/D)	Salt Pratia			C
Mimulus repens (W/D)	Creeping Monkey-flower		2	C
Poa poiformis var. poiformis^	Coast Tussock-grass			D
Puccinellia stricta var. stricta / var. perlaxa (W/D)	Australian Saltmarsh-grass			C
Samolus repens (W/D)	Creeping Brookweed		2	O
Sarcocornia blackiana (W)	Thick-head Glasswort			O
Sarcocornia quinqueflora ssp. quinqueflora (W/D)	Beaded Glasswort		1	D
Selliera radicans (W/D)	Shiny Swamp-mat		2	C
Sporobolus virginicus (D)	Salt Couch			O
Suaeda australis (W/D)	Austral Seablite		1	C
Triglochin stratum s.l. (W/D)	Streaked Arrowgrass		2	O
Wilsonia humilis (D)	Silky Wilsonia			O
Wilsonia rotundifolia (W/D)	Round-leaf Wilsonia			O

Planting Zone

1– MOST FREQUENTLY INUNDATED
2 – NEXT MOST LANDWARD ZONE
3 – MOST LANDWARD ZONE

\+ On shell banks, low dunes and berms only
^ Fringing (i.e. landward) of upper (wet and dry) saltmarsh

Note: Planting zones need special categories

Modified Creekline Tussock Grassland 654

Botanical name	Common name	%	Planting zone	% zone coverage
Trees				
Eucalyptus camaldulensis	River Red Gum		1,2&3	C
Small Trees/Large Medium Shrubs				
Acacia melanoxylon	Blackwood		2&3	O
Muehlenbeckia florulenta	Tangled Lignum		1&2	O
Grasses, Rushes, Sedges & Dicot Herbs				
Acaena novae-zelandiae	Bidgee-widgee		2&3	O
Austrodanthonia caespitosa	Common Wallaby-grass		2&3	C
Bolboschoenus caldwellii	Sea Club-rush		1	C
Calocephalus lacteus	Milky Beauty-heads	25%	1,2 & 3	O
Carex appressa	Tall-sedge		1&2	C
Carex bichenoviana	Plains Sedge		1,2&3	C
Carex tereticaulis	Rush Sedge		1,2&3	C
Elymus scaber	Common Wheat-grass		2&3	C
Eryngium vesiculosum	Prickfoot	0%	1,2 & 3	O
Hemarthria uncinata	Mat Grass	0%	1,2 & 3	C
Juncus amabilis	Hollow Rush		1,2&3	O
Juncus flavidus	Yellow Rush		1,2&3	O
Lobelia pratioides	Poison Lobelia	10%	1,2 & 3	C
Lomandra longifolia ssp. longifolia	Spiny-headed Mat-rush		2&3	C
Persicaria prostrata	Creeping Knotweed		1,2&3	C
Poa labillardierei var. *labillardierei*	Common Tussock-grass	60%	1,2 & 3	C
Schoenoplectus tabernaemontani	River Club-sedge		1	C
		100%		

Planting Zone
1 – BED
2 – LOWER BANK
3 – VERGE

Modified Floodplain Riparian Woodland

Botanical name	Common name	%	Planting zone	% zone coverage
Trees				
Eucalyptus camaldulensis	River Red Gum	30%	2,3 & 4	D
Small Trees/large – medium Shrubs				
Acacia dealbata	Silver Wattle			O
Acacia mearnsii	Late Black Wattle	10%	2,3 & 4	O
Acacia melanoxylon	Blackwood	20%	2,3 & 4	O
Acacia retinodes var. *retinodes*	Wirilda		2 & 3	O
Acacia verticillata ssp. *verticillata*	Prickly Moses		2	O
Bursaria spinosa ssp. *spinosa*	Sweet Bursaria	15%	3 & 4	C
Callistemon sieberi	River Bottlebrush	5%	2 & 4	O
Coprosma quadrifida	Prickly Current-bush		2	O
Goodenia ovata	Hop Goodenia		2 & 3	O
Gynatrix pulchella	Hemp Bush		2,3 & 4	O
Melicytus dentata	Tree Violet	10%	2, 3 & 4	C
Leptospermum lanigerum	Woolly Tea Tree	10%	2	O
Muehlenbeckia florulenta	Tangled Lignum		2	O
Ozothamnus ferrugineus	Tree Everlasting		2 & 3	O
Rubus parvifolius	Small-leaf Bramble		2, 3 & 4	O
		100%		
Grasses, Rushes, Sedges & Dicot Herbs				
Acaena novae-zelandiae	Bidgee-widgee		2, 3 & 4	O
Carex bichenoviana	Plains Sedge		2, 3 & 4	O
Carex tereticaulis	Rush Sedge		2, 3 & 4	O
Juncus flavidus	Yellow Rush		2 & 3	O
Lobelia anceps	Angled Lobelia	5%	2	O
Lomandra longifolia ssp. *longifolia*	Spiny-headed Mat-rush	20%	2, 3, & 4	C
Mentha australis	River Mint		2, 3, & 4	O
Microlaena stipoides var. *stipoides*	Weeping Grass		2, 3, & 4	C
Poa labillardierei var. *labillardierei*	Common Tussock-grass	80%	2, 3 & 4	D
Selleria radicans	Shiny Swamp-mat	5%	4	O
		100%		

