



Sustainable Communities Discussion Paper

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EXECUTIVE SUMMARY

This discussion paper provides background to the preparation of a new Maroondah Housing Strategy. In particular, it:

- Tables some key principles of sustainable communities¹;
- Highlights Maroondah City Council's, State Government and other Councils' strategic alignment with these principles;
- Examines a number of Victorian and South Australian case studies and highlights key learnings;
- Examines some frameworks and models for sustainable communities;
- Poses eight key questions and suggests some options and approaches for Council to consider; and
- Provides options on how Council can better understand and plan for more livable and sustainable communities.

The eight key questions posed in this paper are:

1. How sustainable are Maroondah's existing communities?
2. How can we create the sustainable communities of the future?
3. How do we ensure housing is accessible financially (affordable to purchase and to operate) and physically for diverse needs and abilities?
4. How do we become a 20 minute city and how do we develop 20 minute (walkable, cyclable, public transport-accessible) neighbourhoods?
5. How can we build communities for social connectedness and cohesion?
6. Who could and should initiate and sustain sustainable communities and how?
7. What is the role of council?
8. How are sustainable communities to be sustained?

Whilst this paper doesn't provide definitive answers to these questions it never the less seeks to generate discussion about what will contribute to the long term liveability of the City of Maroondah.

¹ The term 'sustainable communities' has been used interchangeably with 'sustainable housing' throughout this paper

ENABLING SUSTAINABLE COMMUNITIES - SNAPSHOTS

Shared Community Vision

Lake Macquarie City Council has established a Sustainable Neighbourhoods Program. This enables residents to help make their area more sustainable.

15 Sustainable Neighbourhood groups have been formed. The groups develop an action plan, in consultation with their wider community. They work to reduce their environmental impact, build resilience, care for their local area through fostering community involvement and improve community wellbeing and sense of local pride.



Christie Walk roof top garden

Incentives for the development of sustainable Communities

The Mullum Creek Donvale development incentivises homeowners/builders to meet or exceed Guidelines developed to ensure good dwelling design that protects and enhances the natural values of the site.

Up to \$15,000 per household is available to assist with: home and landscape design; advice on ESD; a life cycle assessment and an implementation inspection.

Adaptable Communities

Banyule City Council has adopted Livable Housing Design Guidelines. Produced by Livable Housing Australia, the guidelines aim to make homes more accessible as people's life stages and physical abilities change.

These guidelines are used to assess planning applications and have triggers based on development size which requires a certain number of dwellings to be livable.

Award winning, affordable and well designed homes

The Commons apartment development in Brunswick stands out for its triple bottom line approach – including affordability.

The developers cleverly avoided costs and capped profits without compromising design and quality. Savings were passed on to buyers to keep prices at or below market levels.

1. INTRODUCTION

This paper has been prepared to inform the preparation of a new Maroondah Housing.

Section 2 provides a definition of sustainable communities.

Section 3 examines the current state and local strategic frameworks that indicate a demand and direction for the creation of more liveable and sustainable communities.

Section 4 examines some tools that provide standards for the creation of sustainable communities.

The case studies in Section 5 provide a deeper understanding about the creation of sustainable communities and the roles of various stakeholders.

Section 6 summarises learnings from the case studies and poses eight key questions for consideration in moving forward. Possible locations and approaches for more sustainable communities within Maroondah are broadly outlined.

Section 7 concludes that Council and the City of Maroondah are in an excellent position to improve liveability and lead the creation of more sustainable communities in Maroondah.

As there is much scope for improvement, the current predominant paradigm for providing homes and precincts would benefit from challenge. In particular, a shared vision with human health and happiness at its heart is sought – one that positively engages all stakeholders in its development. Such a vision or paradigm would, for example, centre road traffic decisions around the impact on the people scale and interactive qualities of the street, so that roads are avenues for people to safely meet, interact, walk and cycle, while enabling viable public transport (note VicRoads new ‘Travel Happy’ message). People living in such areas would be time-rich as employment would be close to home and good quality services and facilities would be easily accessible.

The case studies confirm that sustainable communities protect and enhance the local and natural environment. They encourage people to be healthy, participate in community life and have opportunities for prosperity. In short, they are designed to enhance life and lifestyles and help people to feel more connected socially and to the natural environment. The case studies suggest that Housing should be diverse, comfortable, accessible and affordable and have a reduced environmental footprint.

The Council facilitated, ‘Maroondah 2040’, provides a vision for the sustainable communities that people want in the City of Maroondah. To bring this to fruition, a framework is required to plan, implement and assess progress towards the vision, as well as provide a governance structure that clearly sets out roles and responsibilities of the community, Council and other stakeholders.

It is important to understand that developing more sustainable communities requires long term planning, resourcing and commitment by many stakeholders, including Council, in partnership. While people have similar aspirations for greater liveability, they will be realised differently in every community; there is no ‘one size fits all’.

Creating sustainable communities should begin by understanding the needs and aspirations of different communities within various locations across Maroondah. It should also protect and build on existing attributes, foster equity and assist those who are passionate and lead more sustainable community development.

Along with the community, Council is a key driver in the creation of more sustainable communities. One of Council's roles is to enable people to realise what they value in the Maroondah 2040 and facilitate choices for the community. Other roles Council can play are highlighted in this paper.

1.1 BACKGROUND

The *Housing Demand Research Paper*² estimates population growth of 1% per year in Maroondah to 2031, with a consequent growth in demand for housing stock.

Preliminary findings in this paper provide a focus for this discussion paper with respect to population change, housing diversity and affordability. They indicate that:

- To 2041 housing demand in Maroondah is forecast to grow by 1.2% per annum, or 477 dwellings per year. This growth is higher than it has been in the past. The proportion of these new dwellings in activity centres is expected to be 17% in 2016, and 30% in 2041 and 40-45% beyond 2041
- Until 2031, substantial growth is expected in the 35-49, 70-84 age groups and households comprising couples without children and lone persons. The housing needs of these groups need to be understood
- Housing in Maroondah is not affordable for people on low incomes or single incomes
- Social housing stock is low (2.8%) and needs to grow.

We also know the challenges and strengths in Maroondah in regard to health and wellbeing. This includes health issues related to poor diet and sedentary lifestyles, impacts related to alcohol consumption, family violence and problem gambling. Although levels of disadvantage are relatively low for Maroondah as a whole, some people within the areas of Bayswater, Bayswater North, Kilsyth, Kilsyth South, Croydon, Croydon Hills, Croydon North and Croydon South experience economic and social disadvantage.³

Recent Council research has found the following in regard to our environmental sustainability:

- Household potable water use has been slowly rising since 2010
- Local waterways are generally in poor condition
- Recycling rates are good in Maroondah, while waste to landfill per household has remained at a steady rate since 2010
- There is an incomplete picture of our natural heritage which could be addressed by updated mapping and collating vegetation removal permit data
- Climate change projections for the eastern region are that hotter, drier conditions and extreme events will be more frequent.⁴

Households in Australia produce 20% of the nation's greenhouse gas emissions. The breakdown of household emissions shows that 61% is from the gas and electricity used

² Spatial Economics, 2015

³ Maroondah Community Wellbeing Plan, 2013-17

⁴ EAGA, 2015

within the home; 34% is from transport and 5% is from waste to landfill.⁵ This does not include the embodied energy of the house.

Biodiversity, canopy cover and a treed, green and leafy environment are highly valued by the community. Some of the issues to be addressed by new housing in general and particularly by higher density housing are: loss of vegetation and habitat; habitat fragmentation and species extinction; adequate provision of private and public open space; assessment of adequate access to sunlight; disconnection with nature; balance between desired tree canopy and tree species suited to various housing densities.

With this knowledge we can identify areas where multiple sustainable benefits can be achieved. Sustainable communities will happen through a partnership approach and will address local needs and aspirations specific to the needs of 'our place'.

1.2 SCOPE

This paper examines Maroondah's policy framework for sustainable communities; approaches and tools for creating sustainable communities; and case studies. It also suggests further discussion and research for subsequent work that will inform the Housing Strategy.

1.3 PROJECT METHODOLOGY

This paper was prepared by desktop research and analysis of Council strategic documents; and site visits and discussions with people who live in sustainable communities and homes in Melbourne and Adelaide.

2. DEFINING SUSTAINABLE COMMUNITIES

2.1 WHAT IS A SUSTAINABLE COMMUNITY?

The Green Building Council of Australia (GBCA) defines a sustainable community as one that *"embodies the principles of sustainable development, respecting ecological limits and natural resource constraints, encouraging prosperity and well-being while optimising conditions for human development."*⁶

A number of sources were reviewed to identify the components and principles of a sustainable community⁷.

In summary, the principle elements which define sustainable communities are:

- A shared community vision or aspirations (see Maroondah 2040 section for details of the Maroondah community's vision)

⁵ EPA Victoria

⁶ Green Building Council of Australia, Green Star Communities National Framework, p.4

⁷ These included *Healthy Spaces & Places*, an initiative of the Planning Institute of Australia and the National Heart Foundation; *Green Star Communities*, a national framework by the Green Building Council of Australia; *Liveable Neighbourhoods*, policy of the government of Western Australia used to inform subdivisions and big urban infill sites and *Sustainable Urban Neighbourhoods, building communities that last* that assessed what was effective in building sustainable communities in the UK.

- Safety and the fostering of human health and well being
- Social connection and cohesion
- Ready access to health, education, employment and recreational opportunities, including information to enhance, enable and promote their use
- Ready access to active and public transport opportunities, including information to enhance, enable and promote their use
- Ready access to services and community facilities are appropriate to needs
- Protection and enhancement of the natural environment, central to which is the design and operation of the built form so that its occupation has a neutral or positive environmental impact
- Adequate and high quality public and private open space
- A variety of dwelling types and prices with sensitivity to the diversity of cultures and life stages
- Adaptable services (over life stages and physical abilities as well as for changing environmental and economic conditions such as climate change impacts and economic downturns)
- Strong and transparent governance and stewardship at all levels affecting the community.

The most sustainable communities address all these principles, however there are degrees of sustainability according to how many principles have been addressed in any given locality. This is evident in the case studies. Council's strategic directions encompass most of these elements as do the relevant sustainable community frameworks. The elements are also addressed in the eight key questions posed by this paper.

2.2. THE BENEFITS OF SUSTAINABLE COMMUNITIES

The characteristics of poor quality developments are: poor quality of housing stock, poor urban design, degradation of the natural environment, lack of access to services and community facilities leading to poor health, employment and social connectivity outcomes and limited educational opportunities.

Such developments are still being built across Melbourne. Superior community outcomes exist with the co-planning and co-provision of necessary services. The best planning and provision incorporates flexibility because it recognises that housing and communities exist or are provided in a particular social, environmental and economic context which changes over time. Good, sustainable planning paradigms allows for the betterment of residents over time, rather than leaving this to chance, the market or otherwise.

Conversely to poor quality developments, sustainable communities commonly meet triple bottom line objectives that cater to basic and higher human needs. These include:

Social Benefits

- Good health and wellbeing
- Community connectedness, cohesion and ability to develop to suit the needs of its residents, for example social support among residents
- Access to good employment and educational opportunities, health services, good quality food and other essential services
- Good recreational opportunities, amenity and lifestyle opportunities
- Variety of housing choices for the range of abilities and life stages
- Equity in access to housing and services.

Economic Outcomes

- Affordable purchase and operation of housing
- Affordable cost of living (including cost of local services, transport, essential services and leisure)
- Ability to modify housing to enable retention of residents over their lifetime/stages
- Making some private assets communal (eg shared laundry, function rooms, garden space, workshops, theatres) to distribute and reduce costs and create opportunities for people to meet
- Alternative models for building homes (eg co-housing, co-operatives, more shared facilities etc).

Environmental Outcomes

- Minimise environmental footprint of construction and operation of homes
- Protect the local environment
- Enhance natural values and features
- Minimise pollution and emissions
- Providing comfort and economy of housing operation
- Being more resilient to climate change impacts.

The more the principles of a sustainable community can be designed into housing and urban infrastructure, the more prosperous will be the people who live, work or visit there.

2.3 HOW SUSTAINABLE ARE MAROONDAH'S COMMUNITIES?

Although this paper does not analyse the level of Maroondah's sustainability, it builds on Maroondah's numerous attributes of a sustainable community.

The Municipal Strategic Statement (MSS) in the Maroondah Planning Scheme describes the following environmental and social values of the municipality: significant open space network, including bicycle and walking trails; places of natural and cultural heritage significance; high levels of community involvement through volunteering; numerous waterways; significant vegetation and leafy character; train lines and a bus network.

The MSS acknowledges: the protection of these natural features; the importance of people being connected to open space and its contribution to health and well being; and the need for access to transport; services and activities, especially for those who have fewer transport options.

In developing the Maroondah Housing Strategy consideration can be given to:

- Whether these attributes could be promoted to attract people to the area and increase opportunities for current residents
- How these characteristics could be enhanced to make Maroondah an exceptional place to live and a locality known for its sustainability
- How Maroondah's level of sustainability will be measured.

Points to consider

- The definition and principle elements of sustainable communities can guide the Housing Strategy and be a catalyst for environmental, social, economic and cultural well-being. They provide a framework for assessing 'where we are currently at' and for developing more liveable housing, precincts and communities
- How could Maroondah's current sustainability be assessed?

- How could Maroondah's attributes be promoted to attract people to the area and enhance liveability for current residents?
- How can these attributes be protected and enhanced so they make Maroondah an exceptional place to live and a locality known for its sustainability?
- How can these attributes be enhanced within the planning for a growing population?

3. STRATEGIC CONTEXT TO DEVELOPING SUSTAINABLE COMMUNITIES IN MAROONDAH

3.1 STATE GOVERNMENT DIRECTION

PLAN MELBOURNE

Plan Melbourne is the State Government's Melbourne metropolitan strategy. It flags projected population increases to 2050 and provides a framework to support this growth and ensure the key issues of congestion, affordability, accessibility, a changing climate and rural encroachment are addressed.

In regard to housing strategies it states that they should be aligned with the objectives of Plan Melbourne: *"including making adequate provisions for future housing needs, delivering the 20- minute neighbourhood, protecting valued character and supporting regional infrastructure and planning frameworks."*⁸

Plan Melbourne does focus on the need to position new dwellings in areas that are already established with good access to public transport and to have guidelines for higher density housing, providing diversity and affordability. It also highlights the need to create developments and areas that promote physical activity and well being.

