

National  
Technical  
Standards  
Vol.3



enviro  
**development**





# partners

EnviroDevelopment would like to acknowledge the following partners.

## National EnviroDevelopment Partners



### HopgoodGanim Lawyers

HopgoodGanim recognises that environmentally sustainable development is at the heart of the work done by our clients in various sectors. Our extensive experience perfectly positions the firm as a partner of the EnviroDevelopment National Technical Standards, for the third consecutive period, and to continue to add strategic value to the sector.



### RPS

RPS is a leading global professional services firm of 5,600 consultants and service providers. Located in 125 countries across all six continents we define, design and manage projects that create shared value to a complex, urbanising and resource-scarce world.

We work across six sectors: property, energy, transport, water, resources, defence and government services. Our services span twelve clusters: project and program management; design and development; water services; environment; advisory and management consulting; exploration and development; planning and approvals; health, safety and risk; oceans and coastal; laboratories; training and communication and creative services.



### Melbourne Water

Melbourne Water supplies affordable, high-quality, reliable sewerage, healthy waterways, integrated drainage and flood management services and outstanding natural community spaces that help make Melbourne a fantastic place to live. Melbourne Water and committed to enhancing life and liveability for the greater Melbourne region. Our strategic direction outlines this vision in three areas: healthy people, healthy places and healthy environment.

## Victoria EnviroDevelopment Partners









# using this document

The guide below provides useful tips on how to use this document easily and efficiently.

## Development Type

Identifies the relevant development type and the relevant element.

## Element

Identifies the relevant element.

## Supporting Documentation

Provides detail on the type of supporting documentation you need to respond to the criteria.

## Technical Criteria

Details the technical requirements necessary for certification.

## Criteria Sections and Technical Intent

Details the subject and intent of the element subsection.

### Masterplanned Communities Ecosystems



Criteria	Required Supporting Documentation
<b>1.2.2</b> Unless soil is heavily contaminated, retain insitu or stockpile and reuse all topsoil to best advantage on site. Where topsoil is minimal or absent and subsoil is deemed suitable for amendment, stockpile subsoil on site. <b>Note:</b> Wherever possible, stockpiles should be no more than 1.5m high with maximum 1:2 batter and once stockpiling completed, covered with a green cover crop to avoid erosion, desiccation and solarisation.	Evidence in plans of topsoil stockpile location and management requirements.
<b>1.2.3</b> Minimise access to site by vehicles to nominated roadways or parking areas, well away from existing trees or intended public realm areas, to minimise compaction. Rip compacted soil once building works are completed. Ensure building wastes, particularly liquid wastes do not contaminate the soil.	Construction management plan, identifying access locations.
<b>1.2.4</b> Recycle and reuse all vegetative debris on site (e.g. for topsoil augmentation or composting purposes). If onsite reuse is not feasible, arrangements should be made for green waste to be transported for reuse or disposed of at a fully licensed recycler or reprocessor. There should be no pit burning of green waste on site or disposal to landfill.	Statement from developer and registered landscape architect.
<b>1.2.5</b> Amend, mulch and revegetate soils disturbed during construction as well as soils on the remainder of the site where the site has formerly been used for farming, forestry, industrial, commercial or urban land uses. Demonstrate that soils are suitable for intended purposes.	Soil or landscape management plan.

### 1.3 EARTHWORKS

**INTENT:** To reduce the disturbance of construction works on the site's natural topography and nearby waterways.

**REQUIREMENT:** Achieve EACH of the following:

<b>1.3.1</b> Conduct thorough site analysis prior to planning and design to identify: <ul style="list-style-type: none"> <li>• areas of prime ecological significance;</li> <li>• areas where clearing and/or major earthworks should specifically not occur;</li> <li>• potential soil issues (e.g. dispersive soils); and</li> <li>• the suitability of the site for earthworks and construction.</li> </ul> The project must adequately consider and preserve significant areas based on the advice of this report.	Site analysis outlining areas which require protection.
<b>1.3.2</b> The project is planned, designed and constructed in manner that achieves a balanced earthworks outcome (no spoil or import). Where spoil is generated it shall be disposed of in a location requiring import and not to landfill. <b>Note:</b> Projects which require importation of fill for groundwater or other environmental considerations may apply for discretion under this criteria.	Statement from engineer.
<b>1.3.3</b> Plan, implement and maintain effective erosion and sediment control measures during construction and operation. As a minimum, these should exceed relevant legislative and regulatory requirements.	Erosion and sediment control plan/soil and water management plan, staging plan and <i>statement of compliance</i> from an <i>appropriately qualified professional</i> .
<b>1.3.4</b> Ensure appropriate staging of earthworks to ensure bare earthworks are avoided in high-risk areas of the site during dominant rainfall periods, and the area and duration of bare earthworks is minimised during construction.	Statement from engineer.
<b>1.3.5</b> Design and construct street layout to fit with topography with minimal disruption. <b>Note:</b> The achievement of this criteria should be balanced with solar orientation and other sustainability considerations including walkability /accessibility outcomes.	Pre and post civil contour maps.
<b>1.3.6</b> Where there is contamination identified on site, employ best practice techniques to remediate contaminants to meet regulatory requirements and suit future uses.	Contamination report and details on remediation actions.

## Development Type Colour Guide

Masterplanned Communities	Residential Subdivision
Seniors Living	Multi-Unit Residential
Mixed Use	Industrial
Retail	Commercial
Education	Health and Aged Care



# what is enviro development?

EnviroDevelopment is a national rating tool which provides independent verification of a project's sustainability performance.

EnviroDevelopment recognises projects that achieve exceptional sustainability outcomes and provides a point of difference in a highly competitive market. EnviroDevelopment is a powerful selling tool that can be used to clearly articulate reduced costs of living and operating expenses.

The EnviroDevelopment program is underpinned by the National Technical Standards which sets out the criteria for assessment and supporting documentation requirements. The certification process is rigorous and designed to assess project initiatives across six areas – ecosystems, waste, energy, materials, water, and community.

EnviroDevelopment is an initiative of the Urban Development Institute of Australia (UDIA) and was established to drive the delivery of more sustainable communities and spaces.

## The Technical Standards

This document sets out the criteria used to assess projects when determining whether a project has achieved the necessary requirements to be recognised as an EnviroDevelopment. The technical standards are reviewed periodically to ensure that the criteria remain relevant and continue to drive the delivery of sustainable communities and spaces. The technical standards revision process is thorough, involving experts across Australia including developers, architects, engineers, planners,

urban designers, landscape architects, economists, environmental scientists, ecologists, product suppliers, sustainability consultants, and other industry bodies.

The standards are designed to be flexible, pragmatic, and encourage innovation.

## The EnviroDevelopment Brand

Once certified, an EnviroDevelopment project gains access to the EnviroDevelopment logo suite. A certified project displays the icons in the 'leaves' relevant to its certification.

The EnviroDevelopment marketing logo is used by the UDIA for marketing and promoting the EnviroDevelopment program. This logo is not for use by any external party (including certified projects) unless agreed to by the UDIA.

Research commissioned by EnviroDevelopment has shown that certified projects which integrate the EnviroDevelopment brand within the project's communication strategy, are the most successful in creating awareness about the project's sustainability features and the positive impacts on end users<sup>1</sup>. Following certification, project teams receive a Marketing and Branding Guide and ongoing marketing support to optimise the value of EnviroDevelopment certification.







# why enviro development?



## **Attract a premium for your project**

Research conducted by UDIA has found that homebuyers would be willing to pay a premium to buy into an EnviroDevelopment and highly value sustainability initiatives. One of the most appealing aspects of EnviroDevelopment certification is the potential to reduce operating costs. Achieving EnviroDevelopment certification in the areas of water and energy has the potential to significantly lower operating costs for the end user, depending on behavioural patterns. This lower lifecycle cost has a positive effect of increasing value.



## **Satisfy consumer and tenant demand**

The EnviroDevelopment National Technical Standards set the criteria for projects to demonstrate sustainable development and have been informed by specially convened expert groups, research findings and, importantly, through primary research conducted on behalf of EnviroDevelopment. The Standards incorporate best practice sustainability initiatives and those considered worthwhile and valuable to end users.



## **Offers third party verification**

EnviroDevelopment offers third party verification of a project's sustainability credentials. Achieving certification is a means of providing credibility, using an independent rating tool, to support green initiatives. It allows reporting to key stakeholders on the delivery of sustainability-related policies and positions the project as an exemplary one in the marketplace.



## **Have access to an effective communication tool**

EnviroDevelopment's value as a communication tool is strengthened by an expanding range of consumer-based collateral. EnviroDevelopment provides a mechanism to package each of the sustainability initiatives within a project into an easily communicated brand. This assists in generating awareness and providing clarity to end users.



## **Measure your project's performance**

The EnviroDevelopment process enables a project team to measure the performance of a project against a set of holistic outcomes which are designed to encourage innovation. EnviroDevelopment is being used widely by developers across various portfolios as a means of assessing each project at the design phase. EnviroDevelopment certification is an effective quality assurance mechanism in assessing consistency in sustainability performance.



## **Ensure you have flexibility to innovate**

The EnviroDevelopment tool is flexible to ensure it can be scaled across the many different development types. EnviroDevelopment can certify a project at any stage with clear and flexible direction on how to make the project more sustainable. EnviroDevelopment certifies against a set of holistic outcomes which are designed to encourage innovation. This flexibility allows projects to be creative in achieving sustainable outcomes.







# the elements of envirodevelopment

EnviroDevelopment is separated into six key elements: ecosystems, waste, energy, materials, water, and community.



## Target:

Projects that protect and enhance native ecosystems and ecological function, and rehabilitate degraded sites.

## Key Principles:

- Encourage resilient natural ecological communities and protect natural connectivity.
- Facilitate protection and rehabilitation of riparian vegetation and wetlands.
- Encourage protection (during and after construction) of existing habitats for native animals or the rehabilitation of habitats where they are no longer in existence or in a healthy state.
- Avoid water pollution and degradation of water quality in waterways and natural systems and remediate any water quality problems occurring on-site or in neighbouring areas.



