

2. C138 ARMSTRONG CREEK URBAN GROWTH PLAN EXHIBITION

Portfolio: Planning - Cr Macdonald
Source: Urban Planning
General Manager: Kate Sullivan
Index Reference: Project: C138 Armstrong Creek Urban Growth Plan

Summary

- The Armstrong Creek Urban Growth Plan provides the development framework for Geelong's primary growth area and is one of the City's largest strategic planning projects.
- It aims to concentrate the majority of the growth of Geelong into a comprehensive community in the area south of the railway line and includes parts of the suburbs and localities of Grovedale, Marshall, Connewarre and Mount Duneed.
- The vision is for Armstrong Creek to be developed into a sustainable community that sets new benchmarks in best practice urban development. Natural and cultural features will be protected and enhanced to create a distinct urban character. Armstrong Creek will become a highly sought-after location for living, working and recreation, forming an attractive addition to Geelong.
- The Urban Growth Plan has been prepared under the guidance of a Steering Committee chaired by the Mayor and with high level representation from the City and government agencies. The Plan is based on detailed technical analysis by a team of specialist consultants and has been reviewed by Council and agency technical officers.
- The Urban Growth Plan includes a Structure Plan that defines an Urban Growth Area and an Urban Growth Boundary that limits the extent of urban expansion. Areas of visual sensitivity along the Mount Duneed ridgeline and flood prone areas east of Barwon Heads Road are recommended to remain as rural.
- The Urban Growth Area is approximately 2,350 hectares with an estimated capacity of 22,000 dwellings, and a potential population of 54,000 persons. The area will provide a range of housing densities, a sub-regional activity centre, local activity centres, employment areas, transport networks and open space.
- A new east-west link road will traverse the area linking the Geelong Bypass with Surf Coast Highway, Barwon Heads Road and ultimately Portarlington Road. A new public transport corridor is proposed to run south towards Torquay to serve the new suburb and a new railway station is proposed near Rossack Drive.
- A staging concept plan proposes Stage 1 of development to focus on building a new Armstrong Creek community in the Torquay Road area with another development front allowing expansion of the urban area at Marshall.
- The Urban Growth Plan establishes the requirement for development contributions in Armstrong Creek and provides an estimate of the likely range of charges. The amount of the charges will, in part, reflect the significant uplift in land values which landowners and developers will benefit from when land is rezoned from rural to urban purposes in the growth area.
- A detailed Development Contributions Plan for the Urban Growth Area will be prepared in 2007, as part of an overall implementation plan.

2. C138 ARMSTRONG CREEK URBAN GROWTH PLAN EXHIBITION (CONT'D)

- Planning Scheme Amendment C138 has been prepared to give effect to the Urban Growth Plan in the Greater Geelong Planning Scheme. Ministerial Authorisation was granted on 18 October 2006 for this Amendment.
- Amendment C138 introduces a new "Armstrong Creek" clause into the Municipal Strategic Statement, includes the Urban Growth Plan as an Incorporated Plan and applies overlays to recognise existing flooding and environmental conditions.
- There is strong landowner, developer and public interest in the Urban Growth Plan and it is recommended for public release as part of the exhibition of Planning Scheme Amendment C138 for a ten week period.

Cr Macdonald moved, Cr Dowling seconded -

That Council:

- 1) **support the preparation and exhibition of Amendment C138 to the Greater Geelong Planning Scheme to:**
 - a) **Introduce a new clause and make changes to the Urban Growth clause of the Municipal Strategic Statement to include recommendations from the Armstrong Creek Urban Growth Plan.**
 - b) **Apply the Incorporated Plan Overlay over the Urban Growth Area and include the Urban Growth Plan (Volume 1) as an Incorporated Document.**
 - c) **Apply the Land Subject to Inundation, Floodway Overlay and Special Building Overlay to areas that have been identified as subject to inundation.**
 - d) **Apply the Vegetation Protection Overlay to protect areas of significant vegetation in public roadsides.**
 - e) **Apply the Environmental Significance Overlay to protect areas along Armstrong Creek, the Barwon River and remnant vegetation on private land.**
- 2) **endorse the Armstrong Creek Urban Growth Plan October 2006 (Volumes 1 to 5) on the basis that further changes to the Plan may be recommended after public comments have been considered.**
- 3) **approve the release of the Armstrong Creek Urban Growth Plan documents and seek public comment for a ten week period as part of the exhibition of amendment C138.**

Carried.

2. C138 ARMSTRONG CREEK URBAN GROWTH PLAN EXHIBITION (CONT'D)

Background

Armstrong Creek Urban Growth Plan

An Urban Growth Plan has been prepared to set a strategic direction and provide broad level planning control for the use and development of land in the Armstrong Creek Urban Growth Area.