It acknowledges the impacts of climate change and the need to reduce greenhouse gas emissions, a whole of water cycle approach and the protection of waterways and biodiversity and to reduce noise and air pollution impacts.

STATE PLANNING POLICY FRAMEWORK

Specific mention is made in the State Planning Policy Framework about the sustainability of the built form including references to components of Environmentally Sustainable Design (ESD). Relevant strategies and objectives are found at **Appendix 1**. In summary, these references direct the built form to include environmental sustainability, energy efficiency, water conservation, reduce stormwater impacts, generate less pollution and waste and support walking, cycling and public transport. Also water and energy efficient housing is linked to community needs.

There may be changes in future that strengthen sustainability outcomes for communities based on the Labor Government's 2014 election commitments⁹. These include:

- Some amendment to Plan Melbourne (this will include climate change, energy efficiency, affordable housing and transport priorities)¹⁰

⁸ Plan Melbourne, p.67

⁹ MAV, 2015

¹⁰ DELWP, 2015

- Improved triple bottom line outcomes through planning and environmental laws review
- State government land releases to oblige a percentage of dwellings to be affordable housing
- That conservation and the environment are dealt with in Council planning strategies
- Liveability to be addressed by good planning for infill and to incorporate community views into developing neighbourhood character. That good urban design principles are used to encourage social cohesion and include affordable and diverse housing
- All new dwellings to be connected to rainwater supply
- Where suitable, new dwellings to be connected to greywater
- That existing climate change guidelines input into policies and strategies about sustainability
- New buildings to be designed for universal access.

3.2 LOCAL DIRECTION

MAROONDAH 2040

Maroondah 2040: Our future together, developed by the communities who live, work and play in the area, echoes many of the sustainable community principles presented in the previous section with 43 relevant key directions. These are listed in **Appendix 2** with indicators of progress from the Community related to sustainability in **Appendix 3**.

The community's vision for Maroondah to 2040 is that, *"Maroondah will be a vibrant and diverse city with a healthy and active community, living in green leafy neighbourhoods which are connected to thriving and accessible activity centres contributing to a prosperous economy within a safe, inclusive and sustainable environment."*¹¹

Of particular note, due to their relevance to the housing strategy, is the strong desire to create neighbourhoods that are safe and inclusive. As are those that value age and cultural diversity, with a built form that is suitable for changes over a life time. The protection of waterways and 'green spaces' is highly valued and there is a desire to reduce energy and potable water use. It recognises the challenges of future public transport provision with a growing population; however it also seeks good access to public transport and active transport options and the creation of a 20 minute city. It sees Council as advocate for the community.

MAROONDAH LOCAL PLANNING POLICY FRAMEWORK

Maroondah's Municipal Strategic Statement requires that developments are encouraged to be environmentally sustainable and *"planning, design, siting and construction of development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management."* This is echoed for housing, industrial, retail and commercial land use. Details about environmental issues addressed in the local planning scheme can be seen at appendix 4.

The Ringwood Activity Centre Policy provides more detail about how sustainability issues are to be addressed. To provide further guidance about ESD requirements future MSS work includes developing an ESD strategy that includes a Water Sensitive Urban Design Policy.

¹¹ Maroondah 2040: Our future together

MAROONDAH MUNICIPAL HOUSING STRATEGY 1997

The following sustainability related issues were presented in the Maroondah Housing Strategy 1997. It drew out the need to:

- Strengthen the protection of vegetation in “*areas of special environmental quality*” and “*high landscape quality*”¹²
- Identify areas for medium density housing developments to accommodate population growth. This was due to the areas providing good access to public transport, the road network, activity centres and community facilities
- Highlight drainage issues
- Continue to invest in transport infrastructure
- Provide diversity in housing based on the changing demographic profile
- Protect the vegetation and tree assets and the value of the ridgeline areas.

The Maroondah Municipal Housing Strategy 1997 Review Discussion Paper identifies the successful outcomes that have been achieved in regard to these objectives.

NEIGHBOURHOOD CHARACTER AREAS

Maroondah has 24 Neighbourhood Character areas (refer **Appendix 5**). These specify a mix of housing types for preferred future character. This includes a desire for dwellings to be low scale and “tucked” into the landscape in ridgeline areas to maximise views and maintain a blanket of tree cover. Greater diversity of housing and renewal will be seen in areas that adjoin activity centres. While an increase in medium density housing (up to 4 storeys) is encouraged within the Croydon Town Centre and multi-level apartment style dwellings for the Ringwood Metropolitan Activities Centre.

MEDIUM AND HIGH DENSITY HOUSING

The Maroondah local planning scheme states that:

*“With little remaining land available for greenfield residential development, future population growth will be stimulated by housing consolidation and medium density development.”*¹³

Research into medium density housing¹⁴ raises points for consideration, for example, to understand impacts on housing affordability and car dependence.

Other considerations include:

- Adequacy of privacy
- Amenity outcomes for residents and surrounding buildings
- How best to assess for solar access and impacts of limited access on health
- Level of building standard
- Opportunities for connection with the natural environment.

The need to assess apartment building outcomes and whether planning and building frameworks are delivering what the community desires is echoed in *Plan Melbourne*. It points to the City of Melbourne’s *Future Living*¹⁵ paper. This paper presents analysis of apartment developments in their municipality. Some of the issues that resulted in average or poor outcomes relate to inadequate internal space, little consideration to orientation and environmental performance, little communal space and adaptability of the dwelling.

¹² Maroondah Municipal Housing Strategy, 1997

¹³ Maroondah Planning Scheme, Clause 21.01 Municipal Profile

¹⁴ Alves, T, 2006; George, B, 2014

¹⁵ City of Melbourne, 2013

They identified that one of the factors influencing outcomes is due to the local market for this type of housing – who is creating the development and for whom, is important.

SITES OF BIOLOGICAL SIGNIFICANCE IN MAROONDAH, 1997

The Sites of Biological Significance identified 132 sites within Maroondah on private or public land that have flora and fauna values to be protected. With 82 of these recommended for inclusion in the Maroondah planning scheme. This study helps decision making for planning applications for near-by sites.

It uncovered that Maroondah has sites of state wide significance, as well as plants and bird species that had not been recorded before in the area. Highlighted is that the spaces between these significant sites are also important and that many indigenous species of flora and fauna were in threat of being locally extinct and poorly conserved. The activities that impact negatively on biodiversity are removal of native vegetation along roadsides and private property, arterial road construction and spreading of weeds.

MAROONDAH COMMUNITY WELLBEING PLAN 2013-17

The Community Wellbeing Plan seeks to improve the health and wellbeing of people in Maroondah. This is through four key directions and action areas which are: A healthy, social and safe community, An equitable and engaged community, Sustainable built and natural environments and A vibrant inclusive economy.

The areas that are of particular interest to this paper are the provision and equitable access to adequate and affordable housing, encouraging physical activity, availability of healthy food, addressing social isolation and interaction and climate change impacts .

Health is defined in the Wellbeing Plan as *“a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.”*¹⁶ Wellbeing also includes the ability for people to shape their communities through democratic participation.

HEALTHY AGEING

Maroondah is a member of the World Health Organisation's Global Network of Age Friendly Cities and Communities Network. This is to enable active and healthy ageing and the participation of older people in their communities. The health and wellbeing of older people is influenced by many of the components that contribute to sustainable communities such as housing, transport, urban spaces and buildings and social participation and availability of information.¹⁷

DRAFT MAROONDAH SUSTAINABILITY STRATEGY 2015 (CURRENTLY BEING DEVELOPED)

The Sustainability Strategy 2015 is currently being developed. It will be built around 5 key themes, which are Climate Change and Energy; Water and Biodiversity; Governance; Finance and Community Engagement. This Strategy will provide direction and priority areas for becoming more sustainable for both the community and council.

CLIMATE CHANGE ADAPTATION ROADMAP

The Climate Change Adaptation Roadmap for Melbourne's East has recently been completed. Based on a risk assessment of the region it includes 10 priority actions relevant to Councils.

¹⁶ Maroondah Community Wellbeing Plan 2013-17

¹⁷ Maroondah City Council Active and Healthy Ageing

Although all of the priority actions are important to the sustainability of the area, the priorities that are particularly relevant to this paper are:

- Priority 2 – A Cool East Strategy – for green infrastructure to assist with heat waves and the heat island effect
- Priority 6 – Improving electricity network reliability – to be resilient to climate change impacts and for power to be accessible to those most vulnerable during heat waves
- Priority 7 – Maximising alternative water sources – creating an Integrated Water Management Strategy and identifying stormwater capture and recycling opportunities.

WATER SENSITIVE CITY STRATEGY (WSCS)

The key objective of the Maroondah's WSCS is for all water sources to protect and enhance liveability and the local environment in order to attain the 2040 vision of a clean, green, leafy and resilient city. Attractive streets, landscapes and open spaces can be facilitated using an integrated water management approach for flood mitigation, drought adaptation and good urban design. Partnerships and a collaborative culture are central to providing the multiple benefits available from the suite of projects recommended for consideration in the Strategy.

SUSTAINABLE TRANSPORT

There are a number of strategic documents and actions plans in regard to sustainable transport. These acknowledge the link between equitable access to good transport and community wellbeing as well as the environmental benefits.

They provide guidance to bring together the planning and delivery of various transport modes for integrated outcomes. These include for rail, the road network, bus services, walking and cycling. These strategies are the:

- Maroondah Integrated Transport Strategy, 2006
- Maroondah Pedestrian Strategy, 2007
- Maroondah Bicycle Strategy, 2004.

Points to consider

- From our vision to our policies there is a demand and direction for sustainable communities to be created. Different locations and different people will need a diverse approach, sensitive to the particular components that they value and require as well as the needs of future generations

3.3 OTHER VICTORIAN COUNCILS' HOUSING STRATEGIES

A number of Victorian local government housing strategies were reviewed for their incorporation of sustainability.

These were mainly of neighbouring Councils and include Manningham City Council, Whitehorse City Council, City Of Yarra, and Yarra Ranges Council.

The following is a summary of the components that contribute to visions for sustainability, (but were not necessarily included in all the strategies):

- Advocate for, encourage and investigate adaptable housing
- Areas that will experience significant change to have a place making strategy

- Advocate to state government to promote sustainable urbanisation and resilience in regard to climate change, peak oil and food security
- Investigation of retrofit programs and information provision to improve energy and water efficiency
- Introduction of an ESD Local Planning Policy, training for staff and information provision for applicants and developers and advocacy for the ESD standard to be raised in the Building Code
- That multi-dwelling developments have adequate amenity and encourage accessibility via a planning scheme amendment
- Support for social housing and land releases by state and federal governments to consider some of land to be for social housing
- State and federal government land releases to have ESD planning controls
- Raise awareness about landscape overlays and vegetation protection
- Promotion of the Liveable Housing Design Guidelines¹⁸
- Demonstration projects for ageing in place and affordable and sustainable housing
- Advocate to state government for a shared ownership scheme for low income households, improved resources to assist those experiencing homelessness, and to encourage alternative accommodation such as communal living facilities and working from home
- New residential growth to be interconnected with transport strategies and informed by an holistic mix of triple bottom line sustainability and land-use planning
- Water Sensitive Urban Design to be included in pre-application and planning application process.

These are all worthy of consideration as part of the preparation of a new Maroondah Housing Strategy. Also various advocacy actions could become joint ones across Councils, where appropriate, through alliances such as the Eastern Alliance for Greenhouse Action (EAGA) and the Council Alliance for a Sustainable Built Environment (CASBE).

4. TOOLS TO HELP PLAN FOR SUSTAINABLE COMMUNITIES

Strategic guidance for embedding sustainability raises the question: how do we bring together the objectives and implement this for sustainable communities? This section describes possible approaches to an overarching framework to assist with planning for, and assessing, sustainability outcomes.

4.1 GREEN STAR

The Green Star Communities National Framework, developed by the Green Building Council of Australia (GBCA), provides guidance for projects to create Sustainable Communities. This framework *“is to provide inspiration, and to contribute to a national conversation about how we plan, design, build, maintain and renew sustainable communities.”*¹⁹ It is structured around five best practice principles which are to: Enhance liveability; Create Opportunities for Economic Prosperity; Foster environmental responsibility; Embrace design excellence; Demonstrate visionary leadership and strong governance.

The Framework can be used in a number of ways. This includes the assessment of planning development applications, for structure planning, specified as a requirement for community

¹⁸ Livable Housing Australia, 2015

¹⁹ Green Star Communities National Framework, p.3

developments, as well as to inform and inspire residents to choose actions that will contribute to sustainable communities. See **Appendix 6** for further examples about how this Framework can be applied.

The Green Star Communities tool provides a star rating for the planning, design and construction outcomes of a communities project. This is across six areas including governance, design, liveability, economic prosperity, environment and innovation.

Dwellings can also be assessed using the Green Star Design and As Built tool. This is for mixed use and groups of single dwellings (such as retirement villages). Single detached dwelling could also be assessed but would require further discussion with the GBCA. Developments are rated across 9 categories. These are management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions and innovation.

4.2 GREENING THE GREYFIELDS

Newton et al²⁰ describe greyfield sites as housing sites that are in need of renewal. The traditional approach is generally an individual one where dwellings are replaced in isolation.

Greening the Greyfields is a federally funded project simultaneously running in three states. The aim of the project is to promote sustainable housing regeneration in the middle suburbs. The term 'Greyfields' is a housing redevelopment term for development that is occurring in areas with ageing populations and housing stock, as opposed to Greenfield (urban fringe) and Brownfield (ex-industrial land). The type of redevelopment typical in these areas is currently done on an ad hoc, lot-by-lot basis, with suboptimum outcomes and no additional land provided for social amenity/utility.

Given that there is tremendous potential in the middle ring suburbs for housing growth that tackles the issues of age-in-place, downsizing, sustainable and affordable housing and a host of other policy areas, the current system of single lot redevelopment presents significant opportunity cost, in terms of what could be done if it were managed more strategically and done in precincts rather than individually (here a precinct represents any amount of amalgamated lots that can provide broad benefit in terms of design and technology use).

Some of the changes that would enable this strategic planning approach are:

- Process of precinct planning for regeneration rather than individual renewal (planning tool or code)
- Opportunities for increased densities
- Participatory community approach
- New ways of constructing
- New data platform and spacial tools to identify which areas would be best suited to greyfield regeneration – this would also present the sustainability benefits and assist with stakeholder engagement (examples of these data platforms and planning tools are already available).