## Target:

Projects which have implemented waste management procedures and practices to reduce the amount of waste to landfill and facilitate recycling.

## Key Principles:

- Encourage recycling of construction and demolition materials and reduce waste to landfill.
- Minimise on-site pollution during the construction phase.
- Promote the re-use of existing structures and materials.
- Promote occupancy awareness and access to recycling facilities.



## Target:

Projects that implement measures to optimise energy reduction across the project beyond current regulatory requirements.

## Key Principles:

- Incorporate climate responsive design.
- Encourage use of alternative energy sources.
- Encourage the use of energy efficient appliances, lighting, and HVAC systems.
- Promote use and implementation of demand and behavioural management devices and programs.



## Target:

Projects that utilise environmentally responsible materials and construction methods to lower environmental impacts of material usage.

## Key Principles:

- Incorporate use of civil work and landscaping materials from environmentally responsible sources.
- Incorporate use of built form materials from environmentally responsible sources.
- Improve indoor air quality through the choice of materials and finishes.





### Target:

Projects which implement measures which reduce potable water use across the project beyond current regulatory measures.

### Key Principles:

- Reduce potable water usage within dwellings or tenanted space.
- Promote the use of alternative water sources, water efficient appliances, fixtures and fittings, and water efficient landscaping in private outdoor spaces.
- Encourage alternative water sources or the use of drought tolerant species to meet irrigation demand for common areas of the project.



### Target:

Projects that encourage healthy and active lifestyles, community spirit, local facilities, alternative transport modes, and accessible and flexible design that welcomes a diversity of people and adapts to their changing needs.

### Key Principles:

- Understand, engage, and consider the wishes of the surrounding community and traditional owners.
- Encourage community cohesiveness and interactions through the provision of facilities, ongoing support of community social capital, and development layout.
- Promote use of public transport, active transport options, and healthy and active lifestyles.
- Provide access to local employment, education, and services to reduce the need for regular travel beyond the local area.







# the process

Our certification process has been developed and is routinely refined to ensure that each project's journey through the certification process is smooth, efficient and connected.



## 1. Expression of Interest

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- Meeting to discuss EnviroDevelopment and its applicability to the project.
- Access to EnviroDevelopment National Technical Standards and Application template.
- Overview of resources available to assist in preparation of submission.
- Copy of Application Spreadsheet and Fee Schedule.

## 2. Project Registration

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- Registration fee payable.
- Site specific workshop with developer and/or project team on the application of EnviroDevelopment and how the standards apply to the project.
- Anticipate scheduling for National EnviroDevelopment Board of Management review.
- Access to EnviroDevelopment application advice.
- Access to EnviroDevelopment team to undertake application on behalf of submitter.

## 3. Application Submission

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- Respond to any requests for further information following submission.
- Draft comments provided to applicant, with opportunity to respond / clarify prior to Board review.
- Commence early discussions on media release and announcement event.
- Certification fee payable.

## 4. Board Review

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- Respond to any requests for further clarification (if required).
- Site visit arranged.

## 5. Certification Decision

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- Licensing document, logos, and statutory declaration provided for signing.
- Announcement event / media announcement coordinated.
- Framed EnviroDevelopment certificate provided.
- Project added to the list of EnviroDevelopment certified projects on the website.
- Supplied with EnviroDevelopment marketing material.
- Certification fee payable.

## 6. Ongoing Certification (Annual)

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- Project specific support to build the project's EnviroDevelopment branding strategy and ongoing media coordination.
- Annual recertification process undertaken.
- Recertification fee payable.



# submitting an application

## what you need to know

### The Basics

- Each project should demonstrate compliance with the essential requirements as featured in this booklet on page 16.
- To be recognised as a certified EnviroDevelopment, projects must meet at least four of the elements as part of a certification.
- EnviroDevelopment applications will be processed within six to eight weeks of receipt of all documentation and supporting information.

### Criteria

- If a particular criteria is not relevant to the project, mark the column 'not applicable' and provide reasoning why the criteria is not applicable or feasible in this instance. If a requirement is not addressed at all, with no reasoning provided, it will be determined by the National EnviroDevelopment Board of Management that this requirement has not been met.
- Examples used within the element criteria are not exclusive and are intended as a compliance guide only.
- Each requirement is equal to one credit, unless otherwise stated.
- When the EnviroDevelopment National Technical Standards are reviewed and a revised set of standards is released, a certified EnviroDevelopment is required to demonstrate how the project's future stages will comply with the revised EnviroDevelopment Technical Standards. The revised standards will not apply retrospectively (i.e. to those dwellings/buildings already approved/built) and applicants will not be required to undertake further baseline studies such as further ecological assessment studies. The National EnviroDevelopment Board of Management shall retain the right to vary or amend the application of this requirement at its absolute discretion.

### When should I apply?

- You should make contact with your local EnviroDevelopment Coordinator as early as possible to discuss the project and its eligibility.
- Usually, EnviroDevelopment applications are processed at least three months prior to the

release of the first phase of the project for sale or commencement of leasing.

- You can delay the commencement of the term of your project's EnviroDevelopment license by up to six months to coincide with a specific project milestone.
- Preliminary certification may be available to projects that choose to apply for certification prior to receiving a development approval/planning permit.
- Where a project has obtained preliminary EnviroDevelopment certification (subject to the final development approval), supplementary documentation must be submitted after the development approval/planning permit is received, highlighting any changes made since the preliminary certification.

### What do I need to provide?

An application for EnviroDevelopment certification should include:

- a completed Application Template (available from your local EnviroDevelopment Coordinator or by emailing [info@envirodevelopment.com.au](mailto:info@envirodevelopment.com.au)); and
- supporting documentation that clearly demonstrates compliance and future delivery of initiatives to satisfy the EnviroDevelopment standards.

### Costs Associated with EnviroDevelopment Certification

An EnviroDevelopment fee schedule is available from your local EnviroDevelopment Coordinator or by emailing [info@envirodevelopment.com.au](mailto:info@envirodevelopment.com.au)

Recertification fee – 20% of the original certification fee (payable annually until project elects to let certification lapse).

### Annual Recertification Process

To renew EnviroDevelopment certification, the developer will be required to submit, four weeks before the renewal date:

- a completed renewal form;
- the renewal fee;
- signed statement; and
- all appropriate documentation detailing any changes in the project that may affect the basis upon which the EnviroDevelopment license was granted from the time of the initial certification to the end of the period of renewal.



## EnviroDevelopment Compliance

The following information details EnviroDevelopment's compliance mechanisms and procedures to ensure the integrity of EnviroDevelopment certification and the continued compliance of certified projects.

- EnviroDevelopment certified projects may be subject to random site checks.
- At the National EnviroDevelopment Board of Management's discretion, further information may be requested from the project at any stage during its certification.
- Developers of EnviroDevelopment certified projects must advise the UDIA within 10 business days of any changes made, or proposed to be made, to the proposed or existing project which may affect eligibility for EnviroDevelopment certification.
- If the National EnviroDevelopment Board of Management has concerns regarding compliance with the standards (or any aspect of the certification) or breach of the licensing agreement, the UDIA will advise the developer (licensee) of these concerns and request evidence of compliance within 10 business days of the notice.
- EnviroDevelopment certification may be revoked if the National EnviroDevelopment Board of Management is not satisfied that the certified EnviroDevelopment is meeting the requirements and the spirit of EnviroDevelopment. In the instance of non-conformance, the licence will be revoked and the application and licensing fees will not be refunded. There may also be cause to make public statements about such non-compliance to protect the broader integrity of EnviroDevelopment.
- The developer may be declared by the National EnviroDevelopment Board of Management to be ineligible for EnviroDevelopment certification for any project for a period of two years if found to breach the agreement or provide incorrect or false statements. Similarly, any third parties or consultants found to be providing substantially incorrect or false statements or evidence for the purpose of EnviroDevelopment certification may be declared by the National EnviroDevelopment Board of Management to be ineligible to provide evidence for EnviroDevelopment certification for a period of two years.
- The use of the EnviroDevelopment logo system is protected and action will be taken against persons or organisations found to be fraudulently representing a project, or a component of a project, as an EnviroDevelopment, or fraudulently representing any other product as EnviroDevelopment certified or endorsed.
- EnviroDevelopment certification is not an alternative to compliance with all Federal, State and Local legislative and regulatory requirements. EnviroDevelopments must fulfil all relevant legislative and regulatory requirements.

## Further questions?

An EnviroDevelopment Coordinator is available to answer all queries on the certification process, and will provide timely and accurate advice. Contact details for local EnviroDevelopment Coordinators are available via the relevant UDIA state office or at **[envirodevelopment.com.au](http://envirodevelopment.com.au)**. Additional resources, such as case studies, a list of EnviroDevelopment Professionals and facilitation of a workshop discussion specific to a project's EnviroDevelopment application, can also be provided upon request.



# become an enviro development **professional**

The EnviroDevelopment Professional program is designed to provide formal recognition of property development professionals who have undertaken a course in EnviroDevelopment and are part of a sustainability network.

EnviroDevelopment Professionals can assist by:



Being an active member of a project team who is pursuing EnviroDevelopment certification and provide advice on how the project may be eligible for certification.



Providing assistance in coordinating an EnviroDevelopment application.



Providing assistance in collating documentation for an EnviroDevelopment recertification.

A current directory of EnviroDevelopment Professionals is available on the EnviroDevelopment website. To register for training to become an EnviroDevelopment Professional, visit [envirodevelopment.com.au](http://envirodevelopment.com.au).

**enviro**   
DEVELOPMENT™  
PROFESSIONAL



# which development type are you?

It's really important that you identify which type of development your project is before you go any further in the certification process.



## Masterplanned Communities

Projects primarily used for residential purposes and containing more than 1,500 dwellings.



## Residential Subdivisions

Projects primarily used for residential purposes and containing less than or equal to 1,500 dwellings.



## Seniors Living

Projects primarily used for seniors living or retirement living.



## Multi-Unit Residential

Projects with two or more attached dwellings.



## Mixed Use

Projects with a mix of commercial, residential, and retail uses.