Botanical name	Common name	%	Planting zone	% zone coverage
Semi Aquatic and Aquatic Plants				
Alisma plantago-aquatica	Water Plantain	5%	1	O
Apium prostratum ssp. *prostratum* var. *prostratum*	Sea Celery		1	O
Bolboschoenus caldwellii	Salt Club-sedge		1	C
Bolboschoenus medianus	Marsh Club sedge	20%	1	C
Calystegia sepium	Large Bindweed		1	O
Carex appressa	Tall Sedge	60%	1 & 2	D
Crassula helmsii	Swamp Crassula		1	C
Eleocharis acuta	Common Spike-sedge		1	C
Eleocharis sphacelata	Tall Spike-sedge		1	C
Hydrocotyle sibthorpioides	Shining Pennywort		1	C
Juncus pauciflorus	Loose-flower Rush	10%	1	C
Juncus sarophorus	Broom Rush	20%	1	C
Lycopus australis	Australian Gipsywort		1	O
Myriophyllum crispatum	Upright Water-milfoil		1	C
Persicaria decipiens	Slender Knotweed	15%	1	C
Phragmites australis	Common Reed		1	O
Rumex bidens	Mud Dock		1	C
Schoenoplectus tabernaemontani	River Club-sedge	10%	1	C
		100%		

Planting Zone
1 – BED
2 – LOWER BANK
3 – UPPER BANK
4 – VERGE

Dominance
O = OCCASIONAL
D = DOMINANT
C = COMMON
N = NOT SUITABLE FOR REVEGETATION

APPENDIX E **Contacts and Internet Links**

DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT
www.dse.vic.gov.au
Phone: **136 186**

PARKS VICTORIA
www.parkweb.vic.gov.au
Phone: **131 963**

MELBOURNE WATER
www.melbournewater.com.au
Phone: **131 722**

MELTON SHIRE COUNCIL
www.melton.vic.gov.au
Phone: **9747 7200**

BRIMBANK CITY COUNCIL
www.brimbank.vic.gov.au
Phone: **9249 4000**

HOBSONS BAY CITY COUNCIL
www.hobsonsbay.vic.gov.au
Phone: **9932 1000**

WYNDHAM CITY COUNCIL
www.wyndham.vic.gov.au
Phone: **9742 0777**

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APPENDIX G **Glossary**

Alluvium: the fine-grained sediments such as clay and silt deposited by streams that usually forms as flats or plains adjacent to the stream channel.

Artefact: any object manufactured or otherwise modified for human use.

Cultural Materials: collectively all items manufactured by people

Fabric analysis: a study of an assembly of manufactured materials for the purpose of identifying assemblage sequences, dates of manufacture, renovations, or conservation needs.

Fabric: usually referring to items or objects manufactured from human enterprise, fabric consists of the total substance of those items or materials that make up that item or groups of items.

Flake: A stone piece struck from a core during tool making or the resharpening of an edge. In hard stones, such as chert, and silcrete, a distinctive conchoidal bulb is formed along the fractured surface at the point of impact, thus identifying the flake as an artefact.

ICOMOS: International Convention on Monuments of Significance

In Situ: in place or buried by sediment and presumably undisturbed by subsequent depositional events.

Lithic core: a piece of stone from which a flake has been removed by human enterprise, typically by percussion with a stone hammer.

Lithic Scatter: a generic site type which contains stone artefacts, including flakes and other discarded pieces, that is dispersed on the land surface as a result of erosion or other forms of ground disturbance. The term has no implication to site function or antiquity.

Metropolitan Trail Network (MTN): The Metropolitan Trail Network is the off-road component of the Public Bicycle Network (see definition below) and is coordinated by Parks Victoria to ensure the wider community has access to open space and recreational trail opportunities. VicRoads coordinates the on-road trail component of the PBN, which predominately services commuter trail users.

Node: concentration of facilities which attract people to the creek side environs for recreation. A node is generally parkland and comprises facilities that support passive recreation and trail access. These facilities may include picnic areas, shelters, carparking, toilets, playgournds and trail information. In few instances, nodes may include commercial facilities such as cafes and they may encompass adjoining private land as well as public land.

Post-Contact: the period following the arrival of non-indigenous immigrants that resulted in contact and hence interaction between two cultural systems and their land use traditions. In Victoria, the first contact is notionally associated with whalers and sealers who began operation after c. 1810.

Pre-Contact: the time period pertaining to human habitation for which there is no written text to describe and/or explain cultural activity.

Principal Bicycle Network (PBN): The Principle Bicycle Network is an interconnected trail network that consists both on-road and off-road trails.

Small Tool Tradition: a term coined to identify the emergence of an industrial tradition in tool making in which core reduction is characterized by a distinctive core preparation technique to produce a variety of new implement forms. In Victoria the industry took form between 5100-5500 BP and appears to have continued in use in some districts until the Contact period when stone tool manufacture was abandoned altogether.

www.dse.vic.gov.au/planning