The Plan has been prepared by a team of consultants led by David Lock Associates and managed by Council's Strategic Planning Unit. A Steering Committee led by the Mayor Cr McMullin, Cr Dowling and Cr Macdonald, and including high level representation from the City and government agencies, has guided the project. A Technical Working Group consisting of Council and agency technical officers has provided technical input and reviewed a draft of the Urban Growth Plan.

The Structure Plan map from the Armstrong Creek Urban Growth Plan summarises the proposed development framework for the area and is included as Appendix 1.

It defines an Urban Growth Boundary showing the limits to urban expansion. To the south the Urban Growth Boundary precludes the Mount Duneed ridgeline and sloping land along Lower Duneed Road from urban development. These areas are to remain as rural to maintain an attractive green entrance to Geelong from the south, to provide a green backdrop to development within the growth area and to maintain the rural character of the Mt Duneed township. To the east the Urban Growth Boundary limits development within the Barwon River floodplain to avoid flood prone areas and to protect ecological, visual and indigenous cultural heritage values.

The remaining area within the Urban Growth Boundary is the Armstrong Creek Urban Growth Area consisting of approximately 2,350 hectares of land with an estimated capacity of 22,000 dwellings, which could accommodate a population of 54,000 persons. New employment areas and activity centres are estimated to provide a total of 22,000 jobs.

The overall vision for the Urban Growth Area is as follows:

The Armstrong Creek urban growth area will be developed into a sustainable community that sets new benchmarks in best practice urban development. Natural and cultural features will be protected and enhanced to create a distinct urban character. Armstrong Creek will become a highly sought-after location for living, working and recreation, forming an attractive addition to Geelong.

Key features of the Urban Growth Plan include:

Urban Growth Boundary

- Boundary between urban and non-urban land

Public Transport Facilities

- Upgraded Marshall Station amenities
- New station and public transport interchange at Rossack Drive
- Public transport spur to Sub-Regional centre and, potentially, beyond to Torquay

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- New Station and public transport interchange at Armstrong Creek Sub Regional Centre
- Dedicated corridors for local public transport services

Greenways (Pedestrian and cycling routes)

- Walking and cycling routes within urban areas using existing rural roads
- Walking and cycling leisure routes through major parks
- New pedestrian footbridges across the railway line to Grovedale

Major Roads

- New East-West Link Road connecting the Geelong Bypass to Surf Coast Hwy and Bellarine Peninsula.
- New trunk collector roads

Activity Centres

- A Sub-Regional Activity Centre on Torquay Road - containing the full range of retail (supermarkets, department stores), together with a wide range of community facilities and emergency services, entertainment and employment opportunities, and shoptop apartments
- Neighbourhood Activity centres anchored by a single supermarket and containing complementary convenience retailing, business services and community services—including a 'family hub', primary school and associated local sporting facilities—and shoptop apartments
- Local Activity centres with range of convenience shops and services, 'family hub', primary school and associated local sporting facilities, and shoptop apartments
- Local shops with range of convenience shops and services

Secondary and Primary Schools

- Secondary schools with associated indoor sports stadium and active sports ground
- Primary schools located at Activity Centres within walking distance of homes.

Employment Land

- Two employment precincts in the West (Whites Road area) and North East (Tannery Road) providing industrial land for manufacturing, logistics, service industry and other employment purposes

Mixed Use Corridor

- Mixed commercial - particularly bulky goods and offices - and high-density residential development along Torquay Road

Residential Areas

- Conventional Density Housing - Residential development of minimum 14 dwellings per hectare to accommodate conventional detached houses on lots at an average size of 550 sqm.

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- Medium-High Density Housing - Residential development of minimum 20-30 dwellings per hectare to accommodate small detached or semi-detached housing (duplexes), townhouses and apartments on lots at an average size of 360 sqm (medium density) to 225 sqm (high density).
- Residential areas will incorporate corner stores associated with small local parks within 400m of all homes

Local/ Active Parkland / Biodiversity areas

- Playing fields and local parks
- Informal parks and wildlife corridors

Detention Basins and Wetland

- Integrated flood-retarding basins and stormwater treatment wetlands

A staging concept plan proposes the first stages of development to focus on two growth nodes. One node allows the building of a new Armstrong Creek community in the Torquay Road area, while the other node allows expansion of the urban area at Marshall.

The Armstrong Creek Urban Growth Plan is divided into 5 volumes. A description of the volumes and the proposed status of each document is provided below:

Volume 1 - Urban Growth Plan

- The strategic plan for the Armstrong Creek growth area
- Incorporated document (in the Greater Geelong Planning Scheme)

Volume 2 - Precinct Plans

- Description of the key features of the UGP within each precinct
- Council adopted document

Volume 3 - Implementation Plan

- Outline of the measures recommended to implement the UGP.
- Council adopted document

Volume 4 - Background Report

- Analysis of the opportunities and challenges presented by the existing conditions.
- Reference document (in the Greater Geelong Planning Scheme)

Volume 5 - Appendices

- More detail on a range of matters
- Council adopted document

All the above documents are available for viewing in the Councillor's lounge.