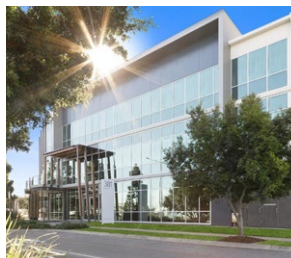
## Industrial

Projects primarily used for industrial purposes.



## Retail

Projects primarily used for retail purposes.



## Commercial

Projects primarily used for commercial purposes.



## Education

Projects primarily used for educational purposes (e.g. primary or secondary school campuses or buildings, university campuses or buildings).



## Health and Aged Care

Projects primarily used for healthcare and aged care purposes (e.g. hospitals, medical centres, aged care facilities).



# essential requirements

To be eligible for certification, each project must demonstrate compliance against the following essential requirements:

- a.** Establish a community education program targeting residents/tenants/users which specifically addresses:
  - information regarding the waste hierarchy of reduce, reuse, and recycle;
  - energy and water efficiency; and
  - use of environmentally responsible materials, emissions and maintenance.Example mechanisms include interpretive signage, fact sheets, and end user manuals.
- b.** Conduct thorough site analysis, prior to the planning and design phase using an appropriately qualified professional to identify areas of prime significance for conservation and to identify areas where clearing and/or major earthworks should not occur. The project must adequately consider and preserve significant areas based on the advice of this report.
- c.** Plan, implement, and maintain effective sediment and erosion control measures during construction and operation. As a minimum, these should comply with all regulatory requirements.
- d.** Where relevant, recycle and reuse all vegetative debris on site (e.g. for landscaping or composting purposes). If not feasible, arrangements should be made for vegetative debris to be transported for reuse or disposed of by a licensed recycler or reprocessor. There should be no pit burning of green waste on site.
- e.** Demonstrate assessment of solar orientation options to provide best practice solar access opportunities.
- f.** Demonstrate how the project will reduce greenhouse gas emissions beyond regulatory requirements.
- g.** Demonstrate how the project will reduce potable water consumption for irrigation.
- h.** Demonstrate how community consultation and feedback has been incorporated into the project's design or activities.



# Masterplanned Communities



Project: Alkimos Beach

Developer: LandCorp and Lend Lease

Certification: 6 elements (ecosystems, waste, energy, materials, water, community) Certified 2013



## Masterplanned Communities – Ecosystems

To achieve certification in the Ecosystems element, a project must achieve:

- **all** of the requirements under Aquatic Ecosystems (1.1);
- **all** of the requirements under Soil Health (1.2);
- **all** of the requirements under Earthworks (1.3); and
- 1.4.1 and 1.4.2 and **15** credits from 1.4.3-1.4.23 under Urban Ecology (1.4).

### INNOVATION

The following criteria details the requirements for certification of the Ecosystems element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 1.1 AQUATIC ECOSYSTEMS

**INTENT:** To ensure sustainable management of water resources within, impacted or drawn upon by the *project* and the preservation of the ecological function of the local area's aquatic ecosystems.

**REQUIREMENT:** Achieve EACH of the following:

**1.1.1** Provide a stormwater management plan which demonstrates:

- protection and enhancement of natural surface and groundwater hydrological regime including riparian zones and buffers (where relevant depending on site) in consideration of the stability, ecological integrity and functionality of receiving environments. This includes incorporating and protecting any significant natural aquatic ecosystem features into the project design;
- incorporation of integrated water cycle management principles (surface water, groundwater, water quality) into *project* design including water sensitive urban design devices. Set quantifiable water quality targets which exceed planning/legislative requirements and verify design through accepted modelling (e.g. *MUSIC*). Recognition can also be given for stormwater reuse (such as infill sites) where appropriate water treatment measures and infrastructure are to be utilised;
- appropriate drainage to protect both water cycle and infrastructure; and
- incorporation of adequate stormwater management provisions during and post construction to avoid enhanced risk of flooding and flood damage and to reduce risk of pollution entering waterways. Design and construct to limit the post-*project* peak one-year *ARI* event discharge to the receiving waterway to the pre-*project* peak one-year *ARI* event discharge, for sites that are upstream of erodible waterways. Must also consider impact on and from adjacent sites.

Stormwater management plan/integrated water cycle management plan/better urban water management plan.

**1.1.2** Demonstrate that any herbicide or pesticide use is undertaken in such a way to avoid contamination of aquatic ecosystems. The project demonstrates that:

- alternative pest control measures have been considered with the intent to avoid/minimise use of pesticides and herbicides;
- any use of herbicides and pesticides can be undertaken safely, with conservation benefit outweighing risk of harm; and
- potential environmental impacts of herbicide/chemical use have been considered and that significant impacts are not anticipated.

Statement outlining steps to minimise use of pesticides (including termite control), herbicides and artificial fertilisers and/or weed and pesticide management plan.

**1.1.3** Where there is an ecological need, provide water features that allow habitat and refuge for fauna.

Stormwater management plan and ecological study.





## Criteria

## Required Supporting Documentation

## 1.2 SOIL HEALTH

**INTENT:** To ensure construction practices retain the ecological integrity of the soil to assist in achieving better environmental outcomes in the public realm.

**REQUIREMENT:** Achieve EACH of the following:

**1.2.1** Take soil samples in areas that are to be retained for vegetative growth to ensure an understanding of soil characteristics. For soils used for revegetation purposes, the organic content of the soil, pH and nutrient status shall be similar to that of undisturbed native soils of ecosystems that support the appropriate plant species intended for the site.

Soil or landscape management plan, including test results.

**1.2.2** Unless soil is heavily contaminated, retain insitu or stockpile and reuse all topsoil to best advantage on site. Where topsoil is minimal or absent and subsoil is deemed suitable for amendment, stockpile subsoil on site.

Evidence in plans of topsoil stockpile location and management requirements.

**Note:** Wherever possible, stockpiles should be no more than 1.5m high with maximum 1:2 batter and once stockpiling completed, covered with a green cover crop to avoid erosion, desiccation and solarisation.

**1.2.3** Minimise access to site by vehicles to nominated roadways or parking areas, well away from existing trees or intended public realm areas, to minimise compaction. Rip compacted soil once building works are completed. Ensure building wastes, particularly liquid wastes do not contaminate the soil.

Construction management plan, identifying access locations.

**1.2.4** Recycle and reuse all vegetative debris on site (e.g. for topsoil augmentation or composting purposes). If onsite reuse is not feasible, arrangements should be made for green waste to be transported for reuse or disposed of at a fully licensed recycler or reprocessor. There should be no pit burning of green waste on site or disposal to landfill.

Statement from developer and registered landscape architect.

**1.2.5** Amend, mulch and revegetate soils disturbed during construction as well as soils on the remainder of the site where the site has formerly been used for farming, forestry, industrial, commercial or urban land uses. Demonstrate that soils are suitable for intended purposes.

Soil or landscape management plan.

## 1.3 EARTHWORKS

**INTENT:** To reduce the disturbance of construction works on the site's natural topography and nearby waterways.

**REQUIREMENT:** Achieve EACH of the following:

**1.3.1** Conduct thorough site analysis prior to planning and design to identify:

- areas of prime ecological significance;
- areas where clearing and/or major earthworks should specifically not occur;
- potential soil issues (e.g. dispersive soils); and
- the suitability of the site for earthworks and construction.

Site analysis outlining areas which require protection.

The *project* must adequately consider and preserve significant areas based on the advice of this report.

**1.3.2** The *project* is planned, designed and constructed in manner that achieves a balanced earthworks outcome (no spoil or import). Where spoil is generated it shall be disposed of in a location requiring import and not to landfill.

Statement from engineer.

**Note:** *Projects* which require importation of fill for groundwater or other environmental considerations may apply for discretion under this criteria.

**1.3.3** Plan, implement and maintain effective erosion and sediment control measures during construction and operation. As a minimum, these should exceed relevant legislative and regulatory requirements.

Erosion and sediment control plan/soil and water management plan, staging plan and *statement of compliance* from an *appropriately qualified professional*.



Criteria	Required Supporting Documentation
<p><b>1.3.4</b> Ensure appropriate staging of earthworks to ensure bare earthworks are avoided in high-risk areas of the site during dominant rainfall periods, and the area and duration of bare earthworks is minimised during construction.</p> <p><b>1.3.5</b> Design and construct street layout to fit with topography with minimal disruption.  <b>Note:</b> The achievement of this criteria should be balanced with solar orientation and other sustainability considerations including walkability/accessibility outcomes.</p> <p><b>1.3.6</b> Where there is contamination identified on site, employ best practice techniques to remediate contaminants including rehabilitation to meet regulatory requirements and suit future uses.</p>	<p>Statement from engineer.</p> <p>Pre and post civil contour maps.</p> <p>Contamination report and details on remediation actions.</p>

## 1.4 URBAN ECOLOGY

**INTENT:** To ensure there is a comprehensive strategy for the *project* that retains the existing ecological attributes and functions of the site or creates new opportunities for the establishment or restoration of degraded ecosystem values and functions.