The benefits of such an approach are more diverse dwelling types with a conscious neighbourhood character – including social. It presents opportunities for large scale planning of energy generation, stormwater treatment and water conservation. It can reduce waste and encourage recycling and reuse of building materials and encourage a coordinated approach

²⁰ Newton, P, et al, 2012,

to construction within the precinct. This approach would allow Council to integrate many of its sustainability objectives.

4.3 SUSTAINABLE DESIGN ASSESSMENT IN THE PLANNING PROCESS

A process that could improve sustainability outcomes for all housing densities is the Sustainable Design Assessment in the Planning Process (SDAPP). This was developed by the Council Alliance for a Sustainable Built Environment (CASBE) and seeks to provide a consistent approach across Councils to requesting information about and assessing the sustainability of planning applications. This process involves recommended assessment tool such as Built Environment Sustainability Scorecard (BESS) and Green Star.

Maroondah has been implementing SDAPP informally since 2012 and this has mainly captured developments in the Ringwood area. Over three years approximately 16 planning applications have used this process. With a continuation of housing demand and increase in medium density housing, the SDAPP process could be formalised to capture all of the planning applications for dwellings. One way to strengthen this process is via a planning scheme amendment for ESD Local Planning Policy but also includes a capacity building and awareness raising process independently of the policy.

Currently six Victorian Councils have jointly submitted an amendment for an ESD Local Planning Policy. These are the Cities of Banyule, Moreland, Port Phillip, Stonnington, Whitehorse and Yarra. The bulk of the policy is the same across Councils, the main difference being the ESD Application Requirements, which are Council specific (please see appendix 7 for a copy of the proposed Whitehorse ESD policy). The City of Monash has submitted the same policy independently. There is currently an opportunity for Maroondah to be part of a second joint submission with other interested Councils.

4.4 PLANNING FOR HEALTHY COMMUNITIES

Enhancing the mental, emotional and physical health of people can be guided by the predominant health issues that Maroondah faces. These are linked to sedentary lifestyles, unhealthy foods and social isolation. Planning, in partnership with others, can assist with reducing these risks. This is by assisting the creation of public spaces and built forms that encourage active and public transport use, opportunities for social connections, connection with nature and physical activity. Creating this will involve being sensitive to the requirements of different communities and housing densities.

Council can also be an enabler of health by assisting the requests from the community to grow food locally in public places.

Creating healthy communities also has benefits that overlap with environmental concerns, such as air pollution and climate change. Such as health benefit and less greenhouse gas emissions from reduced private car use; and a more connected community may be more resilient in regard to climate change impacts.²¹

The following are two examples of approaches/tools that could be used to incorporate health and wellbeing into communities.

²¹ Thompson, S, et al, 2012

The Heart Foundation has developed the Healthy by Design tool to help with the creation of public spaces and built form that enhance health and well being. It can be used to assess planning applications for developments and to inform strategic plans and for the inclusion of health considerations in local planning schemes.

Healthy Cities Illawarra provides a model for creating healthy communities. They are a not for profit organisation who works across four local government areas in NSW. As a member of the World Health Organisation's International Healthy Cities Movement, it has a partnership project approach to addressing health in an integrated manner. This involves the areas of the environment, building community, safety, healthy ageing and creating child friendly places.

4.5 ONE PLANET LIVING

The One Planet Living concept is based around providing the things we need by using an equitable share of resources for a good quality of life. This is important as some countries way of life is using more than the earth can provide. The current average Australian lifestyle needs four planets to enable it. While globally current resource consumption levels would need 13 planets.

A framework for One Planet Living is built around 10 principles which are: zero carbon; zero waste; sustainable transport; sustainable materials; sustainable food; sustainable water; land use and wildlife; culture and community; equity and local economy; and health and happiness. This framework could assist with providing a gap analysis of current practice as well as to help communicate the vision of sustainable communities to residents and stakeholders.

4.6 OTHER GUIDELINES AND STANDARDS

Embedding sustainability into developments can also be enabled by the provision of guidelines or standards. These assist applicants to understand what is expected by Council and as a guide for the application assessment process. Below are a few examples, one for higher density housing another considers sustainability more broadly and the third is about biodiversity.

In regard to guidelines for multi-storey developments of four storeys or more, there are the *Guidelines for Higher Density Development* by the Department of Planning and Community Development. In addition there is the City of Moreland's Higher Density Design Code that seeks to improve the quality of this type of built form, improve ESD outcomes and amenity for residents of the development and those surrounding it.

Not just for medium or high density housing, (as it applies to all proposed dwelling applications), is Maribyrnong City Council's *Good Design Standard: better neighbourhoods, streetscapes and homes*. This provides a guide and rating checklist for applicants. It is a useful way to consider sustainability under the overarching themes of site context, place making and creating homes of good quality and amenity.

Spatial tools and information technology are very useful if not essential in regard to planning for sustainable communities. This helps with evidence based decision making, as well as for planning for and understanding outcomes. A smart city uses this concept and is "*when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic development and a high quality of*

*life, with a wise management of natural resources, through participatory action and engagement*²²

Spatial data would also be useful for decision making and communicating about biodiversity values. With this information planners and planning applicants could see the importance of incorporating biodiversity values and how their site relates to the biodiversity of the area.

Sites of biological significance are incorporated in the Maroondah Planning Scheme and allow for direction for vegetation requirements in and near these critical areas. However, it would be beneficial to have a stepped approach for areas outside of the vegetation planning overlay areas. This could specify landscape requirements for higher density which could encourage smaller plants and trees from lower and medium vegetation storey, whereas, larger sites in lower density areas could incorporate all vegetation storeys. This would create nodes across Maroondah so that there are stepping stones for movement of fauna across the area including to habitat corridors.

Biodiversity landscape guidelines could be created for different areas and housing densities with examples of landscape plans to assist applicants. Also of importance is to assist residents to maintain indigenous gardens through community engagement and also to highlight examples where residents are focused on biodiversity such as at Uambi in Maroondah.

Indicators to measure our desired progress should also be considered. It will need to be clear which indicators are our focus and priority. As mentioned in section 3, there are community indicators in Maroondah 2040. Community Indicators Victoria has developed indicators for measuring wellbeing where Council can compare progress against the eastern region and Victoria more broadly.

Points to consider

- It is worth considering a framework to be able to plan, deliver and measure sustainable communities. This would provide guiding principles and a consistent approach to planning and implementation.
- Community members as drivers of this framework and an approach to help communicate expectations is an important component to be considered
- The spatial information required to assist with planning for sustainable communities
- The adoption of assessment tools would provide a measure and standard for the creation of individual homes as well as communities.

²²UNSW Australia, 2014

5. CASE STUDIES

ALDINGA ARTS ECO VILLAGE

Development type & density:

Detached;

Brownfield, low density:

*Eco Village: "a human-scale full-featured settlement in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development and can be successfully continued into the indefinite future."*²³

The Aldinga Arts Eco Village is in a coastal area located approximately 45kms south west of the Adelaide CBD. It is within the municipal area of Onkaparinga.

It is made up of approximately 120 houses under Community Title, with some commercial lots. In total there are 169 residential and commercial lots. It sits on 17 hectares, with 8 of these hectares being common land. It has been developed using permaculture principles. Housing allotments are privately owned with residents having a share in the common land. The village is broken up into neighbourhoods, with each neighbourhood responsible for maintaining their common land. Common land duties however are on a voluntary basis.

The village also includes a small-scale sewage treatment plant, orchards (with 640 nut and fruit trees), ponds and dams, amphitheatre, shared workshop and meeting space and market garden. A community centre is currently being planned (it was suggested that it would have been beneficial to include a community centre at the start of the project as a main centre and meeting place for the community).

Development of the Eco Village occurred over 25 years and began when a permaculture group and a group of artists joined together to create their vision for a sustainable community. Individuals contributed funds to purchase the land which they later recouped when sold to future residents.

Economic Factors

- Some paid work created (ie compost making; maintenance)
- Sale of fruit from orchards
- Access to Council grants
- Access to infrastructure (ie shared workshop and pizza oven)
- Growing opportunities for the village (ie volunteers built a 10 square portable house for ~\$1,000 for temporary accommodation for Woofers).

Environmental Factors

- Reduced environmental impact of buildings
- Encourages edible landscapes
- Roads and paths designed to drain stormwater into ponds and dams
- Wastewater treated onsite and used for irrigation
- Residents assisting with revegetating along neighbouring creek.

Social Factors

- Communication process established to mobilise people when assistance is needed (ie when someone is unwell and for new parents)
- Creation of safe roads with a voluntary 25km speed limit within the Village
- Informal sharing of knowledge, skills, resources, space
- Encourages social interaction (ie pizza nights, interest groups)
- Paths have been built with regard to a resident living with vision impairment
- Public art connects and beautifies
- Broad age range from newborns to a resident in their 90s.

²³ Aldinga Arts Eco Village and Eco Resources Network, 2006

Governance Mechanisms

- To assist with running the community there are 8 Committees including the Building Development Committee (BDC). Proposed developments are to be guided by the By-laws and the AEV Building Design Guidelines for environmental design. The BDC reviews and approves development proposals prior to the application being lodged with Council.

Learnings/considerations for Council

- To provide or specify communal space and resources that can be shared by communities
- The Housing Strategy could indicate that Council would encourage a joint approach to development
- Acknowledging that this is a long term process that is led by a clear vision.



Aldinga Arts Eco Village, letterboxes as meeting place

CHRISTIE WALK

Development type & density:

Apartments, townhouses;

Brownfield, medium density

Eco City: *"A city which minimises its ecological impact where landscape and built form are balanced and where buildings and infrastructure are safe and resource efficient."*²⁴

Christie Walk is located in the Adelaide CBD. It is a brown field development of 27 houses on 2,000 square meters of land. Houses range in size from 53m² to 130m². It includes a small commercial office space, public meeting room and kitchen and shared laundry facilities.

The land was originally purchased in 2000, the first home built in 2001 and the project was completed in 2006. This land was privately purchased and developed, as at the time a developer who was interested in such a development was not found. The development is under a Corporation Title.

Economic Factors

- Credits received from the solar PV system invested in a Green Fund that reinvests in new project.

Environmental Factors

- ESD features of the development include: roof garden, vegetable garden, recycling system in addition to kerb side recycling, solar PV, solar hot water systems, bay windows to capture sunlight, some recycled timber window frames and door frames, double glazed windows, cross ventilation, rainwater tanks plumbed to toilets and irrigation system
- A car share scheme was invited to put their first 2 car spots in Adelaide in front of Christie Walk
- Provides additional opportunities, such as involvement of a local university in micro bat research on the site

- Generally use 1/3 of the energy and water of similar sized South Australian homes
- Opportunities for greater engagement with Council and other organisations due to being a sustainable community (ie able to take part in a Council recycling program aimed at businesses for soft plastics and polystyrene).

Social Factors

- Common areas and shared spaces allow for incidental and organised gatherings/meetings
- Sharing of resources from the vegetable garden
- Now considering disability access as a resident uses a wheelchair
- Public art connects and beautifies.

Learnings/considerations for Council

- Are there clusters of communities of interest in sustainability in Maroondah? Could Council partner with them to achieve their sustainability aspirations?
- Council can encourage an ongoing relationship with communities who create sustainable homes/communities. This would assist with sustaining sustainable communities
- To investigate what would incentivise developers to create sustainable communities
- The market may not at first always support a good idea that the community wants.



Christie Walk, beautifying public space

²⁴ Urban Ecology Australia, 2013

LOCHIEL PARK GREEN VILLAGE

Development type & density:

*Apartments, townhouses, detached;
Greenfield, low and medium density*

The Lochiel Park Green Village is located approximately 8kms north east of the Adelaide CBD. It is within the municipal area of Campbelltown. With the River Torrens running beside it, it is set on 15 hectares – with 4.25 hectares for residential development and 10 hectares (67%) of open space it contains 100 homes.

This development was an initiative of the South Australian Government to implement a component of their Strategic Plan. In particular the objective that, *"South Australia should reduce its greenhouse gas emissions and begin preparing its economy and society for climate change and a carbon constrained world."*²⁵

The Park is a showcase for other developments and provides an educational opportunity about sustainable housing and development for the public and developers.²⁶

Economic Factors

- Includes a zero carbon house that was built to be comparable in price to a standard home. This was as a result of a Zero Carbon Challenge competition by the State Government and Integrated Design Commission SA. The design also considers adaptability, embodied energy and liveability
- Learnings for developers involved, in the building and marketing of sustainable homes.

Environmental Factors

- Wetlands capture and filter stormwater, including from over 200 hectares above the development, which prior went straight into the River

Torrens. Stormwater from roads and homes also collected and treated

- The following ESD features are common to all the homes: at least a 7.5 star thermal rating; solar PV systems; gas boosted solar hot water; recycled stormwater use, rainwater capture
- Targets have been set including a reduction in potable water, non-renewable energy use and greenhouse gas emissions per household compared to an average home
- Water and energy consumption monitors installed in homes
- Urban Design Guidelines have been developed with mandatory and voluntary components
- Biodiversity valued and approximately 200,000 shrubs and trees on the site.

Social Factors

- Community garden with educational component
- Learning opportunities for all those involved
- Online community portal for residents to connect.

Governance

- This development is on what was public land. Residents and Council did not want mass development on this site and advocated to keep the open space
- Design guidelines were developed.

Learnings/considerations for Council

- Are there opportunities for Council to test and showcase their vision for sustainable communities? What mechanisms would enable this (eg competition, awards, Greening the Greyfields project)?
- Are there opportunities to partner with the State Government on such an approach?

²⁵ Renewal SA, 2015

²⁶ Campbelltown City Council

MULLUM CREEK DEVELOPMENT

Development type & density:

Detached;

Greenfield, low density

The Mullum Creek estate is located along the Mullum Mullum Creek in Donvale approximately 20 km from Melbourne's CBD and close to the City of Maroondah. The site was formerly a mixture of farmland and remnant bush and is one of the last substantially sized pockets of undeveloped land across the City of Manningham. It has long term ownership by a single family who now desire to create a community of beautiful and sustainable homes that 'tread lightly on the earth', in harmony with the bushland and wildlife of the Mullum Mullum Creek.

The site has 56 lots ranging from 1,000 m² - 3,000 m². Land has been sold and homes built in stages.