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Planning Scheme Amendment C138

The Amendment applies to the Study Area covered by the Armstrong Creek Urban Growth Plan containing 4,284 ha of land. The Study Area is bounded to the east by the Barwon River, Reedy Lake and Baenschs Lane, to the south by Lower Duneed/Mount Duneed Road, to the west by Ghazeepore Road, and to north by the Warrnambool to Geelong Railway line. The exception to this is a small area which lies north of the railway line at Marshall.

The Amendment seeks to facilitate future urban growth that is consistent with the Greater Geelong Planning Scheme Municipal Strategic Statement (MSS) which identifies the Armstrong Creek/Mount Duneed area as Geelong's primary future growth direction.

The Amendment is to provide the policy framework and statutory basis for the Armstrong Creek Urban Growth Plan in the Greater Geelong Planning Scheme, to facilitate the implementation and realisation of the Urban Growth Plan, and through the application of overlays, identify and protect existing conditions and environmentally sensitive areas. The Amendment proposes to extend and update overlay protection recognised in specialist technical reports on flora and fauna, and flooding and drainage.

Specifically, the Amendment will make the following changes to the Greater Geelong Planning Scheme:

- Amend Clause 21.08 "Urban Growth" of the **Municipal Strategic Statement** to update the recommendations for the Armstrong Creek Urban Growth Area;
- Introduce a new local planning policy Clause 21.40 "Armstrong Creek Urban Growth Area" into the **Municipal Strategic Statement**. The new clause will introduce the Urban Growth Plan, identifying the objectives and related strategies and implementation measures (see Appendix 1 for a copy of the text of new clause 21.40 and Attachment 1 for the Structure Plan);
- Apply Schedules 1 and 2 to the **Environmental Significance Overlay** (ESO1&2) to environmentally sensitive areas along Armstrong Creek and the Barwon River floodplain and stands of significant remnant vegetation on private land.
- Apply Schedule 1 to the **Vegetation Protection Overlay** (VPO1) to areas of significant roadside vegetation.
- Apply relevant **Flood Overlays** – to increase the coverage of the Land Subject to Inundation, Floodway Overlay and Special Building Overlay to areas that have been identified as subject to inundation in 1 in 100 year flood events.
- Introduce the **Incorporated Plan Overlay** clause into the Scheme;
- Introduce and apply Schedule 1 to the **Incorporated Plan Overlay** (IPO1) to the Armstrong Creek Urban Growth Area to ensure that future use and development of the land is carried out in accordance with the Urban Growth Plan;
- Amend clause 81.01 to include "*Armstrong Creek Urban Growth Plan (Volume 1) October 2006*" as an incorporated document.

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The purpose of this Amendment is not to rezone any land for urban purposes.

Subsequent amendments will be undertaken to rezone land for urban purposes (in line with the Staging Strategy) and apply other relevant overlays, namely, the Development Contribution Plan Overlay, Development Plan Overlay, Heritage Overlay and Public Acquisition Overlay as required.

Discussion

State Planning Policy Framework

The Urban Growth Plan and Amendment C138 seek to achieve a number of objectives from the State Planning Policy Framework (SPPF) including:

Clause 12.3-2 Regional Cities

Encouraging planning for regional areas and cities that:

- *Delivers an adequate supply of land for housing and industry to meet forecast growth.*
- *Ensures that new development is supported by strong transport links that provide an appropriate choice of travel.*
- *Limits the impact of urban development on non-urban areas and supports development in those areas that can accommodate growth.*
- *Protects conservation and heritage values and the surrounding natural resource base.*
- *Develops and reinforces the distinctive roles and character of each city.*
- *Fosters the development of towns around the regional cities that are on regional transport routes.*

Clause 14 Settlement:

- *To ensure a sufficient supply of land is available for residential, commercial, industrial, recreational, institutional and other public uses.*
- *To facilitate the orderly development of urban areas.*

The Amendment will utilise appropriate tools from the Victorian Planning Provisions to ensure coordinated and efficient development. The introduction of a number of overlays which accompany the proposed application of the Incorporated Plan Overlay will ensure that future residential development is cognisant of existing conditions and environmentally sensitive areas.

Local Planning Policy Framework

The proposed Amendment includes a new stand alone clause within the MSS to introduce the Urban Growth Plan and updates Clause 21.08 - Urban Growth.

The Amendment is consistent with Council's urban growth direction contained in Clause 21.08 of the Greater Geelong Planning Scheme which includes:

Designation of Stage 1 of Armstrong Creek/Mount Duneed as the primary growth corridor for future urban growth.

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Objective 1 under this Clause seeks to direct urban growth to selected suitable locations. Specifically, this directs to limit new residential growth to designated areas in Armstrong Creek/Mount Duneed, Wandana, Ocean Grove, Drysdale/Clifton Springs, Lara and Leopold.