**REQUIREMENT:** Achieve EACH of the following:

<p><b>1.4.1</b> Demonstrate that <i>environmental weeds</i> will not be utilised in landscaping works.</p> <p><b>1.4.2</b> Reduce urban heat island effect. This could be through:</p> <ul style="list-style-type: none"> <li>• reduction of hardstand areas;</li> <li>• consideration of roof reflectiveness, material and area;</li> <li>• utilisation of different materials for construction (e.g. open-grid pavement);</li> <li>• incorporation of breezeways and greenways;</li> <li>• provision of shading to roads, footpaths and bicycle paths;</li> <li>• maximising vegetative cover; and/or</li> <li>• green (vegetated) or shaded surfaces.</li> </ul>	<p>Statement from registered landscape architect/horticulturalist.</p> <p>Evidence from environmental science professional, registered landscape architect (or related professional) and plans. <i>Design guidelines</i> should also be included if measures include requirements regarding roof colour.</p>
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**REQUIREMENT:** Achieve at least 15 credits from the following options:

<p><b>1.4.3</b> Develop a climate change risk assessment for the site which considers the following factors which are directly relevant to the <i>project</i> site including:</p> <ul style="list-style-type: none"> <li>• flooding;</li> <li>• sea level rise;</li> <li>• consideration of extreme events;</li> <li>• biodiversity decline; and</li> <li>• bushfire hazards.</li> </ul> <p><b>1.4.4</b> Locate on a <i>brownfield site</i> or site that had been <i>significantly modified</i> from its natural state and had little or limited existing ecological value.  <b>1 credit</b> – ≤75% of the site area has been <i>significantly modified</i>.  <b>2 credits</b> – &gt;75% of the site area has been <i>significantly modified</i>.  <b>3 credits</b> – <i>Brownfield site</i>.</p> <p><b>1.4.5</b> All plant species introduced to the site for landscaping <i>public spaces</i> (excluding those areas designated for turfed recreation areas), or for landscaping private areas prior to sale are <i>locally native</i>. Plant selection should consider flora that provide a diverse range of food resources to fauna. Plant selection that provides resources for limited fauna types/species is to be avoided.  <b>1 credit</b> – 90% of all plant species  <b>2 credits</b> – 100% of all plant species  <b>Note:</b> In relevant climates, species selected specifically to allow solar access are excluded from the 90% or 100% requirement.</p>	<p>Climate change risk assessment report/statement from <i>appropriately qualified professional</i>.</p> <p>Details of use of site prior to new development including pre-development site photos and statement from environmental professional /registered landscape architect/ related professional detailing ecological value of the site prior to development.</p> <p>Landscape palette and statement from ecologist.</p>
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Criteria	Required Supporting Documentation
<p><b>1.4.6</b> Rehabilitate disturbed sites and degraded natural ecosystems, including areas outside the <i>project</i> site boundary.</p> <p><b>1 credit</b> – rehabilitated area was less than the area of public open space provided within the <i>project</i>.</p> <p><b>2 credits</b> – rehabilitated area was equal to the area of public open space provided within the <i>project</i>.</p> <p><b>3 credits</b> – rehabilitated area was greater than the area of public open space provided within the <i>project</i>.</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional).</p> <p>Maintenance plan and schedule and details of arrangements.</p>
<p><b>1.4.7</b> Have bushfire mitigation and management plans which are cognisant of the principles of bushfire ecology and take appropriate management actions in a manner that avoids ecological impacts.</p>	<p>Bushfire management plan.</p>
<p><b>1.4.8</b> Document and implement an appropriate weed and pest management strategy, including site rehabilitation, management of <i>environmental weeds</i> and termite control.</p>	<p>Weed and pest management strategy and evidence of implementation.</p>
<p><b>1.4.9</b> Establish a native plant procurement program to assist with supply issues of local provenance stock for the purposes of landscaping of public open space areas, private land holdings and the local region.</p>	<p>Details of program including establishment timeframes, landscape plan and details of operator.</p>
<p><b>1.4.10</b> Establish and encourage vegetation communities within the <i>project</i>, with the incorporation of <i>threatened species</i> or communities (either local, state or national) within public realm plantings.</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional) and landscape plans including landscape palette.</p>
<p><b>1.4.11</b> Where appropriate and cognisant of the road hierarchy and traffic volumes, identify and use potential habitat trees within streetscape/open space areas which provide foraging opportunities and related biodiversity benefits.</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional) and details of beneficiary species.</p>
<p><b>1.4.12</b> Implement a monitoring and maintenance plan (at least 5 years in duration) to assess fauna, flora and habitat quality and health.</p>	<p>Monitoring plan and details of timeframes and responsibility matrix.</p>
<p><b>1.4.13</b> Ensure ecological corridors are not severed by road networks without provision of appropriate fauna crossings, bridges or tunnels (<b>1 credit</b>). Demonstrate that retained corridors link to offsite protected areas/habitat (<b>2 credits</b>).</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional).</p>
<p><b>1.4.14</b> Demonstrate the consideration of fauna movements across the site and provide for safe fauna movement when adjacent to significant wildlife corridors.</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional) and <i>design guidelines</i> (if relevant).</p>
<p><b>1.4.15</b> Incorporate native bee boxes and/or bird boxes into the <i>project</i>. These should be installed by an <i>appropriately qualified professional</i>.</p>	<p>Details on amount and location. Statement from registered ecologist on how the bees/boxes will improve ecological function.</p>
<p><b>1.4.16</b> Provide appropriate structures and policies to facilitate native fauna habitation (e.g. fauna boxes, hollow trees, relocate felled timber to open space areas).</p>	<p>Evidence from environmental science professional, registered landscape architect (or related professional).</p>
<p><b>1.4.17</b> Adopt measures to manage native fauna through maintenance of habitat and control of non-native predators.</p>	<p>Pest management strategy or similar.</p>
<p><b>1.4.18</b> Have dog and/or cat exclusion zones to allow safe movement of native fauna, particularly in wildlife corridors.</p>	<p>Evidence from environmental science professional (or related professional). <i>Design guidelines/covenants</i>.</p>
<p><b>1.4.19</b> Where the <i>project</i> is located adjacent to a sensitive area such as a national park or nature reserve or conservation area, minimise light pollution during and post-construction to limit ecological light pollution i.e. no direct beam light should be directed beyond the site boundaries or upwards, except where it is falling directly on a surface that it is intended to illuminate (exemptions may be made for illuminated place names).</p>	<p>Lighting plans and statement from environmental science professional, registered landscape architect (or related professional).</p>
<p><b>1.4.20</b> Develop a site specific fauna management plan for the demolition and construction phases of the <i>project</i>.</p>	<p>Fauna management plan.</p>



Criteria	Required Supporting Documentation
<p><b>1.4.21</b> Demonstrate that the <i>project</i> incorporates impact mitigation measures targeting threat-listed species such as Koala (<i>Phascolarctos cinereus</i>). Measures include fauna friendly fencing, establishment of refuge habitat, domestic animal management protocols to protect native fauna and traffic calming devices.</p> <p><b>1.4.22</b> Demonstrate the incorporation of food bearing and/or cultural landscapes within the public realm.</p> <p><b>1.4.23</b> Contribute green space significantly in excess of the local government requirements for green space.</p> <p><b>Credits</b> are to be allocated pro-rata for each 20% in excess of local government requirements and <b>5 credits</b> for 100% in excess of local government requirements. This is capped at a maximum of <b>5 credits</b>. Stringent <i>design guidelines</i> or other protective measures to secure the use of private land for open space and flora and fauna purposes may also be applicable and contribute to the green space calculations for EnviroDevelopment purposes (however, if the longevity of such measures is likely to be less than through other means there may need to be a discount factor used in the calculations).</p> <p><b>Note:</b> Credits can be claimed if evidence is provided of off-site land holdings, however this land holding can only be claimed once and must have nature conservation value.</p>	<p>Detailed measures with supporting information.</p> <p>Statement from registered landscape architect/horticulturalist.</p> <p>When claiming credits under this category, a <i>statement of compliance</i> must be provided regarding the ongoing ownership and maintenance arrangements (in the form of an approved management plan) for this land to provide certainty about the longevity of its maintenance as green space.</p> <p>The ecological function of the green space pre and post development works should be articulated.</p>





## Masterplanned Communities – Waste

To achieve certification in the Waste element, a project must achieve:

- 2.1.1 under Essential Action (2.1);
- **all** of the requirements under Pre-Construction, Civil Works and Construction Phase (2.2); and
- 2.3.1 and **one** credit from 2.3.2-2.3.5 under Post-Construction Phase (2.3).

### INNOVATION

The following criteria details the requirements for certification of the Waste element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 2.1 ESSENTIAL ACTION

**INTENT:** To identify the most suitable opportunities for recycling of resources available to the site.

**REQUIREMENT:** Achieve the following:

**2.1.1** Identify the local recyclers, secondary product manufacturers and material streams available to the site to be used in the pre-construction and construction phase. Provide reasoning for the selection of the appropriate rationale for waste management. Information provided under this criterion will be used, in tandem with criteria-specific statements and documentation, to assess the *project's* performance under 2.2 and 2.3.

**Note:** *Non-metropolitan sites* may apply for special consideration under specific sections within this element where recycling facilities are not nearby.

Map highlighting relevant facilities and clear evidence of amount of materials flowing through to offsite facilities. *statement of compliance* from developer or sustainability consultant providing reasoning for the site-specific waste rationale. Details of off site recycling agreements, including licence/approval details of the facility.

### 2.2 PRE-CONSTRUCTION, CIVIL WORKS AND CONSTRUCTION PHASE

**INTENT:** To ensure there is a clear strategy which supports the waste hierarchy of reduce, reuse and recycle and reduces the quantity of waste going to landfill.

**REQUIREMENT:** Achieve EACH of the following:

**2.2.1** The contractor implements a comprehensive, *project*-specific, waste management plan for the pre-construction, civil works and construction phases of the *project*. At a minimum, the waste management plan should meet state/territory legislation and align with relevant waste targets (where set and applicable) and include the following:

- waste generation;
- waste systems;
- minimisation strategy;
- performance/reduction targets;
- bin quantity and size;
- collection frequency;
- waste contractors; and
- monitoring and reporting including frequency and method.

**2.2.2** Recycle or reuse a minimum of 80% (by volume) of demolition, land clearing and civil works materials/products (including vegetative debris) on site. In the event that demolition, land clearing or civil works materials cannot be recycled on site, full details of the operators to be engaged (including all licences they hold to operate) and materials streams to be recovered as part of the off site activity must be provided.

**Note:**

- Hazardous materials (e.g. asbestos, contaminated soil) are excluded.
- If reuse on site is not feasible, the establishment of partnerships which embrace industrial ecology principles is strongly encouraged.

Site waste management plan endorsed by the developer, with further statements from the engineer as appropriate. The plan must address each of the requirements for the pre-construction and construction phases.

Details of existing materials on site and arrangements and estimates of waste streams and generation.