Economic Factors

Financial sustainability for the developers

- 3-stage development ensures revenue is known before subsequent stages are commenced
- It also allows lessons learnt to be applied to subsequent stages, facilitating improved outcomes
- The family have partnered with professionals who share their vision. This facilitates a consistent theme which has been cleverly and appealing marketed, improving the likelihood of financial success
- Finance to build the infrastructure (roads, services, wetlands) that will create the new home sites at Mullum Creek has been provided by bankmecu - a community-owned bank with a commitment to sustainability. MECU is also offering special Mullum Creek rates and bridging loans to potential customers.

The project appears to be very successful and attractive to the market despite prices of \$690,000 - \$1,180,000

Financial assistance for homeowners

- To assist homeowners/builders to meet or exceed the Mullum Creek Guidelines, incentives of up to \$15,000 have been offered for design, ESD, life cycle assessment and inspection for compliance to encourage innovation, smarter and comfortable homes
- There is no body corporate nor ongoing management responsibilities or fees associated with the development.

Environmental Factors

The subdivision

- The majority of the land is classified 'green wedge', with a minimum 8 hectare subdivision size, and restrictions on use to protect natural habitat
- 45% of the land at Mullum Creek is dedicated to open space
- Home sites are confined to previously cleared land, and the creek frontage and remnant bushland (approximately 45% of the original property) will become a reserve to be managed by Manningham City Council
- All services are undergrounded
- The Mullum Mullum Linear Park and Bike Trail will extend along the creek.

Individual Site Development

- Design Guidelines for sustainability and high aesthetic quality for new dwellings include building to a higher standard than required by the Building Code
- Each home site is provided with a Lot Plan that includes site information, as well as specific requirements that apply to each home site. Building and vegetation envelopes protect the sunlight (at least 4 to 5 hours of winter sunlight) into each well-orientated site
- A focus on building homes with a minimum 7.5-star energy rating
- Energy efficiency, incorporating solar power and water conservation
- Responsible building practices
- Respect for the existing environment and topography, reflected in the siting of buildings and works
- Design that is adaptable to future uses and a changing climate

- High quality built environment and savings in energy costs delivered by good design.

Social Factors

Development of a community of interest

- Appeal to people, who share common values and who are conscious of their surrounds and keen to decrease their environmental footprint and/or younger families wanting relative proximity to the city, abundant open space, bushland location, views and access to many nearby schools
- Best of both worlds – tree change without having to leave the city.

Governance Mechanisms

Design guideline management

- Owners provided with several free consultations with the Mullum Creek design and sustainability consultants, to assist compliance with guidelines
- Designs need to be submitted to the Mullum Creek Design Review Committee at several stages, for approval
- The Guidelines do not replace the requirements of the Manningham Planning Scheme (Planning Scheme), the Building Act or other regulatory requirements. Where different obligations are imposed, the highest standards must be met. Council is not required to give any weight to these Guidelines
- Final governance arrangements covering the legal status of the guidelines will be confirmed early in 2015.

Learnings/Consideration for Council

Roles

Manningham City Council has partnered with the developers to:

- Manage approximately 45% of the original property as a reserve
- Extend the bike trail
- Support the guidelines.

JANINE'S HOUSE

Development type & density:

*Single dwelling;
Infill, low density*

Janine's House is an example of sustainable housing in Warranwood in Maroondah. In a bush setting, this is an infill development where the original dwelling was demolished and the land subdivided. Due to the knowledge, interest and passion of the owner, the current dwelling was constructed to be healthy and environmentally sustainable.

Economic Factors

- Lower operating costs due to good environmental design.

Environmental Factors

- No air conditioner for cooling – ceiling fans used
- Thermal mass in flooring used for passive heating
- Passive cooling via cross ventilation and cooling breeze created by water feature placed in front of lower level window
- 15,000 litre water tank for toilet flushing and connected to vegetable garden wicking beds
- Evacuated solar hot water with gas booster. Small instantaneous hot water system for kitchen to prevent heat losses from water travel
- Double glazed windows and doors
- Zoning of rooms possible
- 2kW solar PV system
- Future proofing at construction stage with installation of plumbing for a potential future greywater system
- eTool was used to conduct a life cycle assessment. Results show that it produces 69% less carbon emissions to operate than a similar home and 41% less embodied energy. This assessment of embodied energy

assisted with choosing internal components of the home such as bathroom and kitchen bench tops – as it considers the impact of the life of the product including maintenance and replacement.

Social Factors

- Selection of internal finishes had regard for a healthy indoor environment
- Amenity of external views
- Air filtration system
- Consideration of design included a changing climate.

Learnings/considerations for Council

- How does Council interact with leaders and communities of interest within its own area to support their sustainability work, use it as examples for others and to grow understanding of the level of sustainability of new dwellings?
- Every new dwelling is important not just large developments as infill will bring new homes scattered across the area. The owner/builder is a very significant 'developer' in Maroondah. To communicate a consistent message and have demonstration homes would assist the community to see how sustainability can be done.



Janine's House, passive cooling

WESTWYCK

Development type & density:

Apartments, townhouses

Re-use and infill, medium density

WestWyck Eco-village occupies the building and grounds of the former Brunswick West Primary School in inner suburban Melbourne, its success being determined by the delivery of environmental sustainability principles and the creation of a place with a sense of community.

There have been two stages to the development of Westwyck over 21 years, with Stage 1 devoted to low-cost, affordable communal living. Stage 2 has follows a more standard owner-occupier model of 30 apartments which are the first in Australia to receive a "One Planet" endorsement for their focus on environmental and community outcomes. Residents of stage one are now exploring the opportunity to also become One Planet endorsed.

As much attention will be paid to the spaces between the dwellings as to the individual dwellings themselves so that the design layout encourages interaction within the development.

An ongoing team commitment to triple bottom line principles by the couple who are owners/developers/residents is key to this successful sustainable community, facilitated by using the One Planet Living approach as a 'whole way of living'.

Economic Factors

- Costs to build better and live cheaper when the costs of the shared systems are split (12 ways) is estimated at 2.5 – 5% premium
- WestWyck units have outperformed the general market in both price and level of interest with most having sensitivities around sustainability and community
- The resale of the original units showed a very healthy capital gain above the surrounding market (10-15 per cent

higher for similar sized properties) in part due also to the better quality of the units

- The market in this sector is growing also partly because of high living costs, which Westwyck can reduce by up to 75% compared with typical energy and water use
- Where possible WestWyck supported the local community and the local economy by using local workers, trades people and suppliers.

Environmental Factors

- Environmentally friendly and shared community facilities such as a community bike shed, septic and grey water treatment plants, storm water management, rainwater tanks, vegetable garden and general recycling
- Delivering an integrated package of measures to reduce waste and the use of energy, water, and materials
- Stage one at WestWyck received parking concessions from Moreland Council acknowledging the superb precinct public transport options
- Stage two at WestWyck, through its One Planet Action Plan, will focus on supporting improved transport and mobility options and behaviours for the eco-village such as enhanced bike parking, incentives to car share, highlighted public transport as part of body corporate and permit conditions for development approval
- Stage two apartments each include solar panels of up to 3.5 kilowatts, seven or eight star NatHERS ratings, state of the art water treatment systems, community gardens, shared living spaces and bushland landscaping.

Social Factors

- Self promoted as a demonstration ecovillage and education hub
- WestWyck's One Planet Action Plan will oblige the Owners' Corporate to assume responsibility for education around and promotion of sustainable development and on-site features and to run regular tours

- Enhanced mental wellbeing of residents is achieved with a strong sense of community fostered through “designed-in” incidental interaction between residents, development of an active and cohesive community through the community hub and a focus on the local and cultural heritage of the community. Diversity amongst residents will be addressed through attention to issues of affordability and accessibility.

Learnings/Considerations for Council

Moreland City Council:

- Granted planning approval of the grey/black water system based on a generic system approval from the Environment Protection Authority. A generous concessional arrangement has been struck with Yarra Valley Water that reduces the sewerage charge in acknowledgement of the reduced discharge quantity and the enhanced quality of the liquid
- Granted WestWyck parking concessions acknowledging the superb public transport options for the precinct and WestWyck's commitment to heritage preservation and environmental living.

Westwyck owners/developers say:

- They had to have a clear vision worked out and well articulated
- They had to be able to push ahead with the vision, take advice but stand up for what they weren't prepared to compromise on, eg lenders wanted car parking which the owners wanted to limit
- The One Planet Community international assessment tool has a strong focus on how the community works together, how culture and heritage are valued, what attention we pay to health and happiness and performance on scales of equity and local economy. These targets are achieved through co-operation and sharing such as shared spaces, infrastructure and resources.

SELANDRA RISE

Development type & density:

Detached;

Greenfields, low density

Selandra Rise is a planned community in outer south east Melbourne where the planning, design and development process has considered the health and wellbeing of future residents.

Selandra Rise won the 2010 Awards for Planning Excellence. It is located 50km from Melbourne CBD at Clyde North. All of the 1180 homes are priced from about \$310,000

In 2008, the Victorian State Government and the Planning Institute of Australia (PIA) recognised the need to create a new and improved design standard for suburbs of the future. The result was an innovative and collaborative new partnership between industry, government and the private sector aimed at developing an affordable, healthy and liveable community where people of all ages have the opportunity to live, work, learn and play at their doorstep.

This community has been specifically designed to address widespread concerns about poor health and its connection to the environment people live in. The project demonstrates how a collaborative approach and best practice design can deliver outcomes to address these concerns and create what will ultimately become a blueprint for development of future communities.

The PIA, Stockland, Growth Areas Authority and the City of Casey have looked beyond individual homes to the needs of the wider community and solutions around three core areas to create a model for land-use development and residential living of the future:

- Diverse and affordable housing
- Local employment opportunities
- A healthy and engaged community

Economic Factors

- Major services provided within a 20 minute city model, some major services are yet to open onsite
- Homes are more affordable to buy and operate.

Environmental Factors

- Homes are within easy active and public transport distance to services and facilities via interconnected walking tracks, bike paths and streets linking the community and good access to train and bus services
- Homes offered by various builders include the latest in energy and water efficient features
- Selandra Rise Retirement village has been awarded a 4 star Green Star certification from the Green Building Council of Australia and its housing has a 7 star energy rating This certification also encompasses the Clubhouse and open spaces around the village and was achieved using orientation, glazing and insulation, efficient fixtures and greener travel and public transport options.

Social Factors

Diverse and affordable housing

- Broad mix of quality, affordable and attractive housing options making this community accessible to more people
- Three distinctive villages, choice of locations (parkside, creekside or hillside) and lot sizes
- Retirement living and aged care facilities on-site.

Local employment opportunities

- Information about a wide range of local employment opportunities delivered via on-site amenities and town centre
- Flexibility to work locally or from home with dedicated business precinct and home office solution.

A healthy and engaged community

- An extensive local community consultation program determined key project elements such as parks and community services

- All homes have been designed for easy connection to key destinations such as the local town centre, schools, community centres and open space
- Well located walking and bike paths, playgrounds, parks, sports facilities, wide footpaths and pedestrian friendly local streets encourage recreation and non-motorised travel
- Every home is within 200m of extensive parkland and will be within walking distance of primary and secondary schools and a local shopping centre and recreation park.

Selandra Community Place

- Is an eight-star social, education hub and events centre for Selandra Rise residents and the wider community to connect, try new activities, access essential services and learn about sustainable living
- Is an interactive pilot display home that demonstrates a variety of sustainable initiatives around improving the environment, health and wellbeing of residents of Casey
- Was established as a partnership between the City of Casey, Stockland, Henley Properties Group and South East Councils Climate Change Alliance. It is staffed by Casey City Council
- Provides information services for selecting sustainable home options around – energy, waste, water and wellbeing
- A range of activities on offer to improve health and wellbeing
- Small business centre facilities
- Opportunities to participate in free social, creative, educational and fitness activities to meet neighbours and feel more connected to the community.

Longitudinal Health impact study

VicHealth, and the cross-sectoral developer partnership have supported a five-seven year research Fellowship to help evaluate the impact of placing health into the design of the Selandra Rise community.

The major RMIT study of happiness and wellbeing will investigate whether there is an evidence base for 'putting health at the centre of planning' and thus whether a blueprint for developers, industry and government policy for future planning and design practices can be created. The study will be completed by 31 December 2015.

Learnings/Considerations for Council

City of Casey:

- Has taken an holistic approach to community development and partnered with key stakeholders to deliver better outcomes
- Took on various roles to meet community needs (eg as a developer, facilitator, advocate, service provider and participant in evidence-based learning)
- Saw its role in this light by noting that this new community reinforced its C21 integrated city development model which encompasses land use, community development, economic development, provision of infrastructure, opportunities for recreation and leisure, and the full range of community services.

Investigate

- Whether planned state primary school, childcare centre, medical precinct, business precinct and district sports ground have opened onsite before housing and new residents demanded them
- The health study outcomes when they are released at the end of 2015.



Selandra Rise, Community Place
Source: Victorian Government

THE COMMONS

Development type & density:

Mixed use apartments;

Brownfield, medium-high density

Designed as an inner-city, vertical eco-village in Brunswick, the Commons comprises 24 apartments, along with two artist studios, a cafe and retail space.

The Commons is a boutique urban development of highly sustainable apartments that bring a new dimension to sustainable apartment lifestyle in Melbourne. This building invests in high quality, low energy infrastructure to maximise cost savings to residents.

The Commons has been recognised at the Victorian Architecture Awards as an “exemplar of apartment living”. It also took out the sustainable architecture award. Foremost among The Commons achievements was tackling the “mainstream residential market’s race to lower standards”.

The building’s architect, Jeremy McLeod, who lives at The Commons said:

“Sustainability is premised on the whole idea of stripping back and taking out all of the stuff that you don’t need, and expressing all of the stuff that you do need.”²⁷ The Commons attempted not to be “reckless with our resources”.

Economic Factors

- All apartments sold prior to the completion of construction. The price for a 1 bedroom apartment start at \$375 000
- Demand for a successor to The Commons (The Nightingale) was so strong that a ballot was used to select buyers of the new apartments, selling for \$400,000 - \$645,000
- Raw finishes and alternative construction methods, such as not excavating for car parking, reduced construction costs. The money saved on parking and other features it won't

have eg air conditioning and second bathrooms, will go back into energy saving

- All residents will be offered yearly public transport passes and a car-share membership as part of their owner’s corporation fees.