This Clause also directs for an Urban Growth Corridor Plan for the Mt Duneed/Armstrong Creek corridor which will provide the overall design framework for the area to be prepared. This Amendment specifically responds to this direction.

Financial Implications

There are a range of potential financial implications for Council in moving forward with the Armstrong Creek Urban Growth Plan and Planning Scheme Amendment C138.

Costs will be incurred as part of the planning scheme amendment process which will include an independent panel hearing and will require expert witnesses, panel member costs, venues, catering etc. The cost to Council for the panel hearing part of the amendment process is likely to be in the vicinity of \$60,000 to \$80,000. Further funding will be requested to conduct the panel hearing early in the 2007/08 financial year.

A further detailed Implementation Plan is required to be prepared and this will be assisted by a \$50,000 grant that has been approved from the Department of Sustainability and Environment's Creating Better Places grant programs

Infrastructure provision for the growth area will require State Government and Council funding, however it will primarily be funded by developer contributions.

The City proposes a staged roll out of Development Contributions Plans across the municipality for growth areas such as Armstrong Creek, Jetty Road (Drysdale), Leopold, Ocean Grove and Lara. A Development Contributions Plan will be prepared for Armstrong Creek during 2007 at the same time as preparation of the detailed Implementation Plan.

It is not yet possible to accurately state the charges that will be levied on developers in Armstrong Creek, however as a guide they are likely to be in the range of \$4000 to \$7000 per residential lot for local level infrastructure, and \$6,000 to \$9,000 per residential lot for state level infrastructure.

The level of development contributions in Armstrong Creek is likely to be marginally higher than in the City's other urban growth areas, due to planned delivery of best practice infrastructure. Furthermore, the charges will, in part, reflect the fact that when a public authority designates or re-zones land for urban development, the value of that land escalates significantly. Traditionally, this land value increase has been shared solely by land owners and developers, rather than also benefiting the wider community.

By outlining the need for and likely amount of development contributions in Armstrong Creek, the release of the UGP will enable developers to negotiate lower prices for raw land and subsequently avoid the need to pass costs on to home purchasers. Development Contributions for infrastructure are also tax deductible, thereby reducing their net cost to developers.

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Policy/Legal/Statutory Implications

Planning Scheme Amendment C138 is consistent with state and local planning policy as outlined earlier in this report. The Amendment will provide the policy framework and statutory basis for the Armstrong Creek Urban Growth Plan in the Greater Geelong Planning Scheme.

The Amendment has been prepared in accordance with the statutory procedures outlined in the Planning and Environment Act 1987 and utilises the relevant Victorian Planning Provisions.

Risk Assessment

The main risk associated with the exhibition of Planning Scheme Amendment C138 and release of the Urban Growth Plan is managing the expectations of landowners and developers. The Urban Growth Plan covers a substantial area and large areas are not recommended for urban development due to environmental, visual and flooding constraints. Some landowners in these areas may be aggrieved. However, the planning scheme amendment process allows public submissions to be made and is likely to involve a review by an Independent Panel appointed by the Minister for Planning.

The development contributions requirements in Armstrong Creek may also aggrieve some land owners and developers, however the charges proposed are on par with those in Melbourne's metropolitan growth areas, and are substantially lower than the charges levied in similar development areas in Sydney and Brisbane.

The pre-scheduling of development contributions requirements will provide developers and landowners with increased certainty about the costs involved with developing their land, and assurance that the proposed urban infrastructure will be properly funded and delivered.

Social Considerations

It is intended that the Urban Growth Plan and Planning Scheme Amendment C138 will result in positive social and economic effects by providing appropriate housing opportunities, employment, community facilities and a sustainable urban structure.

In pursuit of economic and social sustainability, the economic and employment strategy seeks to provide a large number and wide range of jobs for the growth area and its workers. The Armstrong Creek growth area is expected to accommodate approximately 22,000 households south of the rail line at full development. This equates to a population of 54,000 at that time. This rate generates a probable labour force of approximately 27,000 living within Armstrong Creek at full development. The new employment areas and activity centres are estimated to provide a total of 22,000 jobs.

The Urban Growth Plan organises residential development within the growth area into a series of neighbourhoods, each large enough to support the provision of daily needs—basic convenience shops and services, a primary school, essential community services and local recreation facilities—but small enough that it is possible to walk comfortably from any part of the neighbourhood to those daily needs if centrally located. These are called 'walkable neighbourhoods'.

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By enabling people to walk (or cycle) to meet their daily needs, this:

- reduces car dependency and, therefore, the social exclusion of those not able to drive or without access to a car;
- fosters community spirit or social cohesion and capital through increased social interaction between the residents in a neighbourhood;
- improves personal health, through increased physical exercise;
- improves personal security in the public realm; and
- reduces car use and, consequently, oil consumption, greenhouse gas emission, road accidents and congestion.

Neighbourhoods sized on this basis can provide sufficient catchment to support a 'family' hub of children and family services, co-located with a primary school and retail floorspace ranging from a multipurpose 'corner' store to a small supermarket and a number of convenience shops and services.