Criteria	Required Supporting Documentation
<p><b>2.2.3</b> Manage and dispose/treat all hazardous substances, pollutants and contaminants in accordance with all state regulatory requirements. Where these materials are treated or used on site, they must be in accordance with a sanctioned remediation process.</p> <p><b>2.2.4</b> Provide guidance for builders working on site regarding waste practices. At a minimum, the following should be included:</p> <ul style="list-style-type: none"> <li>the use of skip bins rather than cages;</li> <li>maintenance of waste records;</li> <li>use of contractors who transport waste to a licensed recycling centre;</li> <li>select materials and products which minimise and/or recycle packaging; and</li> <li>design dwellings to maximise use of standard sizes of materials wherever possible.</li> </ul> <p>The above requirements are also expected to be mandated in display villages and buildings directly controlled by the developer.</p>	<p>Details of any on site treatment processes for hazardous substances, pollutants, contaminants or acid sulphate soils must be provided and such processes must be supported by approved State Agency requirements and laws.</p> <p><i>Design guidelines</i>, educational information or similar.</p>

## 2.3 POST-CONSTRUCTION PHASE

**INTENT:** To provide recycling opportunities and facilities for end users to reduce waste going to landfill.

**REQUIREMENT:** Achieve the following:

<p><b>2.3.1</b> Where waste infrastructure is required to be installed in <i>public spaces</i>, include separate waste receptacles for general and recyclable waste.</p> <p><b>Note:</b> Board discretion may be given if the local authority prohibits the provision of separate recycling receptacles.</p>	<p>Evidence in plans and <i>statement of compliance</i> from developer and local authority.</p>
<p><b>REQUIREMENT:</b> Achieve at least ONE credit from the following options:</p>	
<p><b>2.3.2</b> Provide on lot and/or on site facilities for a compost facility for use by each dwelling/facility. If individual household/facility compost bins cannot be provided, a communal facility may be provided. Compost facility should be at least one cubic metre in size and can be used to recycle a balanced mix of green material (fruit and vegetable scraps) and brown material (twigs).</p> <p><b>2.3.3</b> Ensure that there are arrangements in place (e.g. contract with appropriate organisation, body corporate procedures or local government service) to provide collection and reuse of garden/green waste.</p> <p><b>2.3.4</b> Establish and/or facilitate during development and occupancy phases, use of a community recycling centre where mulch, rock, fencing, and other construction materials can be crushed and reused to provide landscaping supplies for occupants. Centre should also include bins to recycle food waste, container collection and unused household goods.</p> <p><b>2.3.5</b> Repurpose sales office or display suite by:</p> <ul style="list-style-type: none"> <li>utilising it at another development site; or</li> <li>retaining on site for a permanent use (e.g. community building, cafe etc)</li> </ul>	<p>In the instance that a communal compost facility is provided, evidence in the form of an agreement or contract should be provided detailing how the responsibility and ongoing maintenance of the facility will be managed.</p> <p><i>Statement of compliance</i> from developer and local authority or service provider.</p> <p>Evidence of proposed location and timing for recycling centre.</p> <p><i>Statement of compliance</i> from developer detailing intent.</p>



## Masterplanned Communities – Energy

To achieve certification in the Energy element, a project must achieve:

- **all** of the requirements under Climate Responsive Design (3.1);
- 3.2.1 under Peak Load (3.2);
- **two** credits from 3.3.1-3.3.6 or meet 3.3.7 under Reduction in Greenhouse Gas Emissions (3.3); and
- if the *project* includes any *community facilities*, **all** the requirements under Community Facilities (3.4).

### INNOVATION

The following criteria details the requirements for certification of the Energy element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 3.1 CLIMATE RESPONSIVE DESIGN

**INTENT:** To ensure that the *project* is underpinned by a comprehensive strategy which considers climate responsive design to improve comfort levels for occupants.

**REQUIREMENT:** Achieve EACH of the following:

**3.1.1** At least 70% of lots within the *project* must demonstrate favourable orientation to provide best practice solar access opportunities, as well as ensure that buildings and their associated outdoor spaces are positioned on the lot in a manner that will enhance the solar amenity of the primary living areas, both internal and external.

Provide evidence that lot layouts and building orientations, including the positioning of fenestration/access points, habitable/non-habitable zones and associated outdoor areas (as appropriate) have been/will be designed to encourage ideal solar orientation. This may include a site analysis of local climatic data (average monthly temperatures, humidity, rainfall, wind speed/direction), topography, solar access (including sun paths), overshadowing, glare and privacy.

Also provide evidence that good design intentions are assured through *project* process by the provision of a system of education, advice, control and monitoring, including the use of building envelope plans administered through *design guidelines*.

**3.1.2** The *project* is designed to minimise extremities in temperatures, including negative microclimatic factors.

Statement from planner and engineer with reference to specific examples.

**3.1.3** The design of *public spaces* optimises microclimatic conditions at all times of the year.

Statement from planner and engineer with reference to specific examples.

### 3.2 PEAK LOAD

**INTENT:** To ensure that the *project* has adequately considered and sought to implement mechanisms to reduce peak load.

**REQUIREMENT:** Achieve the following:

**3.2.1** Demonstrate how peak load has been considered at a masterplanning level. This may include but is not limited to peak load management in *community facilities*, requirements in *design guidelines*, load limiting devices, direct load control or other hardwired inventions.

Evidence in electrical plans or *design guidelines* or similar and a *statement of compliance* from engineer or developer.



Criteria	Required Supporting Documentation
<h3>3.3 REDUCTION IN GREENHOUSE GAS EMISSIONS</h3> <p><b>INTENT:</b> To reduce greenhouse gas emissions within the <i>project</i>.</p> <p><b>REQUIREMENT:</b> Achieve at least TWO credits from the following options, or meet 3.3.6.</p> <p><b>Note:</b> <i>Projects</i> located in Victoria are not eligible to receive credit for 3.3.2.</p> <p><b>Note:</b> For projects located in New South Wales, demonstrate a 20% improvement beyond minimum thermal performance within BASIX.</p>	
<p><b>3.3.1 Alternative Energy Sources</b> Mandated use for 75% of dwellings:</p> <ul style="list-style-type: none"> <li>• solar power (or other non-polluting, renewable power source). <b>(1 credit)</b></li> <li>• battery storage <b>(2 credits)</b>.</li> </ul> <p><b>3.3.2 Water Heating and Appliances</b> Mandated use of:</p> <ul style="list-style-type: none"> <li>• gas hot water;</li> <li>• heat pump; or</li> <li>• solar hot water (gas or electric boosted).</li> </ul> <p>And, mandated use of appliances which produce less greenhouse gas emissions. This should include at a minimum:</p> <ul style="list-style-type: none"> <li>• dishwashers with an energy consumption of <math>\leq 245\text{kWh}</math> per annum; and</li> <li>• air conditioning systems with a <i>COP</i> of <math>\geq 3.20</math> and <i>EER</i> of <math>\geq 3.00</math>.</li> </ul> <p><b>3.3.3 NatHERS Rating</b> Mandated design controls within the <i>project</i> to achieve minimum NatHERS rating for each dwelling:</p> <ul style="list-style-type: none"> <li>• 7-8 star <b>(1 credit)</b></li> <li>• 9-10 star <b>(2 credits)</b></li> </ul> <p><b>3.3.4 Reduction Through Design</b> Mandated design controls through <i>design guidelines</i> including at a minimum:</p> <p>For <i>projects</i> located within <i>climatic zones</i> 1-3:</p> <ul style="list-style-type: none"> <li>• light coloured roofs with an absorbance value of less than or equal to 0.6;</li> <li>• design to encourage breezes and circulation around dwellings;</li> <li>• east and west walls have an insulation level of at least R2.0;</li> <li>• shaded or appropriate glazed windows;</li> <li>• use of louvres or ventilation systems to maximise ventilation for prevailing breezes; and</li> <li>• ventilated living spaces.</li> </ul> <p>For <i>projects</i> located within <i>climatic zones</i> 4-8:</p> <ul style="list-style-type: none"> <li>• ventilated living spaces;</li> <li>• minimum <i>National Construction Code</i> compliant levels of insulation; and</li> <li>• thorough use of draught seals.</li> </ul> <p><b>3.3.5 Demand/Behavioural Management</b> This may include:</p> <ul style="list-style-type: none"> <li>• technology including sensors, timers etc.;</li> <li>• education using community-based social marketing and use of normative messaging, end user manual, community workshop; and/or</li> <li>• use of load monitoring devices to provide feedback (e.g. energy monitors).</li> </ul> <p><b>3.3.6 Street Lighting</b> Where street lighting is installed in the <i>project</i>, install:</p> <ul style="list-style-type: none"> <li>• smart street lighting with motion sensor dimming technology; and/or</li> <li>• light coloured road surface to maximise luminance.</li> </ul>	<p>Statement from engineer showing capacity and supporting guidance within <i>design guidelines</i> regarding optimal positioning for performance.</p> <p><i>Statement of compliance</i> from developer and <i>design guidelines</i> which include placement guidelines.</p> <p>Appliance palette including product manufacturer, number and energy star rating and/or <i>COP</i> and <i>EER</i>.</p> <p><i>Design guidelines</i> and supporting evidence of energy efficiency using BERS, Accurate or FirstRate5 using second generation software systems' thermal calculation method.</p> <p><i>Statement of compliance</i> from developer and <i>design guidelines</i>.</p> <p>Evidence in <i>design guidelines</i> or electrical plans with <i>statement of compliance</i> from engineer or developer. Evidence of end user manual and proposed structure of end user education program.</p> <p>Evidence in electrical plans with <i>statement of compliance</i> from engineer or developer.</p>



Criteria	Required Supporting Documentation
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#### ALTERNATIVE COMPLIANCE

##### 3.3.7 Reduction through Other Means

Reduce greenhouse gas emissions within the *project* by at least 20% more than required under relevant Federal and State government regulatory means.

Statement from engineer showing the energy requirements of the *project* and the energy savings compared to regulatory requirements (i.e. energy balance calculations/modelling). Mechanisms to achieve reductions to be specified.

### 3.4 COMMUNITY FACILITIES

**INTENT:** To reduce energy usage in *community facilities*.

**REQUIREMENT:** Where the *project* includes *community facilities*, achieve EACH of the following:

**3.4.1** Where swimming pools are installed in the *project*, demonstrate consideration of pump systems that are energy efficient and environmentally friendly. This includes but is not limited to:

- variable speed control;
- variable-frequency drives; or
- variable-speed pumps.