Environmental Factors

- Melbourne’s first 8 star energy rated complex
- There are no car spaces allocated to the residences; bicycle parking is provided in lieu of car parking
- Go Get Car Share with free membership and 12 hours driving credit is parked directly out the front of the building
- The Commons is located on the bike path for an easy ride into Melbourne CBD
- The building design has made the most of the site and its limited northern exposure. Deep balconies on the north and limited glazing to the east and west will help deal with unwanted sun and glare. Voids have been introduced to promote better daylight penetration and ventilation
- 46 raised vegetable boxes provide ample space for residents to grow and share produce
- Green roof with hardy native plants filter stormwater run-off from the building, naturally cooling the building, combating the urban heat island effect along with the north facing vertical vegetation
- Rainwater tanks for the rooftop vegetable garden and landscaping
- Grey water system
- The use of solid concrete structure and cladding will ensure the building has a long life
- Gas boosted solar hot water and hydronic heating
- Double-glazed, and thermally broken windows and balcony doors, including locally made timber doors
- Abundance of natural light and cross ventilation
- Exposed concrete ceilings and structural columns to provide thermal mass to the apartments. This thermal

²⁷ The Fifth Estate, 2012

mass, along with extra insulation and ceiling fans, ensures that no air-conditioning is required in the apartments

- Selected recycled materials including recycled timber floors and raw timber feature wall
- Raw and toxic free finishes to tap ware, door handles and joinery optimise the indoor air quality and reduce the embodied energy of the building
- A large grid connected photovoltaic array is proposed for the roof. The body corporate will negotiate on behalf of the occupants for 100 per cent renewable green power for the building. However, individual tenancies will have their own meters.

Social Factors

- Designed for community, has produced a palpable sense of community
- The roof top garden provides a communal meeting place, entertaining deck and BBQ, individual timber planter boxes for food growing
- Spaciousness, access to natural light, proper ventilation and noise protection, privacy, and consideration for the nature of living in close confines to others
- Aesthetics not compromised by sustainability, but enhanced with details and finishes such as raw copper tap fittings, copper kitchen sinks and recycled floorboards. A striking building with sweeping CBD views
- Inner city access to services and lifestyle opportunities.

Long Term Sustainability

Decision-making protocol

- Initiatives are maintained for the life and operation of the building
- Standard owners' corporation rules have a decision making protocol, so that critical decisions made by the owners' corporation pass through a sustainability filter. For example, consideration must be given to contractors and suppliers that address

sustainability and social issues in their operations

- The not-for-profit organisation Moreland Energy Foundation (MEFL) will hold workshops for residents in the first year, introducing key sustainability ideas and guidance to make the most of the buildings features and other lifestyle choices such as shopping and food.

Learnings/Considerations for Council

Council as facilitator:

- Moreland Council *"Mayor Meghan Hopper said The Commons is a remarkable success, and has been encouraging fellow councillors to see it, "so they can understand what the architects are trying to do" with the Nightingale."*²⁸
- With the demand for green apartments and homes in Australia increasing, is the Maroondah market ready for this sort of dark-green development, or is lighter green more palatable?

Investigate other projects such as:

- Oxford & Peel – a Small Giants project currently being marketed in Collingwood (www.oxfordandpeel.com.au)
- The Nightingale and its economic model. The Nightingale is a 20 apartment development across the road from The Commons and is a more innovative apartment building funded by six prominent architects and investors who raised \$2.7 million to kick start it. They want to then repeat it elsewhere in Melbourne. The financial model for the development caps profits to the project's partners at 15%, while cutting out real-estate agents, marketing agents, displays suites and the costs associated with them. It also reduces construction costs (see economic factors)
- The Commons One Planet Living case study.<http://oneplanetliving.org.au/case-study/test-case-study-1/>

²⁸ The Age, 2015

6. SUSTAINABLE COMMUNITIES: LEARNINGS, QUESTIONS, OPTIONS AND CONSIDERATIONS

6.1 LEARNINGS FROM THE CASE STUDIES

This section identifies some drivers and barriers common to the sustainable communities investigated as case studies for this paper.

It is recognised that there are 'degrees of sustainability' depending on the client market, key drivers and where the community is located (eg in a low density area or activity centre). It is definitely not 'one size fits all' for these communities and change does not happen all at once, but over time.

Likewise there is no one preferred model for more sustainable communities in Maroondah. A more detailed analysis of the enclosed case studies, a longer term follow up of new case studies and examining more Australian and overseas case studies is likely to provide more guidance for the successful development of more sustainable communities.

Drivers and barriers to creating sustainable communities

1. Drivers

- Responding to a greater range of needs of the client, the local and broader community and the local and broader environment
- An identified shortfall addressed eg desire for better health outcomes or more affordable, good quality homes, better social connection/support, improved environmental outcomes
- Responding to the triple bottom line, not just profitability
- Community as drivers of market demand for sustainable communities
- Visionary developers confident that the market demands a more sustainable approach
- Passion, leadership and commitment to stewarding and a long term, 'future-proofed' approach
- Enabling and supporting those who want to create their own sustainable homes/communities
- A shared vision and experience amongst community and the creation of new communities of interest
- Setting a standard for sustainable housing to guide development
- Maintaining what is seen as valuable (built and natural heritage)
- Enhancing and adding value to the local community (eg enhance existing infrastructure and local environment, employ local trades people and use local services – live, work and recreate locally)
- Direct experience of sustainable communities creates desire for replication
- Creating new and innovative partnerships amongst, for example, designers and builders and trades people by sharing expertise.

2. Drivers or Barriers (opportunities?)

- Government direction and vision
- Pushing the boundaries and challenging business as usual
- Empowerment of the community including educating locals and council, participating in local democracy.

3. Barriers

- Mindset by some landowners/developers that profit needs to be at the expense of sustainability
- Improving minimum standards set by government requires long term, sustained lobbying
- Community understanding, education and commitment to following through on change.

6.2. QUESTIONS, OPTIONS AND CONSIDERATIONS

This section presents issues for further consideration and research for the Housing Strategy. Further lessons from the case studies have been incorporated here.

QUESTION 1: HOW SUSTAINABLE ARE MAROONDAH'S EXISTING COMMUNITIES?

Options and considerations

1. Survey
 - Adequacy of existing infrastructure
 - Resident satisfaction

This could be done in a selection of the 24 neighbourhood character areas or subsets thereof (eg ridgelines, precincts, activity centres).

Ask questions around environmental, social, economic and governance sustainability such as:

- Where are the gaps in infrastructure and satisfaction?
 - Do the neighbourhood character areas requirements facilitate sustainable communities?
 - Is the market mature enough and confident enough to support more sustainable communities? What would convince the market to deliver the desired attributes?
2. Consider how any gaps in resident satisfaction, infrastructure, design and market requirements could be addressed.
 3. Address the gaps in a trial area (eg Ringwood MAC, a Greening the Greyfields precinct) and promote the outcomes and learnings
 4. Where are there already any 'sustainable communities' (or key features thereof)? Capture these features using spatial data and ensure they are protected and enhanced. What features are transferable to other areas?
 5. Address infrastructure gaps and market these areas to prospective residents or market existing sustainable communities/elements of sustainable communities. Examples may include:
 - Croydon: scenic beauty, public transport hub, medium density housing – hip young greens
 - Kilsyth: rural residential – family lifestyle - market as per Mullum Creek development
 - Ringwood MAC: higher densities – suit professionals
 - Warranwood: alternative community, green, leafy, large allotments.

6. Although the Housing Strategy will address new housing there should also be provision for making existing housing more sustainable. Council's role as information provider could assist with this, especially if partnered with future needs of a changing community.

QUESTION 2: HOW CAN WE CREATE THE SUSTAINABLE COMMUNITIES OF THE FUTURE?

Options and considerations

1. What are and where are the long term residential opportunities and how might they be approached?

While diversity within (as well as between) communities is often desirable, should particular sites/precincts be designed to cater for particular types of sustainable communities?

- a) Infill/piecemeal development on individual sites
 - Educate and support individual developer visions for sustainability. Develop case studies and support groups
 - Work with partners where feasible (eg. community groups, local business, utility providers, government agencies).
 - b) What tools could be used to help create these communities?
 - Economic models
 - Built Environment Sustainability Scorecard (BESS)
 - Green Star Communities
 - One Planet Living
 - Social Housing models
 - Spatial, planning and information tools (ie Greening the Greyfields spatial data, standards, guidelines).
2. While Maroondah 2040 provides a vision for a sustainable Maroondah and there is substantial strategic direction at Council for sustainable communities, a framework may assist with implementation.
 3. Consider an appropriate framework (such as Green Star Communities or One Planet Living) for the Housing Strategy. Note that One Planet Living approach may be used to develop future versions of the Maroondah Sustainability Strategy
 4. Pilot a Framework in an appropriate precinct(s).

QUESTION 3: HOW DO WE ENSURE HOUSING IS OF GOOD QUALITY, AFFORDABLE AND ACCESSIBLE? (EG AFFORDABLE TO PURCHASE AND TO OPERATE AND PHYSICALLY ACCESSIBLE FOR DIVERSE NEEDS AND ABILITIES)

Options and considerations

1. Encourage high housing standards
 - Use SDAPP to establish a minimum (or optimum) standards with incentives for higher standards
 - Establish 'high benchmark' design and construction guidelines.

2. Consider opportunities for high standard environmental and amenity performance in new medium and high density housing precincts
 - Survey existing resident satisfaction with amenity
 - Assess need for improved guidelines for higher density development,(eg prefab for affordability, no car parking for affordability and sustainability)
 - Integration of green infrastructure for climate change resilience eg cooling.
3. Examine the Commons (and Nightingale) case studies in Brunswick for clever design and construction approaches which reduce home purchase and operation costs but guarantee sales and sustained financial returns for developers.
4. Require housing adaptability. Use Liveable Housing Design Guidelines for moveable walls and other fixtures which allow on-site flexibility catering for changing stages of life such as ageing in place and disability access. Reducing the need to move house or undertake major renovation reduces the financial burden of home ownership.
5. Examine housing options for groups of significant and growing need: lone occupants; the elderly and disabled; low income earners; refugees and single parent families. For many in these groups, changing household status requires housing and possibly community transition. For instance, many existing 3 bedroom houses are occupied by single, elderly residents. How can transition housing (not requiring a nursing home) be provided where it is needed or desired? How can Council and others remove any barriers to desired community participation and wellbeing? How can they enrich and be enriched by a more sustainable approach to community at a vulnerable time in their lives? Mixed housing developments may be one option.
6. Consider housing and community models which may overcome the barriers to the provision and maintenance of social housing. Examine and trial other affordable housing and economic models eg Habitat homes, Larissa Avenue example, Jubilee Housing example and other partnership models. Could more communal living models or ones with communal facilities be part of an answer?

QUESTION 4: HOW DO WE BECOME A 20 MINUTE CITY AND HOW DO WE DEVELOP 20 MINUTE (WALKABLE, CYCLABLE, PUBLIC TRANSPORT-ACCESSIBLE) NEIGHBOURHOODS?

Options and considerations

1. Recognise that regional planning may be required as some communities in Maroondah will have greater access to services in neighbouring Councils than they will to services within the City of Maroondah (and vice versa).
2. Mixed land use zones with housing diversity provide more opportunities to live, work and play within a 20 minute active transport paradigm. Precincts facing potential structural change (see Issue 2 suggestions) offer an opportunity to adopt such zones over the longer term.
3. Greater housing densities contribute to a more critical mass to justify the provision of services including public transport.
4. Improve cycling and walking network connectivity. Greater activity densities generate greater vehicular congestion which in turn provides a disincentive to drive. Additionally, needs can be satisfied 'closer to home' and with less travel in a mixed use zone. Car use can be disadvantageous for short distances. Active transport can be more desirable and can be facilitated through the provision of better infrastructure.

5. Consider other 'place making' options for residential areas currently not within a '20 minute' access to services zone. How can suburban streets have activated frontages? Good integrated infrastructure, planning and community behaviour change approaches are needed for success. Consider internationally accredited and other models such as:
 - City of Wellbeing
 - Healthy by Design/Safety by Design
 - Age Friendly/Child Friendly City
 - Building Better blocks.

QUESTION 5: HOW CAN WE BUILD COMMUNITIES FOR SOCIAL CONNECTEDNESS AND COHESION?

Options and considerations

1. How do we support those who want to create connected and sustainable communities? (see Issue 6 for 'roles')
2. How can we enable connection/interaction in public and private places?
Such places include:
 - Public open space
 - Communal hubs/activated public spaces
 - Entertainment opportunities, including safe after-dark activities
 - Semi-private open space including communal vegetable gardens, shared roof gardens
 - Semi-private shared facilities such as communal laundries, clothes-drying areas, bike storage.
3. Is there adequate open/natural space in medium to high density housing precincts? This includes public and semi-private gardens, green outdoor sitting areas, gathering spaces eg communal square, food growing areas. In particular is there enough within each development to make it liveable for access to sunshine?
4. Review housing density guidelines to allow for this sort of green space and use it as an opportunity to incorporate biodiversity and green infrastructure such as wetlands, green roofs, green walls, water sensitive urban design.
5. Include 'Healthy by Design' principles in MSS/planning scheme.
Refer to the Selendra Rise, The Commons and Westwyck case studies which consciously designed in opportunities for social interaction.

QUESTION 6: WHO COULD AND SHOULD INITIATE AND SUSTAIN SUSTAINABLE COMMUNITIES AND HOW?

Options and considerations

Usually a small group of committed people are at the centre of long term sustainable communities, so it would seem that this model is the best initiator. Where such a group lives and have invested time, money, passion and commitment, a better and longer term outcome seems more likely than where external organisations initiate such a community.

However, there is also a role for various groups and organisations to initiate such communities under different scenarios. Many stakeholders work together to create sustainable communities. Some of them and their roles are indicated below.

- Community members, usually residents, as key drivers, with passionate long term commitment to more sustainable homes and communities. Roles are as leaders, advocates, builders, developers and initiators and sustainers of relevant partnerships. Some may be 'active' drivers and others, (such as those who enter the community later) may be 'passive' receivers:
- Council's role as:
 - o Long term planner and service provider
 - o Developer of facilities and some types of infrastructure
 - o Creator of long term partnerships (with developers, educational institutions, community organisations, residents) or joint planner with those with mid - long term visions eg., government authorities and utility providers)
 - o Setter and enforcer of minimum standards
 - o Advocate and facilitator (eg. Seeking to improve the building code standard; for social housing)
- Developers, real estate agents, landowners, owner-builders all have different perspectives and roles as partners and promoters of sustainability
- Utility providers may work together to coordinate better and innovative outcomes with multiple benefits
- Government authorities and agencies may assist or partner with Council, utility providers or others to try new approaches and help to maintain desired long term outcomes.
- Businesses and business organisations
- Non-government organisations
- Educational institutions (schools, universities)
- Other potential stakeholders who may have a role as partners, planners and information and service providers.