The Urban Growth Plan is organised around such neighbourhoods: each around 3000 dwellings or 7,500 people. Within each of those neighbourhoods, local parks and corner stores are also proposed within a five-minute walk of each home.

The clustering of community facilities and/or services in one building allows for:

- co-ordinated approach to the provision of services to children and families;
- reduced isolation; and
- more flexible and efficient use of building space.

School facilities including the sporting facilities will be shared with the community.

There will be a mixed use activity centre at the heart of each neighbourhood. Mixed use activity centres contain retail, entertainment, office, community and residential uses, in contrast with the single-use shopping centres often found in newer urban areas.

Environmental Implications

Environmentally sensitive areas along Armstrong Creek and the Barwon River and stands of significant remnant vegetation on private land and in public roadsides will be protected by the application of overlays. The Urban Growth Plan seeks to direct urban development away from land that is constrained by environmental, heritage and flooding issues.

The Urban Growth Plan aims to implement best practice in sustainable urban development. It provides an urban structure based around walkable neighbours, public transport and open space links, hence reducing reliance on private motor vehicles.

Water supply is a significant issue for new urban developments such as Armstrong Creek. In order to supply the future development with potable water, a major feeder main will need to be extended from the Pettavel basin (in the west) to the area and augmentation of the basin may be required.

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In order to support a sustainable water supply, Barwon Water has given a high priority to water conservation through strategies for both home and industry, including water smart gardens, home rebate schemes, and the installation of water tanks to all homes.

The Urban Growth Plan provides for the possibility of a "3rd pipe" to reticulate recycled water throughout the development. However, this issue requires further work with Barwon Water as currently the waste water from the Black Rock treatment plant has high salinity levels and is not yet suitable for use in domestic homes and gardens.

Communication

There is strong landowner, developer and public interest in the Urban Growth Plan and it is recommended for public release as part of the exhibition of Planning Scheme Amendment C138 for a ten week period.

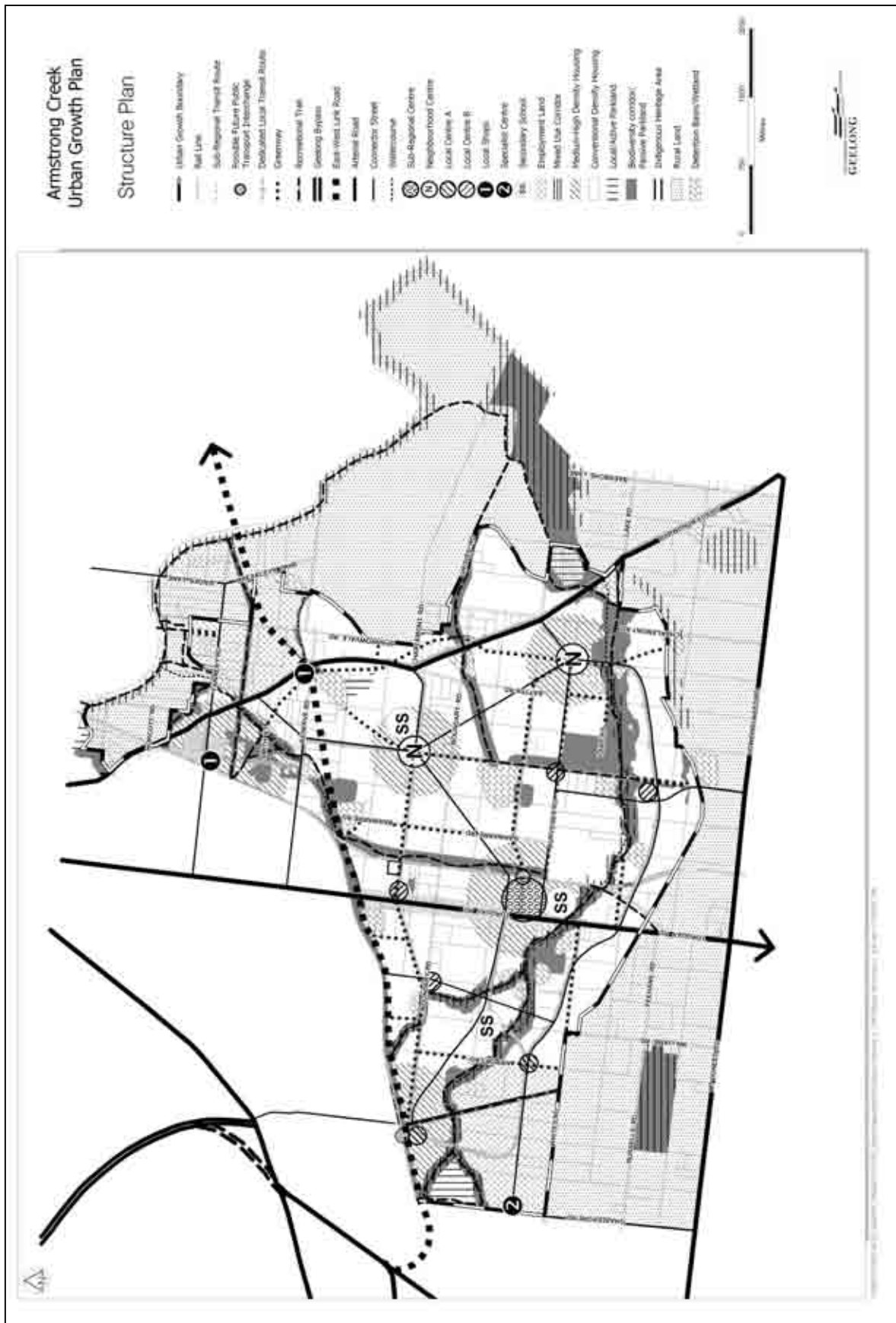
All landowners and occupiers will be sent formal notification of the amendment and a newsletter summarising the UGP and asking for feedback. Four landowner information sessions are proposed in December 2006 during the public exhibition period.