Statement from developer.

**3.4.2** In *community facilities* utilise (where relevant):

- energy efficient lighting (e.g. LED or Compact Fluorescent Lamp); and
- dishwashers with an energy consumption of  $\leq 245\text{kWh}$  per annum;

OR

- provision of solar power (or other non-polluting, renewable power source).

Statement from engineer and relevant plans.



## Masterplanned Communities – Materials

To achieve certification in the Materials element, a project must achieve:

- the requirements under Environmentally Responsible Materials (4.1) according to the correct applicant description; and
- the requirements under Emissions (4.2) according to the correct applicant description.

### INNOVATION

The following criteria details the requirements for certification of the Materials element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 4.1 ENVIRONMENTALLY RESPONSIBLE MATERIALS

**INTENT:** To promote the use of environmentally responsible materials in the *project*.

**REQUIREMENT:** Land-Only Developers:

- Meet the requirements of THREE of the 'Civil Works' options (4.1.1-4.1.4) across the entire *project*, or meet 4.1.9; and
- Meet the requirements under 'Structure', 'Envelope/Linings' and ONE other under 'Built Form' options (4.1.5-4.1.8) in any buildings which are directly contracted by the developer within the *project* (e.g. community buildings/facilities, sales offices etc.), or meet 4.1.9

**Note:** If no buildings are to be directly contracted by the developer, built form requirements do not apply.

**REQUIREMENT:** Land and Built Form Developers:

- Meet the requirements of THREE of the 'Civil Works' options (4.1.1-4.1.4) across the entire *project*, or meet 4.1.9; and
- Meet the requirements under 'Structure', 'Envelope/Linings' and ONE other under 'Built Form' options (4.1.5-4.1.8) in all dwellings, or meet 4.1.9.

**REQUIREMENT:** Land and Some Built Form Developers:

- Meet the requirements of THREE of the 'Civil Works' options (4.1.1-4.1.4) across the entire *project*, or meet 4.1.9; and
- Meet the requirements under 'Structure', 'Envelope/Linings' and ONE other under 'Built Form' options (4.1.5-4.1.8) in all dwellings completed by the developer within the *project*, or meet 4.1.9.

### CIVIL WORKS

#### 4.1.1 Roads

95% of constructed roads use one or more of the following materials:

- concrete with  $\geq 30\%$  supplementary cement materials or  $\geq 30\%$  of recycled aggregate;
- asphalt which contains at least 10% reclaimed asphalt pavement (*RAP*) content (or the maximum allowable *RAP* content for the application);
- warm mix asphalt replacing 40% by weight of hot mix asphalt; and/or
- recycled materials used for road base or sub-base.

Statement from supplier and supporting technical information.

#### 4.1.2 Services

Services use one or more of the following materials:

- 25% of the total cost of PVC content is reduced through replacement with alternative materials;
- PVC content is sourced from an ISO 14001 certified supplier;
- concrete pipes with  $\geq 30\%$  supplementary cement materials or  $\geq 30\%$  of recycled aggregate; and/or
- recycled plastic piping.

Statement from quantity surveyor and/or supplier and supporting technical information.



Criteria	Required Supporting Documentation
<p><b>4.1.3 Hard Landscaping</b></p> <p>Hard landscape materials use one or more of the following materials:</p> <ul style="list-style-type: none"> <li>(a) reused or salvaged materials;</li> <li>(b) materials which have a recycled content (e.g. park furniture made from recycled plastic); and/or</li> <li>(c) concrete with <math>\geq 30\%</math> supplementary cement materials or <math>\geq 30\%</math> of recycled aggregate.</li> </ul> <p><b>4.1.4 Soft Landscaping</b></p> <p>Throughout the <i>project</i>:</p> <ul style="list-style-type: none"> <li>(a) any vegetative debris from the site is mulched and reused; and</li> <li>(b) any non-contaminated topsoil is stockpiled and reused within the site.</li> </ul>	<p>Statement from supplier and supporting technical information.</p> <p>Statement from landscape architect, including details of quantities, uses and attributes.</p>

## BUILT FORM

<p><b>4.1.5 Structure</b></p> <p>The structure of the built form (both above and below ground) uses one or more of the following materials:</p> <ul style="list-style-type: none"> <li>(a) Concrete with <math>\geq 30\%</math> supplementary cementitious materials or <math>\geq 30\%</math> of recycled aggregate or an Environmental Product Declaration complying with EN15804;  <b>Note:</b> Where structural integrity is an issue, the percentage should reflect the highest allowable replacement to be incorporated.</li> <li>(b) steel with a recycled content <math>\geq 15\%</math> or an Environmental Product Declaration complying with EN15804;</li> <li>(c) pre-cast panels with <math>\geq 15\%</math> supplementary cement materials;</li> <li>(d) structural timber which is certified to a PEFC (Programme for Endorsement of Forest Certification) standard such as <i>AFS</i> (Australian Forestry Standard) or <i>FSC</i> (Forest Stewardship Council) standard; and/or covered by an Environmental Product Declaration complying with EN15804;</li> <li>(e) bricks containing a recycled content of at least 25%; or an Environmental Product Declaration complying with EN15804; and/or</li> <li>(f) reused materials (post-consumer) are utilised for <math>\geq 30\%</math> of the structure.</li> </ul> <p><b>4.1.6 Envelope/Linings</b></p> <p>The building envelope uses one or more of the following materials:</p> <ul style="list-style-type: none"> <li>(a) timber window frames which are PEFC (e.g. <i>AFS</i>) or <i>FSC</i> accredited;</li> <li>(b) aluminium windows which contain <math>\geq 20\%</math> recycled aluminium or glass by mass;</li> <li>(c) joinery uses PEFC (e.g. <i>AFS</i>) or <i>FSC</i> certified timber or wood product;</li> <li>(d) plasterboard consists of recycled paper.</li> </ul> <p><b>4.1.7 Services</b></p> <p>Building services achieve one of the following:</p> <ul style="list-style-type: none"> <li>(a) 25% of the total cost of PVC content is reduced through replacement with alternative materials;</li> <li>(b) PVC content is sourced from an ISO 14001 certified supplier; and/or</li> <li>(c) alternative products are used in preference to sheet metal.</li> </ul>	<p>Statement from supplier and supporting technical information.</p> <p>Statement from quantity surveyor and/or supplier and supporting technical information.</p>
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Criteria	Required Supporting Documentation
<p><b>4.1.8 Furniture, Fixtures, Equipment &amp; Finishes</b></p> <p>Furniture, fixtures, equipment and finishes uses at least one of the following:</p> <ul style="list-style-type: none"> <li>(a) underlay consists of 95% recycled product;</li> <li>(b) minimum 50% of the carpet has a rating of level 2 or greater under the Australian Carpet Classification Scheme Environmental Classification Scheme;</li> <li>(c) joinery uses PEFC (e.g. AFS) or FSC certified timber or wood product; and/or</li> <li>(d) materials which have a recycled content of <math>\geq 60\%</math>.</li> </ul>	<p>Statement from supplier and supporting technical information.</p>
<b>ALTERNATIVE COMPLIANCE</b>	
<p><b>4.1.9</b> Use lifecycle assessment (LCA) to quantify the environmental performance of materials selected for the <i>project</i>. At a minimum, the LCA(s) should be in accordance with:</p> <ul style="list-style-type: none"> <li>• EN 15978 and demonstrate a combined 20% weighted improvement against standard practice in environmental performance using weightings that comply with the <i>Building Products Innovation Council's</i> lifecycle Inventory Data Protocol; or</li> <li>• ISO 14044 and EN15978 and demonstrate a 20% improvement in environmental performance in Global Warming Potential and three other environmental impact categories against standard practice, expressed in impacts per functional unit. As required by the standards, the functional unit should reflect the core purpose of the development (kgCO<sub>2</sub>e/occupant/year).</li> </ul> <p><b>Alternatively, a lifecycle assessment in accordance with the above conditions can be provided in lieu of any of the options outlined under 4.1.1 - 4.1.8.</b></p>	<p>Lifecycle assessment of relevant products and details of quantities and uses within the <i>project</i>.</p>



Criteria	Required Supporting Documentation
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## 4.2 EMISSIONS

**INTENT:** To increase the use of finishes and products which minimise the levels of VOC (Volatile Organic Compounds) emissions in buildings.

### Land-Only Developers:

- Meet the requirements in any buildings which are directly contracted by the developer within the *project* (e.g. community buildings/facilities, sales offices etc.).
- Provide explicit wording and guidance in *design guidelines* regarding the use of *low emission paints*, sealants and adhesives and the related health benefits.

### Land and Built Form Developers:

- Meet the requirements across the entire *project*, including all dwellings.

### Land and Some Built Form Developers:

- Meet the requirements in all dwellings completed by the developer within the *project*.
- Provide explicit wording and guidance in *design guidelines* regarding the use of *low emission paints*, sealants and adhesives and the related health benefits.

**REQUIREMENT:** Achieve at least TWO credits from the following options:

**4.2.1** Use *low emission paints* on >95% (**1 credit**) or 100% (**2 credits**) of internal and external painted surfaces.

Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met. Details including product name, number and data sheet should also be provided.

**4.2.2** Use *low emission sealants* on >95% (**1 credit**) or 100% (**2 credits**) of internal and external painted surfaces.

Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met. Details including product name, number and data sheet should also be provided.

**4.2.3** Use *low emission adhesives* on >95% (**1 credit**) or 100% (**2 credits**) of internal and external painted surfaces.

Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met. Details including product name, number and data sheet should also be provided.

**4.2.4** Use *low emission floor coverings* on >95% (**1 credit**) or 100% (**2 credits**) of internal and external painted surfaces.

Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met. Details including product name, number and data sheet should also be provided.

**4.2.5** All composite and engineered wood products (including exposed and concealed applications) comply with the following formaldehyde emissions levels (or equivalent):

- panels with Particleboard base: E1 or better;
- panels with MDF base: E0 or better; or
- other engineered wood products (LVL, Glulam, CLT, plywood etc): better than E0.

Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met. Details including product name, number and data sheet should also be provided.