QUESTION 7: WHAT IS THE ROLE OF COUNCIL?

See Issue 6 above for some discussion of this topic

Options and considerations

1. Review and take stock of Council's current approach and roles in relation to housing and development within the municipality. Consider Council's vision and potential and desirable roles in the provision of sustainable communities, given the predominance of residential communities and working patterns in Maroondah. Council can be proactive and reactive or both as prioritisation, the political climate, the local situation and resources allow.
2. Council's role could be as:
 - Long term planner and provider of services provider
 - Enabler (providing policy direction, a framework, vision, tools and a standard, cutting red tape; empowering staff; coordinating the process, value adding; educating and incentivising developers and facilitator of local community and their leaders)
 - Identifier of opportunities and driver of vision to attract implementers
 - Developer of facilities and some types of infrastructure

- Creator of partnerships (with developers, educational institutions, community organisations, residents, government authorities and utility providers)
 - Setter and enforcer of minimum standards
 - Advocate (eg improving the building code standard; for social housing).
3. Consider 'Proactive Council' role possibilities
- Consider further training and team development across departments so that desired sustainable communities outcomes are better understood, learnings are shared and retained and co-ordination and flexibility are possible where required for different circumstances.

QUESTION 8: HOW CAN SUSTAINABLE COMMUNITIES BE SUSTAINED?

Options and considerations

The case studies reveal some inherent and some introduced measures that can facilitate the longevity of sustainable communities:

- Community leadership which engages, empowers and enables others of like mind to build momentum for desired outcomes
- The ability to communicate the vision and requirements to mobilise other organisations to provide the desired community outcomes
- Upfront, designed-in features to avoid the opt-out option
- Ensuring key services are provided before housing is built to ensure services are ready for when people need them
- Setting and putting systems in place to sustain long term standards. Examples include SDAPP requirements for design standards; and owners corporation requirements for sustainability through procedures, education or incentives such as free access to car share scheme or setting up a green fund
- A central hub or building or community garden where residents can gather and have access to information and communal activities
- A governance structure that identifies responsibilities for planning, enabling, creating and supporting sustainable communities
- Clarifying a 'preferred' model or models for facilitating the longevity of sustainable communities (this may require a more detailed analysis and follow up of various case studies including examining overseas examples, longer term follow up of new case studies and interviews).

7. CONCLUSION

- More sustainable communities, including more sustainable housing, are desirable for the long term health and wellbeing of people and the environment on which they depend.
- Council has the Maroondah 2040 Community Vision and supporting strategic documents that embrace key aspects of sustainable communities, including Council's desire to become a 'City of Wellbeing'.
- Housing dominates land use in Maroondah and demand for further and better housing is increasing.
- A wide variety of case studies and implemented frameworks and standards demonstrate many excellent examples of how sustainable communities can be developed and maintained and strategies which provide guidance.
- The current review of Maroondah's Housing Strategy provides an excellent opportunity to consider the context within which housing is provided and thus to foster more sustainable communities. Residents need more than just houses to live in an area. A variety of other infrastructure, facilities and services are needed. This paper provides some direction for considering those other needs and considered with other background papers to the Housing Strategy, could inform priorities for improving Maroondah's liveability as a whole.

SUMMARY OF CONSIDERATIONS AND OPTIONS

- Include a review of existing housing in the Housing Strategy. As it forms the vast bulk of housing in Maroondah, consider how existing housing can be adapted for the needs of a changing demographic (such as more lone and older households) and made more sustainable (eg more resilient for a changing climate).
- Consider how to create sustainable communities when new dwellings are mainly from infill and therefore not necessarily a group acting together with a similar vision.
- Consolidate strategic direction and plans to give clear guidance and a credible framework for Council to foster more sustainable communities. Consider how transitioning to more sustainable communities can be facilitated over time.
- Undertake an analysis of the current levels of sustainability in communities in Maroondah. This could initially be done as a 'tick box' assessment against the principles of a sustainable community. Such assessment could be done in neighbourhood character areas and should address the principle elements enabling sustainable communities.
- Address the questions posed, and implement the options provided in Section 6 of this paper. Especially consider models which may overcome the barriers to the provision and maintenance of housing and community for the more disadvantaged in Maroondah.

- Clarify 'preferred' models for sustainable communities by undertaking a more detailed analysis and follow up of various case studies, including examining overseas examples and longer term follow up of new case studies, interviews etc.
- Review research of community attitudes over the long term, both of residents within sustainable communities and those neighbouring them.
- Further develop an understanding of the roles Council could played in enabling sustainable communities, to inform Council's capacity building.
- Define and explore in more detail our priority areas (eg addressing climate change, place making, environmental performance and impacts of housing) and locations for more sustainable communities.
- Explore how the community can participate in delivering the objectives of the Housing Strategy, including the role of Council Advisory Committees.
- Review the five year health outcomes from the Selendra Rise case study (due end 2015).

Governance

The following can be considered in regard to Council's role:

- Show leadership to prioritise more sustainable communities in Council decision making and plan accordingly.
- Undertake economic and other modelling of qualitative and quantitative returns on investment in sustainable communities to examine the evidence-base for pursuing their development, including involving other partners.
- Foster leadership within the community and local developers to spearhead action on the ground;
- Build a Liveable House using the model guidelines. This would show how houses can be inexpensively adapted and changed to suit changing occupant needs without having to sell or move from the premises
- Build the capacity of Council staff to help develop sustainable communities. This could include study tours and site visits for staff and councillors
- Partner with other key stakeholders to foster more sustainable communities. These include State Government Departments and instrumentalities, utility service providers, sustainable community practitioners, non-government organisations and, adjoining Councils



Lochiel Park, South Australia

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APPENDIX 1

ESD policy direction in the State Planning Policy Framework

SUBJECT	CLAUSE	OBJECTIVE/STRATEGIES
Settlement	11	
	11.04-5	Environment and water Objective: To protect natural assets and better plan our water, energy and waste management systems to create a sustainable city. Strategies: • Integrate whole of water cycle management to deliver sustainable and resilient urban development. • Reduce energy consumption and transition to clean energy.
Natural Resource Management	14	
	14.02-1	Catchment planning and management Objective: To assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment. Strategies: • Consider the impacts of catchment management on downstream water quality and freshwater, coastal and marine environments. • Undertake measures to minimise the quantity and retard the flow of stormwater runoff from developed areas. • Encourage measures to filter sediment and wastes from stormwater prior to its discharge into waterways, including the preservation of floodplain or other land for wetlands and retention basins. • Require the use of appropriate measures to restrict sediment discharges from construction sites.
	14.02-3	Water conservation Objective: To ensure that water resources are managed in a sustainable way. Strategy: Encourage the use of alternative water sources such as rainwater tanks, stormwater and recycled water by governments, developers and households.

Built Environment and Heritage	15	
	15.01-1	Urban Design Objective: To create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity. Strategies: Ensure new development or redevelopment contributes to community and cultural life by improving safety, diversity and choice, the quality of living and working environments, accessibility and inclusiveness and environmental sustainability.
	15.01-2	Urban design principles Objective: To achieve architectural and urban design outcomes that contribute positively to local urban character and enhance the public realm while minimising detrimental impact on neighbouring properties. Strategy: Light and shade Enjoyment of the public realm should be enhanced by a desirable balance of sunlight and shade. Energy and resource efficiency All building, subdivision and engineering works should include efficient use of resources and energy efficiency.
	15.01-3	Neighbourhood and subdivision design Objective: To ensure the design of subdivisions achieves attractive, liveable, walkable, cyclable, diverse and sustainable neighbourhoods. Strategy: Environmentally friendly development that includes improved energy efficiency, water conservation, local management of stormwater and waste water treatment, less waste and reduced air pollution.
	15.02-1	Energy and resource efficiency Objective: To encourage land use and development that is consistent with the efficient use of energy

		and the minimisation of greenhouse gas emissions. Strategies: • Ensure that buildings and subdivision design improves efficiency in energy use. • Promote consolidation of urban development and integration of land use and transport. • Improve efficiency in energy use through greater use of renewable energy. • Support low energy forms of transport such as walking and cycling.
Housing	16	
	16.01-1	Integrated housing Objective: To promote a housing market that meets community needs. Strategy: Encourage housing that is both water efficient and energy efficient.
	16.01-4	Housing diversity Objective: To provide for a range of housing types to meet increasingly diverse needs. Strategies: Encourage the development of well-designed medium-density housing which: • Improves energy efficiency of housing.
	16.01-5	Housing affordability Objective: To deliver more affordable housing closer to jobs, transport and services. Strategies: Promoting good housing and urban design to minimise negative environmental impacts and keep down costs for residents and the wider community.
	16.02-4	Design and location of residential care facilities Objective: To encourage well-designed and appropriately located residential aged care facilities. Strategies: Ensure that: • Residential aged care facilities aspire to high urban design and architectural standards.

Transport	18	
	18.02-1	Sustainable personal transport Objective: To promote the use of sustainable personal transport. Strategies: Ensure development provides opportunities to create more sustainable transport options such as walking, cycling and public transport.
	18.02-2	Cycling Objective: To integrate planning for cycling with land use and development planning and encourage as alternative modes of travel. Strategies: • Require the provision of adequate bicycle parking and related facilities to meet demand at education, recreation, shopping and community facilities and other major attractions when issuing planning approvals. • Ensure provision of bicycle end of trip facilities in commercial buildings.
Infrastructure	19	
	19.03-3	Stormwater Objective: To reduce the impact of stormwater on bays and catchments. Strategies: • Mitigate stormwater pollution from construction sites. • Incorporate water-sensitive urban design techniques into developments to: - o Protect and enhance natural water systems. - o Integrate stormwater treatment into the landscape. - o Protect quality of water. - o Reduce run-off and peak flows. - o Minimise drainage and infrastructure costs.

APPENDIX 2

Sustainability related directions from Maroondah 2040

A safe, healthy and active community

- 1.1 Work in partnership to address community safety issues, with a focus on activity centres, public spaces, roads and public transport
- 1.2 Plan and advocate for the application of community safety principles that facilitate a safe built environment
- 1.12 Apply healthy by design principles in planning for the development and revitalisation of activity centres and public spaces
- 1.15 Advocate and promote the increased provision of affordable housing options in accessible locations
- 1.17 Promote healthy eating and physical activity by supporting education initiatives and providing a diverse range of accessible open spaces and recreation facilities and services
- 1.18 Enhance and maintain an integrated and connected network of passive and active open space to promote community health and wellbeing.

A prosperous & Learning Community

- 2.7 Embrace a place-based approach to the development and revitalisation of neighbourhood centres that provide opportunities for local business and places for social connection and interaction
- 2.10 Identify and facilitate development of under-utilised key urban renewal sites along transit corridors
- 2.17 Facilitate and encourage places, spaces and programming that provide for a third place of community connection beyond home and work.

A vibrant and culturally rich community

- 3.10 Encourage a range of temporary and permanent public art that celebrates the unique characteristics of Maroondah including our history, cultural diversity, environment and future aspirations
- 3.11 Advocate for and value the contribution of the arts in supporting thriving neighbourhoods and vibrant activity centres.

A clean green and sustainable community

- 4.1 Ensure the long-term protection and rehabilitation of the city's waterways and wetlands to improve water quality and streamflow
- 4.3 Build the capacity of households and businesses to behave more sustainably, reduce waste and minimise consumption of natural resources
- 4.4 Work in partnership to improve air quality by enhancing vegetation and encouraging use of sustainable transport modes
- 4.5 Enhance Maroondah's parklands, bushlands, gardens and open spaces
- 4.6 Protect and restore biodiversity and native habitat for local plants and animals on public and private land
- 4.7 Preserve and enhance Maroondah's canopy vegetation
- 4.8 Create and foster a culture within our community that is committed to protecting the unique features of Maroondah's landscape, including our ridgelines, waterways, canopy vegetation, green open space and bushland reserves
- 4.9 Work in partnership with local communities to encourage thriving community gardens and promote sustainably grown local produce
- 4.10 Encourage increased green spaces within activity centres that link the built environment to the natural landscape

- 4.12 Mitigate and adapt to the effects and impacts of climate change
- 4.13 Advocate for increased stormwater harvesting and greywater reuse by households and businesses
- 4.15 Work in partnership to reduce greenhouse gas emissions and support the community in adapting to a post peak oil environment
- 4.16 Be responsive and adaptive to new environmental opportunities and threats as they occur, building resilience and capacity within the community.

An accessible and connected community

- 5.4 Work in partnership to provide a safe and efficient integrated transport network that enhances liveability, encourages a shift in travel modes and promotes Maroondah as a 20-minute city.
- 5.6 Advocate for and encourage the use of sustainable transport by enhancing local access to public transport, supporting behaviour change initiatives and enhancing the pedestrian and cycling network, including the provision of on-road bicycle lanes
- 5.7 Advocate for an integrated public transport network with improved connectivity, capacity and service frequency
- 5.8 Work in partnership to ensure sustainable transport options and public transport connections are considered in the design of new developments and public spaces
- 5.9 Promote streetscapes that encourage social interaction, physical activity and connection to the natural environment
- 5.10 Work in partnership to improve walkability within and between neighbourhoods and activity centres through effective urban design, open space planning, way-finding signage, improved public lighting and accessible infrastructure.

An attractive, thriving and well built community

- 6.1 Encourage high quality urban design that provides for a healthy, attractive and desirable built form
- 6.2 Work in partnership to ensure development considers urban design principles that enhance the connection between the built environment and the natural environment
- 6.3 Work in partnership to deliver distinctive and high quality architecture through the use of urban design guidelines and principles
- 6.4 Facilitate, lead and educate the community in the use of environmentally sustainable design across all forms of infrastructure to limit carbon emissions and reduce resource consumption
- 6.5 Work in partnership to encourage the use of a water sensitive approach in the development and renewal of the built and natural environment
- 6.8 Encourage and support the provision of a diverse range of housing across Maroondah, that meets the needs of current and future residents
- 6.9 Encourage high density development in activity centres where there is access to high quality facilities, services and amenities
- 6.10 Develop and implement an urban form that enhances the desirable attributes of Maroondah to protect and value ridgelines, vegetation, neighbourhood character, local history and cultural heritage
- 6.13 Coordinate and advocate for the increased utilisation, longevity and availability of fit-for-purpose public, private and not-for profit buildings and spaces that can act as key places for neighbourhood connection
- 6.14 Work in partnership with other catchment authorities to ensure effective stormwater management across Maroondah, including the identification and implementation of appropriate strategies that increase the storage, re-use and re-direction of stormwater and provide flood mitigation for the community.