Copies of the Urban Growth Plan and Amendment documents will be made available at Council offices and on the City's website.

Public notices will be placed in the Geelong Advertiser and the Government Gazette as part of the formal exhibition process for Amendment C138.

In addition, media releases are proposed to promote the Urban Growth Plan and increases public awareness of this significant planning strategy.

Appendix 1 – Armstrong Creek Urban Growth Plan – Structure Plan



Attachment 2-1 – Text of New Clause 21.40 for the Municipal Strategic Statement

21.40 ARMSTRONG CREEK URBAN GROWTH AREA

Importance and Key Issues

The Armstrong Creek Urban Growth Plan provides the development framework for Geelong's primary future growth area. It aims to concentrate the majority of the urban growth of Geelong into a comprehensive community in an area south of the Melbourne to Warrnambool railway line and includes parts of the suburbs and localities of Grovedale, Marshall, Connewarre and Mount Duneed. For the purpose of this policy, this growth area is known as 'Armstrong Creek'.

The vision is for Armstrong Creek to be developed into a sustainable community that sets new benchmarks in best practice urban development. Natural and cultural features will be protected and enhanced to create a distinct urban character. Armstrong Creek will become a highly sought-after location for living, working and recreation, forming an attractive addition to Geelong.

The Armstrong Creek Urban Growth Plan - Structure Plan summarises the proposed development framework for the area and defines an urban growth boundary. Areas of visual sensitivity along the Mount Duneed ridgeline and flood prone areas east of Barwon Heads Road are excluded from urban development. The remaining area within the urban growth boundary is the Armstrong Creek Urban Growth Area consisting of approximately 2,350 hectares of land with an estimated capacity of 22,000 dwellings, and a potential population of 54,000 persons.

The following objectives and strategies are derived from the Armstrong Creek Urban Growth Plan:

Objective 1

To provide a wide range of housing types and densities in an urban structure based on walkable neighbourhoods, public transport and mixed use activity centres.

Strategies

- Ensure residential development is organised into a series of 'walkable neighbourhoods', approximately 1.6 kilometres in diameter, with a mixed use activity centre at the heart and with each neighbourhood having a distinct identity.
- Provide a comprehensive mix of lot sizes, housing types and affordability within each neighbourhood and promote housing that is adaptable so that people can 'age in place'.
- Provide a greater concentration of medium and high density housing and aged care housing towards the centre of the neighbourhoods and avoid 'gated communities'.
- Achieve a minimum average residential density of 15.5 dwellings per hectare in residential areas across the growth area, including:
 - a minimum of 30 dwellings per hectare in 'higher density housing' areas - being those areas within 400 metres of existing and planned public transport interchanges.
 - a minimum of 20 dwellings per hectares in 'medium density housing' areas being those areas beyond the 'higher density' areas within 800 metres of existing and planned public transport interchanges, and within 400 metres of the edge of sub regional and neighbourhood centres
 - a minimum of 14 dwellings per hectare in the remaining 'conventional density housing' areas.
- Ensure residential lots within 400 metres of the sub regional, neighbourhood and local activity centres have a layout that is designed to enable future intensification of development.
- Require medium and high density housing areas to have additional street trees and public parks to compensate for the loss of planting opportunities in private gardens.

Objective 2

To establish a network of mixed use activity centres providing retail, community and educational facilities for the incoming Armstrong Creek community.