## Masterplanned Communities – Water

To achieve certification in the Water element, a project must achieve:

- **two** credits from 5.1.1-5.1.5 or meet 5.1.6 under Reduction in Potable Water Demand (5.1);
- **all** of the requirements under Irrigation Requirements (5.2); and
- if the *project* includes any *community facilities*, **all** the requirements under Community Facilities (5.3).

### INNOVATION

The following criteria details the requirements for certification of the Water element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 5.1 REDUCTION IN POTABLE WATER DEMAND

**INTENT:** To reduce household *potable water* consumption.

**REQUIREMENT:** Achieve at least TWO credits from the following options, or meet 5.1.6:

<b>5.1.1</b> <i>Project</i> is connected to a non- <i>potable water</i> supply which is plumbed to dwellings for outdoor and toilet use at a minimum.	Statement from engineer and relevant plans.
<b>5.1.2</b> <i>Project</i> mandates through <i>design guidelines</i> , covenants or encumbrances rainwater tanks on lots over 300m <sup>2</sup> which are plumbed to dwellings for outdoor and laundry use at a minimum.	<i>Design guidelines</i> and details of building design review processes.
<b>5.1.3</b> <i>Project</i> includes a central storage facility which captures either stormwater or rainwater for reuse within dwellings. At a minimum, recycled rainwater or stormwater should be plumbed to dwellings for outdoor and toilet use. <b>Note:</b> <i>Projects</i> located within Victoria, must achieve performance criteria listed under Appendix 1.1.	Statement from engineer and relevant plans.
<b>5.1.4</b> <i>Project</i> mandates through <i>design guidelines</i> or similar water efficient fixtures. At a minimum mandated fixtures must include: <ul style="list-style-type: none"> <li>• showerheads that use &lt;7.5 litres per minute;</li> <li>• taps to bathrooms, kitchen and laundry that use &lt;6 litres per minute;</li> <li>• a dishwasher with a water consumption of ≤14 litres per use; and</li> <li>• a washing machine with a water consumption of ≤110 litres per use.</li> </ul>	<i>Design guidelines</i> and details of building design review processes.
<b>5.1.5</b> <i>Project</i> provides dedicated water efficient landscaping packages for private open space/outdoor areas. Water efficient landscaping packages must include the provision of at least 70% drought tolerant species.	Landscape palette and statement from landscape architect.

### ALTERNATIVE COMPLIANCE

<b>5.1.6</b> Reduce <i>potable water</i> usage within the <i>project</i> (excluding common area irrigation requirements captured in 5.2.1) by at least 20% more than required under relevant Federal and State government regulatory means.	<i>Design guidelines</i> and worked calculations showing how initiatives will achieve at least 20% reduced <i>potable water</i> usage compared to regulatory compliance.
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## Criteria

## Required Supporting Documentation

## 5.2 IRRIGATION REQUIREMENTS

**INTENT:** To reduce the use of *potable water* for irrigation purposes in the public realm.

**REQUIREMENT:** Achieve EACH of the following:

**5.2.1** Use drought tolerant species which have no irrigation requirements for the public realm.

Where irrigation is required either for watering beyond the establishment period, water should be supplemented from a non-potable source including through:

- stormwater harvesting (e.g. broad scale collection of stormwater runoff for use in irrigation);
- plumbing of recycled water reticulation (such as dual reticulation facilitating the reuse of treated effluent water);
- greywater reuse (e.g. plumbing to facilitate reuse of greywater on lot);
- rainwater harvesting (e.g. collection of rainwater in tanks from roof runoff); and/or
- use of underground water sources.

**Note:** the following exemptions may apply:

- *potable water* used during the establishment phase (maximum establishment phase is considered three years for trees, two years for shrubs and one year for herbaceous cover);
- *potable water* used to irrigate non-commercial food production gardens; and
- *potable water* used for playing/sports fields.

**5.2.2** Demonstrate that irrigation will be delivered via the most efficient system for that situation. Water should be directly applied to the vegetation to limit evaporation, runoff or wastage.

**5.2.3** Where sandy or clay soils are present in the public realm, soil is ameliorated to increase the effectiveness and efficiency of irrigation.

**5.2.4** Mulch (at a minimum depth of 75mm) is applied to planted areas and maintained.

Landscape palette and statement from landscape architect.

Certification by engineer or local government engineer or development assessment officer or other *appropriately qualified professional* (e.g. through water balance calculations and hydrological modelling and a statement) that sufficient non-*potable water* will be available and that the civil works will be constructed in such a way as to facilitate its harvest and use. (Such infrastructure should be constructed as part of the civil works.)

If using an underground water source, certification of bore licence and capacity should be provided. Must also show proof of recharge (by hydrogeologist) and water balance calculations to show that there will be no net drain to aquifer. Where irrigation is sourced from a recycled water or grey water supply, a soil management plan must be provided.

Irrigation plan or statement from landscape architect regarding irrigation methods.

Statement from registered landscape architect.

Statement from registered landscape architect.

## 5.3 COMMUNITY FACILITIES

**INTENT:** To reduce *potable water* usage in *community facilities*.

**REQUIREMENT:** Where the *project* includes *community facilities*, achieve EACH of the following:

**5.3.1** Where an outdoor swimming pool is included within the *project*, a pool blanket is included.

Statement from developer.

**5.3.2** Where a swimming pool is included within the *project*, ensure there is a backwash minimisation system in place (e.g. cartridge filter, filter utilising cyclone technology, oversized sand filter, centrifugal/pre-filter device, backwash recycling system or similar).

Statement from developer.

**5.3.3** In *community facilities* utilise (where relevant):

- waterless urinals;
- taps with water usage of  $\leq 6$  litres per minute; and
- dishwashers with a water consumption of  $\leq 14$  litres per use.

OR

- connect to a non-*potable water* source for indoor non-drinking water uses.

Statement from engineer and relevant plans.

**5.3.4** In *community facilities* ensure there is easy access to a *potable water* source (e.g. water bubbler or water tap).

Statement of compliance from developer evidence on plans.



## Masterplanned Communities – Community

To achieve certification in the Community element, a project must achieve:

- **all** of the requirements under Essential Actions (6.1); and
- the requirements of **six** of the following sections:
  - Ongoing Community Engagement, Governance and Activation (6.2)
  - Sustainability Initiatives (6.3)
  - Efficient and Accessible Transport (6.4)
  - Engaging and Inclusive Public Realm (6.5)
  - Community Prosperity (6.6)
  - Food Sensitive Design (6.7)
  - Connected Communities (6.8)
  - Internet (6.9)
  - Safe and Accessible Living (6.10)
  - Healthy and Active Communities (6.11)

### INNOVATION

The following criteria details the requirements for certification of the Community element. However, EnviroDevelopment recognises that a *project* may include innovative sustainability measures which achieve an equivalent or greater sustainability benefit to a specific requirement. Innovation credits are awarded at the discretion of the National EnviroDevelopment Board of Management. Any claims for innovation credits must be accompanied by an outline of the measure and relevant supporting documentation to verify the sustainability benefit.

#### Criteria

#### Required Supporting Documentation

### 6.1 ESSENTIAL ACTIONS

**REQUIREMENT:** Achieve EACH of the following:

**6.1.1** Demonstrate that the *project* is driven by a clear vision, with defined environmental, economic, social sustainability and liveability goals including measurable performance targets.

Evidence of *project* vision and goals with corresponding measurable performance targets.

**6.1.2** Demonstrate efforts to proactively engage with members of the existing community prior to application lodgement who may have an interest in the *project* through the preparation of a community engagement plan which outlines a schedule of engagement activities.

Consultation/stakeholder engagement strategy.

**6.1.3** Document evidence that comprehensive community feedback has been actively sought and considered, and incorporated where feasible and appropriate.

Concise report outlining methods and results of research on local community needs and wishes and how they have been considered in the *project*. Report should also include a schedule of submissions.

**6.1.4** Consider and appropriately conserve and/or recognise and respect indigenous and post-European cultural heritage. Cultural heritage investigations should be conducted in accordance with the minimum standards outlined in the Burra Charter (1999) using the services of *appropriately qualified professionals*.

Evidence of recognition and protection or considerate reuse of cultural heritage sites or structures (and artefacts) if applicable and in keeping with advice from traditional owners, long-term locals or historical advisors.

This could include:

- evidence of voluntary liaison with traditional owner, if such a group can be identified, and the consideration of Indigenous cultural values in the processes, design and construction of the *project*; and
- evidence of consideration of significant post European cultural heritage, such as retaining significant trees, fences, old machinery and structures of significance, interpretive signage, research of site history and publication, promotion and incorporation in the design and naming of elements.

**6.1.5** Demonstrate how the *project* has been designed to encourage a safe environment, reduce crime and encourage positive interaction between residents/employees and other local people using the area, according to Crime Prevention Through Environmental Design (CPTED).

Evidence in plans, and statement from planner.



## Criteria

## Required Supporting Documentation

## 6.2 ONGOING COMMUNITY ENGAGEMENT, GOVERNANCE AND ACTIVATION

**INTENT:** To ensure the *project* adequately plans and delivers a structure and framework which supports ongoing community cohesion and resilience as a socially sustainable community.

**REQUIREMENT:** Achieve the following:

**6.2.1** Establish a structure or framework for ongoing community involvement and establish ongoing partnerships with the broader community. The framework should include some of the activities listed in 6.2.2-6.2.7 and commence within one year of the occupation of the first dwelling and continue through until the last stage. The framework should also include a plan to encourage the establishment of a self-sufficient community group by *project* completion.

Evidence of structure and framework including a list of measurables and delivery timeframes.

**6.2.2** Establish a strategy to ensure ongoing engagement with the community around delivery impacts. At a minimum this should include information regarding dust and noise, working hours and additional traffic.

Details of strategy with implementation timeline.

**REQUIREMENT:** Achieve at least FOUR credits from the following options, or identify other actions appropriate to the local context:

**6.2.3** Facilitate community grants programs.

Details of programs including financial investment and timeframes.

**6.2.4** Sponsor, facilitate and/or provide local community groups/events. May be within the *project* or supporting the surrounding community.