An inclusive and diverse community

7.4 Support community members to age in place, live in accessible neighbourhoods and remain socially connected

7.5 Advocate and promote the provision of a diversity of affordable housing options to suit a range of lifestyle needs and life-stage requirements

7.14 Establish a built environment that is child, youth and age friendly through strengthening the inclusiveness and accessibility of our local neighbourhoods and activity centres.

APPENDIX 3

Indicators of progress related to sustainability from the Community in Maroondah 2040 include:

- Proportion of community members who are involved in organised sport, and have access to recreational and leisure facilities
- Quantity of waste, green waste and recycling per household
- Proportion of waste diverted from landfill
- Recorded quality of air
- Number of visits to green space by residents
- Proportion of native vegetation cover
- Total domestic water consumption
- Total domestic energy usage
- Proportion of renewable energy use by households
- Proportion of residents who recycle waste water
- Average environmentally sustainable development ratings of residential properties
- Proportion of residents who can access public transport
- Proportion of residents who walked to work
- Proportion of residents who travel via sustainable or public transport to work
- Sense of pride in the community as rated by local residents
- Proportion of households experiencing housing stress
- Proportion of community members who volunteer and feel valued in the community
- Proportion of residents who are members of organised groups
- Proportion of residents who can get help from friends, family or neighbours when needed
- Reported level of resident satisfaction with feeling part of the community.

APPENDIX 4

ESD policy direction in the local planning policy framework

<i>SUBJECT</i>	<i>CLAUSE</i>	<i>OBJECTIVE/STRATEGIES</i>	<i>FUTURE STRATEGIC WORK</i>	<i>LOCAL POLICIES & EXERCISE OF DISCRETION/APPLICATION REQUIREMENTS</i>
Maroondah Vision & the Strategic Framework	21.02			
	21.02-1	Maroondah vision: The vision in the Council Plan is: Maroondah will be a vibrant city. It will have an active community, a strong local economy and a diverse cultural life in a prosperous and sustainable environment. Council has identified eight areas in which it needs to focus over the 2013-2017 four year period. These are: • Community • Economic Development and Employment • Infrastructure • Leisure and Culture • Natural Environment • Transport • Urban Design and Development • Governance and Corporate Support		
Transport and Accessibility	21.03			Ensuring major developments incorporate opportunities for the use of transport alternatives such as pedestrian and bicycle modes.

	21.03-2	Objective 2: To promote design and development that encourages pedestrian activity and where possible, increases the permeability of our suburbs. Objective 3: To develop effective road traffic and public transport management programs that will improve residential amenity, facilitate economic activity and minimise stress on our natural environment. Strategy: Encourage increased use of public transport and alternative means of transport to reduce the dependency on motor vehicle based travel within Maroondah.		
Open Space	21.05			
	21.05-2	Objective 3: To enhance the visual, environmental and recreational amenity of the municipality through the provision of an extensive, high quality open space network that is sustainable and accessible. Strategy: Ensure that new developments incorporate Water Sensitive Urban Design principles to minimise impacts on waterways and water quality.		Ensuring that development adjacent to open space respects the function and sensitivities of that open space and where appropriate provides for linkages and interaction with the open space.
Built Form & Urban Design	21.06			
	21.06-2	Objective 3: To encourage development that provides and creates high quality urban places. Strategy: Require all new development to incorporate the highest standards of urban image, landscape design and building design innovation. Objective 4: To encourage environmentally sustainable forms of development. Strategy: Ensure that the planning, design, siting and construction of development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management.	Develop an Ecological Sustainability Strategy, including a Water Sensitive Urban Design Policy.	

Housing & Residential Land Use	21.07			
	21.07-2	Objective 2: To provide housing opportunities which complement the environmental character of Maroondah. Strategy: Minimise the impact of urban development on water quality in local waterways. Objective 3: To ensure the provision of responsible and sustainable housing stock in terms of design, construction, building materials and siting criteria. Strategy: Facilitate a balanced mix of housing stock, which utilises design diversity, innovative materials and affordable construction techniques. Objective 7: To encourage more environmentally sustainable forms of residential development. Strategy: Ensure that planning, design, siting and construction of new residential development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management.	Introduce policy to encourage buildings which use energy and water efficiently and minimise waste and ensure that new buildings incorporate design measures that assist in reducing energy, water and waste resource use in their construction and operation.	
Retail & Commercial Land Use	21.08			
	21.08-2	Objective 5: To encourage environmentally sustainable forms of retail and commercial development. Strategy: Ensure that the planning, design, siting and construction of new retail and commercial development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management.	Develop an Ecological Sustainability Strategy, including a Water Sensitive Urban Design Policy.	
Industrial Land Use	21.09			
	21.09-2	Objective 2: To create visually attractive, functional and well planned industrial developments, estates and precincts. Strategies:	Develop an Ecological Sustainability Strategy, including a Water Sensitive Urban Design Policy.	

		- Minimise the potential environmental impact of industrial development and use on adjoining residential and other sensitive land uses. - Require landscaping and design treatments which achieve energy and water efficiency. Objective 5: To encourage environmentally sustainable forms of industrial development. Strategy: Ensure that the planning, design, siting and construction of development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management.		
Natural Resources	21.10-2			
	21.10	Objective 2: To minimise the physical impact and stress of development and land use on the natural environment. Strategies: - Adopt a consistent approach to the concept of sustainable land use development in terms of environmental management issues. - Minimise the visual and physical impact of land use and development on waterway assets. Objective 3: To encourage the preservation and enhancement of the natural environment including the maintenance of clean air and water and protection of canopy vegetation. Strategies: - Preserve existing communities of indigenous flora and fauna and encourage the reestablishment of indigenous species. - Enhance the natural environment through innovative planning techniques. - Assist local businesses to adopt environmentally sustainable business practices. - Improve the treatment of waterways and drainage	- Preparing guidelines for sustainable development and facilitating their adoption and application by the local development industry and local community and environmental groups. - Developing a set of standards and protocols relating to the control of waste and emissions from all forms of urban development to sensitive environmental areas including waterways.	

		systems. Develop wetlands and retarding basins where possible, to capture and filter stormwater, while creating habitat for aquatic life.		
Waterways Protection Policy	22.01			
	22.01-2	- To ensure that all development contributes to the long term sustainability of local and metropolitan waterways. - To minimise the adverse impact of development on local and metropolitan waterways.		- An application for development in areas with a slope greater than 15% must submit a site management plan identifying measures to be taken to stabilise the site to minimise sediment and contaminant runoff during development and throughout the life of the use. - A sediment control management plan be submitted with all development applications.
Sites of Biological Significance	22.04			
	22.04-2	Objectives: - To ensure that all species of indigenous flora and fauna remain present in Maroondah. - To increase the presence of indigenous flora and fauna throughout Maroondah. - To ensure that indigenous flora remains viable in Maroondah.		An application for vegetation removal must be accompanied by the following information prepared by qualified botanist or horticulturalist, as appropriate:.....

		To recognise the importance of maintaining biological diversity to the health of the environment of Maroondah.		
Ringwood Activity Centre	22.06			
	22.06-2	Built form & scale Objectives: - To encourage excellence in architectural and building design throughout the Activity Centre. - To encourage innovative building and public domain design that contributes to the diversity of the Ringwood Activity Centre that respects and includes its existing built assets and image defining buildings and responds to its topographical and site specific conditions. - To encourage innovative, high quality architecture and streetscape design that incorporates principles of Environmentally Sustainable Design, Crime Prevention through Environmental Design and Water Sensitive Urban Design that sets a benchmark for future design standards across the whole municipality. Policies: Ensure new development address the following sustainability issues, to the satisfaction of the responsible authority: - Building design (including energy efficiency and energy saving technologies). - Water sensitive urban design (including water conservation features and stormwater management). - Construction materials (including use of materials that minimise environmental impacts and use of recycled materials). - Indoor environment quality (including internal lighting and air quality, minimising noise levels and noise transfer between buildings and external areas). - Waste management (including minimising waste and		

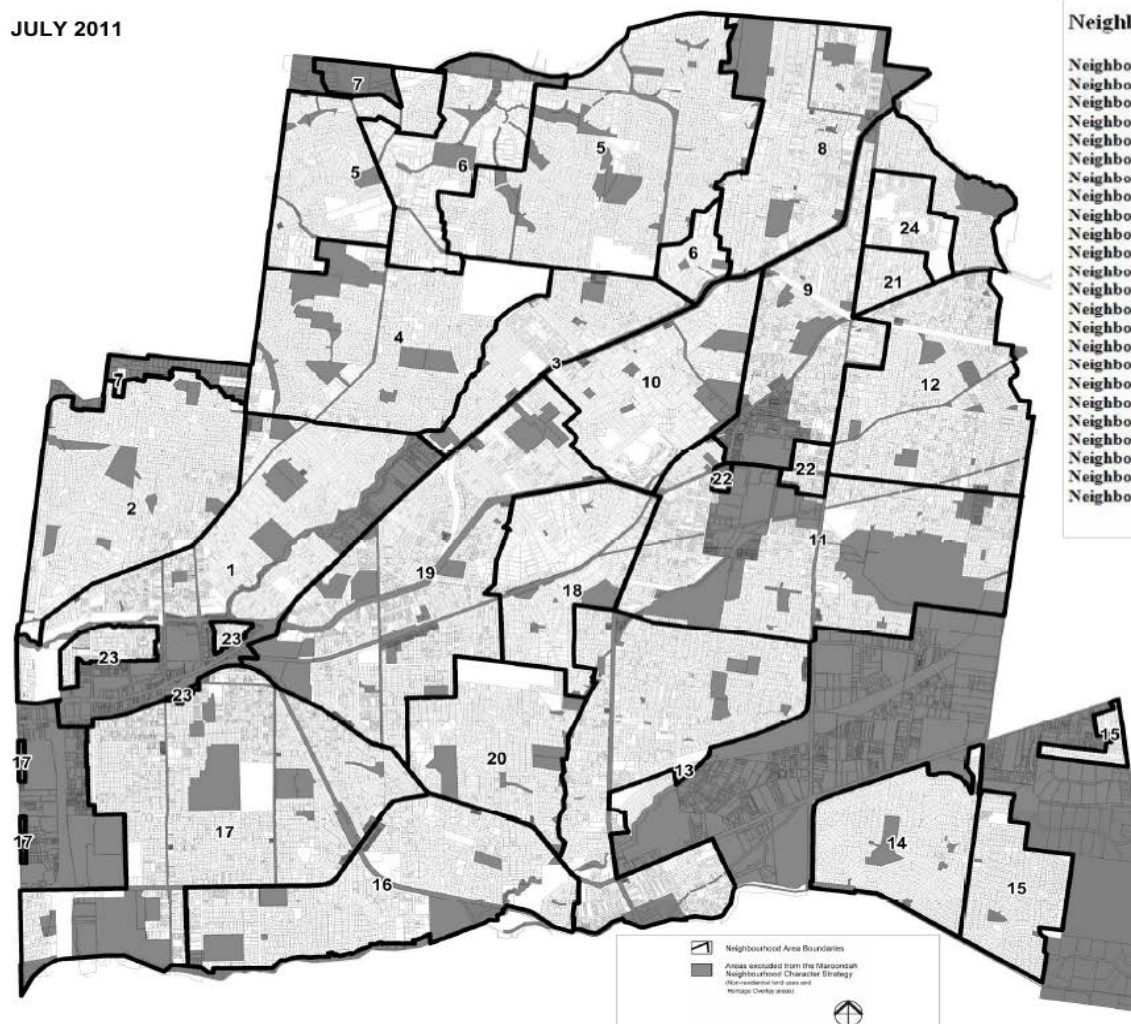
		maximising recycling/composting opportunities). • Transport (design of car parking areas to reduce energy consumption and incorporation of 'after-trip' facilities for cyclists and joggers). • Demolition and construction (including the protection of vegetation and other public assets identified for retention, minimising building waste, prevention of off-site pollutants, minimising noise and off-site amenity impacts, minimising disruption to adjacent properties and maintaining vehicular and pedestrian access). Landscape and Environment Strategies: To integrate Environmentally Sustainable Design principles and techniques into the design, construction and operation stages of new development to recognise and contribute towards a long-term, responsible and sustainable future for the Ringwood Activity Centre and the wider community. Policy: • Ensure high quality public domain, landscape and environmental features be implemented into the Activity Centre to distinguish Ringwood from other activity centres across Metropolitan Melbourne. • Incorporate environmentally sustainable design principles into the design, construction and operation stages of all new development. Residential Development Objectives: • To maximise solar access and improve the thermal efficiency of buildings, while providing an address to the street. • To encourage consideration of the microclimate and solar performance of the development. • To minimise the impacts of new development on		
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		natural waterways, and to encourage the integration of water saving measures in their design. •		
Industrial Urban Design & Development	22.07			
	22.07-2	Objectives: • To ensure industrial development creates a high quality urban environment and maintains high environment standards. • To ensure siting and development of industrial uses minimises impact on the environment and the generation of off site effects.		
Croydon Major Activities Area Development Policy	22.09			
	22.09-2	Spaces Objectives: • To achieve a high quality built environment that promotes well integrated public spaces in accordance with the Spaces Map. Strategies: Encourage innovative, high quality architecture that incorporates Ecologically Sustainable Design, Crime Prevention through Environmental Design and Water Sensitive Urban Design.		