Strategies

- Develop a sub-regional activity centre as designated on the north east corner of Torquay Road and Burvilles Road that includes a full range of retail, community, entertainment, business and residential uses.
- Provide two neighbourhood activity centres, each providing a supermarket, a government primary school and a 'family hub' of health, community and medical services, and limit retail leasable floor area in the north eastern neighbourhood activity centre on Horshoebend Road to 7,000m².
- Develop a series of local centres each containing local shops, a government primary school, local sporting facilities, and a 'family hub' including a kindergarten, child care, maternal and child health services.
- Ensure additional multi-purpose 'corner' stores, co-located with local parks, are provided within 400 metres of all dwellings which are not within 400 metres of activity centres.
- Provide three specialised activity centres at the edges of the proposed industrial areas containing services such as cafes and restaurants to serve the needs of the workforce along with floor area for higher job density activities such as research and development.
- Ensure the provision of two government secondary schools, one towards the west of the growth area and one towards the northeast co-located with a neighbourhood or local activity centre.
- Locate all centres and schools on the proposed local transit system, the 'greenway' network and at least one connector road, and ensure schools have a street frontage on at least three sides.
- Ensure all activity centres within the growth area are orientated and designed to support active street frontages, street based community interaction and pedestrian safety.
- Ensure the minimum community services required at the local and neighbourhood level, such as a multi-purpose facility, are available at the outset of the development.
- Provide a mixed-use corridor along Torquay Road containing bulky goods retailers, offices and high-density residential accommodation.

Objective 3

To create an economic and employment structure that complements the broader Geelong region while providing employment areas, business opportunities and local jobs.

Strategies

- Ensure the Armstrong Creek area complements the existing activity centre structure of Geelong by supporting Central Geelong as the primary centre.
- Ensure the Armstrong Creek area complements the existing industrial structure of Geelong by providing for niche industrial development opportunities including locally oriented service industry in the northeast, and export oriented hi tech manufacturing in a business park setting in the west.
- Provide opportunities for advanced business services to establish as home based businesses and grow into activity centre based businesses.
- Provide a mix of activity centre office spaces and business park spaces that showcase the latest and most advanced forms of commercial and industrial development.
- Generate synergies with Deakin University and regional research and commercial businesses.

- Seek to provide 22,000 jobs within the Armstrong Creek area including provision of 'higher order' professional, managerial and advanced technical jobs.

Objective 4

To protect and enhance the natural environmental features and cultural heritage values of the Armstrong Creek area and provide a distinct urban character and a green setting.

Strategies

- Ensure the natural channels and floodplains along the Barwon River, Armstrong Creek and its tributaries are maintained.
- Protect the habitat values and water quality of Armstrong Creek and its tributaries by providing public open space within the 1-in-100 year flood extent, and avoiding development and clearing of vegetation within 70 metres of streams and wetlands.
- Create and strengthen vegetation linkages along creeks, rivers and roadsides through strategic revegetation using the key iconic local native tree species.
- Protect and enhance areas of remnant native vegetation in the growth area including significant roadside vegetation and areas of Bellarine Yellow Gum and River Red Gum woodland located on private land.
- Protect places of Aboriginal cultural heritage significance in consultation with the Wathaurong community.
- Ensure Aboriginal archaeological assessments and flora and fauna surveys are undertaken to inform the preparation of Development Plans and prior to subdivision within the growth area.
- Provide protection for the thirty seven post contact (European) cultural heritage places listed in the Urban Growth Plan which do not already have statutory protection.
- Protect significant view lines associated with indigenous and post contact heritage places and establish cultural heritage interpretation trails throughout the growth area.

Objective 5

To ensure the provision of a comprehensive and well connected network of open space and recreation facilities.

Strategies

- Achieve a minimum public open space contribution of 10% of unencumbered, subdividable land within the growth area.
- Ensure the establishment of major indoor recreation facilities at the sub-regional centre and the two proposed government secondary schools.
- Provide a comprehensive range of playing fields and local parks including two regional sporting facilities and sports grounds within each government primary and secondary school site, co-located with an additional oval on adjoining Council reserves.
- Distribute local parks of at least 0.5 hectares in area, within 400 metres of all dwellings across the residential areas.
- Establish at least one major, high value, conservation park at a regional scale in the vicinity of Stewarts Reserve.
- Develop a network of linear open space focussed on Armstrong Creek and its tributaries, the Barwon River and by converting the existing rural roads to 'greenways'.
- Ensure recreational walking and cycling trails provide direct links to activity centres, schools and major parks, are well lit and are overlooked by development.

Objective 6

To provide a sustainable movement and access network within the Armstrong Creek area.

Strategies

- Provide for three main public transport interchanges including the existing Marshall Railway Station and new interchanges at Rossack Drive and the sub-regional centre.
- Provide for a high quality sub-regional public transport link between the existing railway line and the sub-regional centre, with provision for it to be extended beyond towards Torquay.
- Provide for a comprehensive local public transport system on dedicated routes that link all activity nodes and pass within 600 metres of all dwellings and ensure public transport services are provided at the outset of development.
- Provide for new pedestrian bridges across the existing railway line and proposed east-west link road at Rossack Drive, Bieske Road and Bickford Road.
- Provide improved local vehicle access in the western section of the growth area by extending Rossack Drive across the railway line.
- Provide for a network of connector streets across the growth area.
- Provide for a new east - west link road to connect the Geelong Bypass with the Surf Coast Highway, Barwon Heads Road and ultimately, Portarlington Road.
- Provide primary and improved connection between Torquay and the Geelong Bypass by upgrading Mt Duneed Road and Anglesea Road.
- Provide for potential widening of Barwon Heads Road to two lanes in each direction.
- Provide for grade-separated crossings of the existing rail line at Barwon Heads Road, Torquay Road, Rossack Drive and the east-west link road.
- Develop existing and proposed arterial roads as urban boulevards.

Objective 7

To provide utility services that meet current best practice standards and are environmentally sustainable.

Strategies

- Seek to employ gravity systems for the sewer network and align trunk sewer lines with public open space where possible.
- Require water sensitive urban design including minimising direct connections between impervious areas and the underground stormwater system.
- Provide a series of flood storages including retarding basins and household rainfall collection tanks to limit 1.5 year and 100 year peak flow to pre-development conditions.
- Require rainwater tanks and encourage low water use gardens as standard water conservation measures for all new buildings in the growth area.
- Explore the potential for leading edge water supply strategies and alternative water supplies, such as recycled water (including a '3rd Pipe' system) and the use of stormwater.
- Require solar hot water systems as standard measures for all new buildings and encourage solar electricity generation.
- Explore the potential for leading edge sustainable energy supply strategies and alternative energy sources, such as, combined heat and power, and energy from waste.
- Provide for the latest telecommunications technology in the growth area.

- Provide an Integrated Resource Recovery Centre (IRRC) within the proposed industrial area at Marshall.

Objective 8

To ensure orderly, controlled and staged development of Armstrong Creek.

Strategies

- Limit urban expansion to the Urban Growth Area as defined by the Urban Growth Boundary.
- Commence development at the designated growth nodes at Marshall and Torquay Road.
- Ensure staging and sequencing of development follows the staging principles outlined in the Armstrong Creek Urban Growth Plan.
- Ensure no more than 10 to 15 years supply of vacant residential land is zoned for residential development at any one time to avoid an oversupply of lots and, if supply drops below 10 years, consider rezoning more land for urban purposes.
- Require subdivision permit applications to cover an area of at least 40 hectares.
- Ensure a fair, transparent and accountable system of development contributions is put in place to fund and deliver infrastructure in a consistent and timely manner.
- Require the preparation of detailed Development Plans, covering an area of at least the scale of the 'walkable neighbourhoods' of 1.6 kilometres in diameter detailed in the Armstrong Creek Urban Growth Plan, prior to rezoning of land for urban development.
- Ensure Development Plans are consistent with the vision and principles of the Armstrong Creek Urban Growth Plan and the location of land uses and infrastructure are generally in accordance with the Armstrong Creek Urban Growth Plan - Structure Plan.

Implementation

These strategies will be implemented by:

Using policy and the exercise of discretion

- Ensure use and development is in accordance with the vision and principles of the Armstrong Creek Urban Growth Plan Volume 1, October 2006.

Applying zones and overlays

- Applying the Incorporated Plan Overlay across the Urban Growth Area.
- Applying Schedule 1 to the Environmental Significance Overlay to areas along the Armstrong Creek and stands of significant remnant vegetation.
- Applying Schedule 2 to the Environmental Significance Overlay to the Barwon River floodplain as a buffer to the wetlands of Reedy Lake and Lake Connewarre.
- Applying Schedule 1 to the Vegetation Protection Overlay to areas of significant roadside vegetation.
- Applying the Floodway Overlay to locations that are high hazard and active floodways.
- Applying the Land Subject to Inundation Overlay to areas which are subject to periodic inundation.
- Applying the Special Building Overlay to land in existing urban areas that are subject to inundation by surcharge flows from urban drainage systems.
- Applying the Heritage Overlay to significant heritage sites.

- Applying the Significant Landscape Overlay to the Mt Duneed hill top.
- Applying the Development Contributions Plan Overlay.
- Applying the Development Plan Overlay.

Undertaking further strategic work

- Prepare a detailed Implementation Plan including a rezoning strategy.
- Prepare a Development Contributions Plan for the Urban Growth Area.
- Coordinate the preparation of more detailed Development Plans for development areas within the Urban Growth Area.
- Develop sustainable water and energy policies prior to commencement of development.

Other Actions

- Explore the feasibility of undergrounding the Anglesea – Point Henry electricity transmission line.
- Explore the feasibility of making sprinkler systems a standard requirement for all new dwellings in the growth area.
- Investigate the possibility of establishing one or more ‘eco-villages’ within the growth area, in which all homes are self-reliant in terms of energy and water.
- Prepare cultural heritage management plans for significant European and Aboriginal heritage places including the Mount Duneed Recreation Reserve.
- Investigate the establishment of a Cultural Heritage Interpretation Trail.

References

Armstrong Creek Urban Growth Plan - Volume 1, October 2006