APPENDIX 5

Maroondah Neighbourhood Character Areas

JULY 2011



Neighbourhood Areas

- Neighbourhood Area 1 – Mullum Mullum Creek
- Neighbourhood Area 2 – Loughnan's Hill
- Neighbourhood Area 3 – Nyora
- Neighbourhood Area 4 – Quambee Gardens
- Neighbourhood Area 5 – Croydon Hills
- Neighbourhood Area 6 – Birts Hill/ Jumping Creek Valley
- Neighbourhood Area 7 – Maroondah Fringes
- Neighbourhood Area 8 – Warrien
- Neighbourhood Area 9 – Croydon Parks
- Neighbourhood Area 10 – Wicklow Ridgeline
- Neighbourhood Area 11 – Eastfield
- Neighbourhood Area 12 – Ruskin Park
- Neighbourhood Area 13 – Bungalook
- Neighbourhood Area 14 – Canterbury Gardens
- Neighbourhood Area 15 – Colchester Park
- Neighbourhood Area 16 – Heathmont Gardens
- Neighbourhood Area 17 – Jubilee Park
- Neighbourhood Area 18 – Burley Griffin
- Neighbourhood Area 19 – Ringwood Lake
- Neighbourhood Area 20 – Wombolano
- Neighbourhood Area 21 – Golf Links Estate
- Neighbourhood Area 22 – Croydon Town Centre
- Neighbourhood Area 23 – Ringwood Activity Centre
- Neighbourhood Area 24 – Former Croydon and District Golf Course



APPENDIX 6

Green Star Communities Framework – Examples of Application

PROJECT STAGE	EXAMPLE USER	POTENTIAL APPLICATION	ANTICIPATED OUTCOMES
Policy making	State government department of planning	Principles are used to inform the development of strategic directions and policies within a regional plan.	Regional policies promote best practice sustainable community development.
Regional and town planning	A consultant planner	Principles are used in the drafting of a new planning scheme, informing the scheme's desired planning outcomes for the region/town.	Planning scheme contains localised best practice strategies for a sustainable city.
	Local government planner	Principles used to assess a community development plan at the statutory planning stage to promote adoption of sustainable communities approach.	Future community development applications assessed against best practice standards.
Community planning	Local government planner	Principles are used to identify the potential components of a new neighbourhood plan, or to review an existing one.	Existing neighbourhood plan updated to include a full spectrum of sustainability initiatives.
	Community members and community organisations, NGO's and activists	Principles could assist in community capacity building and community engagement to ensure that local values are reflected in the planning of a community and local people understand the process.	An informed community that builds ownership in the local constraints, opportunities and solutions for its area.
Design	Government or private developer	Principles are used to brief the design team and their scope, ensuring that detailed assessment methodologies and tools align with the principles contained in the framework.	Design options that address best practice elements of a sustainable community.
Finance	Commonwealth Government	Principles are used as part of funding criteria to ensure that projects optimise sustainability outcomes.	Funding is directed to investments that provide an optimal sustainable community legacy.
Tendering	Owner, developer, government	Principles are used in Request for Tenders or Expressions of Interest for specific community developments.	Contractors are engaged and have embedded sustainability as a core outcome of the community development.
Deliver	Construction contractor	Principles are used to inform the company's research program around community infrastructure delivery.	Continual improvement of delivery practices for sustainable community developments.
Evolve and maintain	Neighbourhood community group, Chamber of Commerce and other member groups	Principles are used to prioritise funding applications for community infrastructure improvements and maintaining dialogue with community members, local agencies and local political representatives.	Ongoing community investment is sustained and focussed on the sustainability issues local to the area.
Revitalise and retrofit	Alliance partnership including local government, design consultants and contractors	Principles are used to structure design workshops for the renewal of buildings, open space, playground and/or community hall facilities.	Scoping of an urban retrofit project that ensures holistic sustainable outcomes.
Marketing	Consumer, the public	Principles are used to assist the public understand what broadly constitutes a sustainable community and the standard applied.	An informed consumer who makes the decision to adopt a more sustainable lifestyle.

APPENDIX 7

Whitehorse City Council's Environmentally Sustainable Development Local Planning Policy Amendment

WHITEHORSE PLANNING SCHEME

22.18 ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

—/—2018
C130

This policy applies throughout the City of Whitehorse to residential and non-residential developments that require a planning permit in accordance with the thresholds in Table 1 of this Policy.

22.18-1 Policy Basis

—/—2018

Whitehorse City Council is committed to creating an environmentally sustainable city. Critical to achieving this commitment is for development to meet appropriate environmental design standards. This policy aims to integrate environmental sustainability principles into land-use planning, new developments and redevelopment of existing infrastructure. This policy provides a framework for early consideration of environmental sustainability at the building design stage in order to achieve the following efficiencies and benefits:

- Easier compliance with building requirements through passive design
- Reduction of costs over the life of the building
- Improved housing affordability and running costs
- Improved amenity and liveability
- More environmentally sustainable urban form
- Integrated water management

If environmentally sustainable design is not considered at the time of planning approval the ability to achieve environmentally sustainable development may be compromised by the time these matters are considered as part of a building approval or there may be difficulties or extra costs associated with retro-fitting the development to implement environmentally sustainable design principles.

This policy does not prescribe performance outcomes. The policy enables the provision of information and provides decision guidelines which will assist in the assessment of whether development achieves environmentally sustainable development objectives.

This policy is to be implemented in conjunction with a range of non-statutory measures aimed at encouraging environmentally sustainable development. These measures include: educating residents and applicants, assisting applicants to use ESD tools, leading by example with Council projects and promotion of exemplary private projects, promotion of use of materials with favourable life cycle impacts.

22.18-2 Objectives

—/—2018
C130

The overarching objective of this policy is that development should achieve best practice in environmentally sustainable development, including from the design stage through to construction and operation.

In the context of this policy best practice is defined as a combination of commercially proven techniques, methodologies and systems, appropriate to the scale of development and site specific opportunities and constraints, which are

demonstrated and locally available and have already led to optimum ESD outcomes. Best practice in the built environment encompasses the full life of the build.

It is a policy objective to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

The following objectives should be satisfied where applicable:

Energy efficiency

- To ensure the efficient use of energy.
- To reduce total operating greenhouse gas emissions.
- To reduce energy peak demand.

Water resources

- To ensure the efficient use of water.
- To reduce total operating potable water use.
- To encourage the collection and reuse of stormwater.
- To encourage the appropriate use of alternative water sources (eg. greywater).

Indoor Environment Quality

- To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, natural daylight and appropriate levels of lighting.
- To achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling.
- To reduce indoor air pollutants by use of materials with low toxic chemicals, minimal off-gassing and production of allergens.
- To reduce reliance on mechanical heating, ventilation, cooling and lighting systems.
- To use flexible internal controls for any mechanical systems.
- To minimise noise levels and noise transfer within and between buildings and associated external areas.

Stormwater Management

- To reduce the impact of stormwater run-off.
- To improve the water quality of stormwater run-off.
- To achieve best practice stormwater quality outcomes.
- To incorporate the use of water sensitive urban design, including stormwater re-use.

Transport

- To ensure that the built environment is designed to promote the use of walking, cycling and public transport in that order.
- To minimise car dependency.
- To promote the use of low emissions vehicle technologies and supporting infrastructure.

Waste management

- To ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development.
- To ensure durability and long term reusability of building materials.
- To ensure the built environment can adapt to future needs in a waste-efficient manner.

Urban Ecology

- To protect and enhance biodiversity within the municipality.
- To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect.
- To protect and manage all remnant indigenous plant communities.
- To encourage the planting of indigenous vegetation.
- To encourage productive gardens.

22.18-3 Policy

—/—2018
C130

It is policy that applications for the types of development listed in Table 1 be accompanied by a Sustainable Design Assessment or Sustainability Management Plan which:

- utilises relevant assessment tools; and
- addresses relevant policy objectives.

It is policy that applications for larger non-residential developments (as specified in Table 1) be accompanied by a Green Travel Plan.

The application requirements set out in 22.18-4 do not apply to alterations or extensions to existing non-residential developments over 20,000sqm gross floor area in respect of which an ESD plan or framework:

- has been approved by the Responsible Authority (whether under a planning control or otherwise);
- sets out environmental targets or performance standards for that development that have the capacity to satisfy the objectives of this policy; and
- set out specific ESD assessment requirements for future permit applications in respect of that development.

22.18-4 Application Requirements

—/—2018
C130

An application must be accompanied by either a Sustainable Design Assessment or a Sustainability Management Plan as specified in Table 1, as appropriate.

A Sustainable Design Assessment will usually not need to be prepared by a suitably qualified professional. It should:

- provide a simple assessment of the development using relevant tools from the example tools listed in the table (or equivalent tools);
- identify environmentally sustainable development measures proposed in response to policy objectives.

A Sustainability Management Plan should:

- provide a detailed assessment of the development using relevant tools from the example tools listed in the table (or equivalent tools);
- identify appropriate environmental targets or performance standards having regard to the objectives of this policy (as appropriate);
- demonstrate that the building has the design potential to achieve the relevant environmental targets or performance standards;
- document the means by which the targets or performance standards will be achieved.

Various 'tools' have been listed in Table 1 which may be used to assess how the proposed development addresses the objectives of this policy, as appropriate. It is not intended that this is an exhaustive list and applicants may use other tools or methods to the satisfaction of the Responsible Authority. Council has also developed a range of documents to guide applicants, such as the *Whitehorse Sustainable Design Assessment in the Planning Process Fact Sheet Suite*.

Table 1 – ESD Application Requirements

TYPE OF DEVELOPMENT	APPLICATION REQUIREMENTS	EXAMPLE TOOLS
Accommodation and Mixed Use with residential component of:		
▪ 3- 9 dwellings; or ▪ Development of a building for accommodation other than dwellings with a gross floor area between 500m² and 1000m²; or ▪ Alterations and additions creating 500m² or more of additional gross floor area (excluding outbuildings).	Sustainable Design Assessment (SDA)	STEPS NatHERS accredited tool (eg. FirstRate) STORM
▪ 10 or more dwellings; or ▪ Development of a building for accommodation other than dwellings with a gross floor area of more than 1000m².	Sustainability Management Plan (SMP)	STEPS NatHERS accredited tool (eg. FirstRate) Green Star MUSIC

WHITEHORSE PLANNING SCHEME

		STORM
Non-residential:		
- Development of a non-residential building with a gross floor area between and including 500m² and 1000m²; or - Alterations and additions of between and including 500m² and 1000m².	Sustainable Design Assessment (SDA)	Green Star SDS MUSIC STORM
- Development of a non-residential building with a gross floor area of more than 1000m²; or - Alterations and additions greater than 1000m².	Sustainability Management Plan (SMP) Green Travel Plan (GTP)	Green Star SDS MUSIC STORM

Note 1: Mixed Use developments are required to provide the information applicable to each use component of the development and apply the relevant tools for each, as identified in Table 1.

Note 2: In the case of alterations and additions, the requirements of the Policy apply only to the alterations and additions.

Note 3: Applications for development types that cannot be assessed by a rating tool can be assessed by an alternative form of assessment to the satisfaction of the Responsible Authority.

22.18-5 Decision Guidelines

2019
C130

In determining an application, the Responsible Authority will consider as appropriate:

- The extent to which the development meets the objectives and requirements of this policy from the design stage through to construction and operation.
- Site constraints and opportunities.
- Whether the proposed environmentally sustainable development initiatives are functional and effective to prevent or minimise environmental impact.
- Whether the proposed environmentally sustainable development initiatives are reasonable having regard to the type and scale of the development.
- Whether appropriate tools or alternative assessment methods have been used.

- In circumstances requiring a Sustainable Design Assessment, whether the development has been designed to be able to meet any minimum environmental targets set within relevant tools.
- In circumstances requiring a Sustainability Management Plan:
 - whether appropriate environmental targets have been set; and
 - whether the development has been designed to be able to meet the environmental targets.

22.18-6 Reference Documents

---/2013
C130

Whitehorse Sustainable Design Assessment in the Planning Process (SDAPP) 10 Key Sustainable Building Categories Fact Sheet Suite
www.whitehorse.vic.gov.au/esd.html

First Rate, tool contained within the Nationwide House Energy Rating Scheme (NatHERS) suite of software, www.nathers.gov.au

Green Star, Green Building Council of Australia, www.gbca.com.au

Moreland "STEPS" (Sustainable Tools for Environmental Performance Strategy), Moreland City Council, www.morelandsteps.com.au **PANEL NOTE: THE FACT SHEETS IN EXISTENCE AT THE TIME OF EXHIBITION SHOULD BE LISTED.**

STORM, Melbourne Water, www.storm.melbournewater.com.au

Sustainable Design Scorecard (SDS) Non-Residential environmental assessment tool, Moreland City Council and City of Port Phillip, www.portphillip.vic.gov.au/sds

Urban Stormwater Best Practice Guidelines, CSIRO, 1999

Guide for Best Practice for Waste Management in Multi-Unit Developments, Sustainability Victoria, 2010

Nationwide House Energy Rating Scheme (NatHERS), Department of Climate Change and Energy Efficiency, www.nathers.gov.au

Your Home Technical Manual, Department of Environment, Water, Heritage and the Arts, 2001 www.yourhome.gov.au

Whitehorse Sustainability Strategy 2008-2013, April 2008

Whitehorse Integrated Transport Strategy, May 2011

The above reference documents and websites include reference to documents and websites which may be amended from time to time.

- In circumstances requiring a Sustainable Design Assessment, whether the development has been designed to be able to meet any minimum environmental targets set within relevant tools.
- In circumstances requiring a Sustainability Management Plan:
 - whether appropriate environmental targets have been set; and
 - whether the development has been designed to be able to meet the environmental targets.

22.18-6 Reference Documents

~1-2013
C130

Whitehorse Sustainable Design Assessment in the Planning Process (SDAPP) 10 Key Sustainable Building Categories Fact Sheet Suite
www.whitehorse.vic.gov.au/esd.html

First Rate, tool contained within the Nationwide House Energy Rating Scheme (NatHERS) suite of software, www.nathers.gov.au

Green Star, Green Building Council of Australia, www.gbca.com.au

Moreland "STEPS" (Sustainable Tools for Environmental Performance Strategy), Moreland City Council, www.morelandsteps.com.au **PANEL NOTE: THE FACT SHEETS IN EXISTENCE AT THE TIME OF EXHIBITION SHOULD BE LISTED.**

STORM, Melbourne Water, www.storm.melbournewater.com.au

Sustainable Design Scorecard (SDS) Non-Residential environmental assessment tool, Moreland City Council and City of Port Phillip, www.portphillip.vic.gov.au/sds

Urban Stormwater Best Practice Guidelines, CSIRO, 1999

Guide for Best Practice for Waste Management in Multi-Unit Developments, Sustainability Victoria, 2010

Nationwide House Energy Rating Scheme (NatHERS), Department of Climate Change and Energy Efficiency, www.nathers.gov.au

Your Home Technical Manual, Department of Environment, Water, Heritage and the Arts, 2001 www.yourhome.gov.au

Whitehorse Sustainability Strategy 2008-2013, April 2008

Whitehorse Integrated Transport Strategy, May 2011

The above reference documents and websites include reference to documents and websites which may be amended from time to time.