Details including schedule, purpose and nature of the sponsorship.

**6.2.5** Involve inclusive employment practices by involving the following in construction activities:

- local trainees;
- mature aged apprentices; or
- people with disabilities.

Details including arrangements and planned activities and timeframes.

**6.2.6** Engage with local environmental groups/catchment organisations for ongoing community-based environmental restoration and maintenance activities.

Details including arrangements and planned activities and timeframes.

**6.2.7** Provide or support an existing resource (e.g. *Community Development Officer* or program) to facilitate and support community development.

Details including responsibilities, level of commitment and hours of commitment.

**6.2.8** Demonstrate the strategies and actions which are creating and facilitating a connected community.

Details including timeframes and structure.

## 6.3 SUSTAINABILITY INCENTIVES

**INTENT:** To encourage land owners to comply with sustainability initiatives set out in *design guidelines*.

**REQUIREMENT:** Achieve the following:

**6.3.1** Provide incentives for owners and occupiers to implement sustainability initiatives. May include financial or product incentives upon receipt of evidence of implementation.

Evidence and details of incentives program.



Criteria	Required Supporting Documentation
<b>6.4 EFFICIENT AND ACCESSIBLE TRANSPORT</b> <b>INTENT:</b> To reduce reliance on private cars as the primary mode of transport. <b>REQUIREMENT:</b> Achieve the following:	
<b>6.4.1</b> Demonstrate encouragement of active transport options amongst the community.	Details of programs including timeframes.
<b>REQUIREMENT:</b> Achieve at least TWO credits from the following options:	
<b>6.4.2 Alternative Transport Parking</b> Provide alternative transport (etc) parking at all <i>community facilities</i> and retail/commercial businesses within the <i>project</i> at a rate of one space per 500sqm of GFA. Place parking in public view and easily accessible from the road.  Where an activity centre or similar is located within the <i>project</i> , end of trip facilities must be provided using the Queensland Transport's End-of-Trip Facilities for Bicycle Riders Guide (or similar) as a guide.	Evidence in plans, and statement from masterplanner and developer stating how the requirements have been met.
<b>6.4.3 Pathways</b> Provide connecting, safe, attractive and well-lit pathways running wholly in <i>public spaces</i> (including streets and open spaces), directly connecting residential and commercial areas to local facilities and providing links between areas. Paths should have some areas of adjacent shade, shelter, seating and water fountains and connect with paths in neighbouring areas. Way-finding signage should also be provided for other destinations and focal points.	Evidence in plans, and statement from landscape architect, developer and engineer stating how the requirements have been met.
<b>6.4.4 Active Transport Linkages</b> Provide shared pathways for both walking and cycling. The width of the pathway should be a minimum of 3m and designed appropriately for the anticipated level of pedestrian and bicycle use, and the likely speed of cyclists and the required clearances.  OR Provide pathways on both sides of all roads within the <i>project</i> .	Evidence in plans and/or statement on how the requirements have been met.
<b>6.4.5 Public Transport</b> Demonstrate access to public transport, such that 75% of dwellings are within: <ul style="list-style-type: none"> <li>• 400m walking distance of a bus stop;</li> <li>• 800m walking distance from a railway station or <i>Line haul station</i>; and/or</li> <li>• 1,200m walking distance from a <i>Line haul station</i> located within a town centre.</li> </ul> The stop/station must be serviced by at least ten services per weekday (by the time the buildings within the <i>project</i> are 50% occupied) to local facilities or other service centres or connecting transport systems. Legible direction signage to public transport stops is provided at key locations.	Evidence of existing transport location/s and frequency of service. If public transport stop is proposed, details of proposal to local government and negotiations to date should be provided.  Evidence including arrangements and frequency.  Evidence including distribution and eligibility.
<b>6.4.6 Community Transport</b> Provide a community transport network such as car share, car pool or community minibus to facilities.	Evidence including the location, arrangements and provider of scheme.
<b>6.4.7 Efficient Vehicles</b> Provide parking for low-emitting, zero emitting, fully electric and fuel-efficient vehicles at all <i>community facilities</i> and retail/commercial businesses within the <i>project</i> for 5% of the total vehicle parking capacity of each site.	Evidence including the location and number of parks.



## Criteria

## Required Supporting Documentation

## 6.5 ENGAGING AND INCLUSIVE PUBLIC REALM

**INTENT:** To ensure the delivery of high quality public realm which provides an attractive, inclusive, non-discriminatory and safe environment for the community to meet, engage and recreate.

**REQUIREMENT:** Achieve at least SIX credits from the following options:

**6.5.1** Demonstrate a hierarchy of functions within the public realm.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.2** The public realm is designed to allow multiple uses for community members, including children, the elderly and disabled people with regard taken to safety, comfort and security. Provide appropriate seating, shading, accessible toilets and water bubblers.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.3** The design of the public realm takes account of the role it plays in terms of inclusiveness and connectivity within and external to the *project*.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.4** The design plans indicate how space for quality social interaction has been considered in the design of streets and open areas and choice of material throughout the *project* and its surroundings.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.5** Benches and other seating areas are located in places with consideration of the sun, shade, wind and rain.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.6** Provide play space equipment and outdoor furniture that is 'built-to-last' with lifetime guarantees.

*Statement of compliance* from registered landscape architect and product life-time warranties.

**6.5.7** Create locally distinct places which connect people through place and strongly reflect the local identity of the area through the design of social spaces.

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.8** Demonstrate the flexibility of the public realm for multiple other uses (e.g. water sensitive urban design, conservation, business enterprises, healthy active living, etc).

*Statement of compliance* from registered landscape architect, registered urban designer and/or planner with reference to plans.

**6.5.9** Provide an attractive, safe and walkable street environment by planting or retaining street trees at 12-25 metre intervals, or demonstrate intervals appropriate to the chosen tree species and region to ensure maximum shade for pedestrians.

Evidence in landscape plans and statement from registered landscape architect.



Criteria	Required Supporting Documentation
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## 6.6 COMMUNITY PROSPERITY

**INTENT:** To ensure that the *project* makes a contribution to the local economy in which it sits, having regard to enhancing the number and range of employment opportunities.

**REQUIREMENT:** Achieve the following:

**6.6.1** Develop a community economic/employment strategy with measurable outcomes which identifies:

- economic goals and priorities for the community;
- employment targets and the job balance ratio;
- activities to be provided within the *project* (e.g. retail, industrial, commercial or community based);
- socio-economic profile of the host local government area (based on at least the last two census);

**Note:** where there have been local government amalgamations, define using a similar area.

- how the *project* will contribute to the host local government area's socio-economic profile; and
- net percentage increase in the number of jobs in the local area where the *project* replaces productive uses (e.g. redevelopment of an industrial area).

*Statement of compliance* from developer and evidence of community economic/employment strategy and implementation plan.

**REQUIREMENT:** Achieve at least ONE credit from the following options:

**6.6.2** Provide significant diversity of housing types including a mix of dwelling sizes (e.g. number of bedrooms) and/or densities of housing.

Evidence in plans and statement from developer including lot mix, and densities.

**6.6.3** Provide at least 10% of houses, blocks of land or house and land packages are *affordable* and are interspersed with other housing, not in a group together or isolated from other housing.

Market analysis and house, land and/or house and land package prices.

**6.6.4** Provide *key worker* accommodation for the majority of the development site.

*Statement of compliance* from developer and details around 'key worker'.

## 6.7 FOOD SENSITIVE DESIGN

**INTENT:** To provide opportunities for the local community to participate in producing or purchasing local food.

**REQUIREMENT:** Achieve the following:

**6.7.1** Demonstrate a strategy for the delivery of permanent and viable growing spaces and/or related facilities which includes:

- an engagement strategy for partnerships;
- distribution methodology;
- infrastructure provision; and
- maintenance and ownership arrangements.

**Note:** Credit is also given where a *project* is contributing (either financial or human resources) towards the establishment or ongoing maintenance of an appropriate facility outside the *project* boundary.

Statement from developer and registered landscape architect.



## Criteria

## Required Supporting Documentation

## 6.8 CONNECTED COMMUNITIES

**INTENT:** To provide serviced communities with facilities to meet their needs and reduce the number of private car trips required.

**REQUIREMENT:** Locate near (such that 75% of residences are within 30 minutes by public transport) a major employment cluster, corridor, area or centre;

Locate near (such that 75% of residences/workplaces are within 1km by foot) or provide within two years of the first residential occupancy at least EIGHT of the following local services.

**Note:**

- (i) Local services should be co-located near public transport stops and pathways.
- (ii) Where the *project* claims local services which have fixed capacities (e.g. childcare, schools etc.) the *project* should engage with providers to ascertain capacity constraints and whether the local services are adequately equipped to cater for future growth.

<b>6.8.1</b> Newsagent	Evidence in plans, including walking distances.
<b>6.8.2</b> Grocery/corner store	
<b>6.8.3</b> Primary school	
<b>6.8.4</b> Secondary school	
<b>6.8.5</b> University	
<b>6.8.6</b> Kindergarten, preschool, or childcare	
<b>6.8.7</b> Medical practice	
<b>6.8.8</b> Chemist	
<b>6.8.9</b> Specialty stores	
<b>6.8.10</b> Cafes and/or restaurants	
<b>6.8.11</b> Community centre	
<b>6.8.12</b> Dog park	
<b>6.8.13</b> Public transport hub	
<b>6.8.14</b> Emergency services (including rural fire brigade, ambulance, police)	
<b>6.8.15</b> Community accessible facilities/spaces (e.g. rooms, public areas, education centres)	
<b>6.8.16</b> Public toilets	
<b>6.8.17</b> Farmer's markets	
<b>6.8.18</b> Community gardens	

## 6.9 INTERNET

**INTENT:** Future-proofing residential developments by providing high speed internet infrastructure.

**REQUIREMENT:** Achieve at least TWO credits from the following options:

<b>6.9.1</b> Provide fibre optic internet infrastructure to all residential dwellings.	<i>Statement of compliance</i> from developer and detailed roll-out plan.
<b>6.9.2</b> Provide signal boosting infrastructure where 4G/5G signal is low.	<i>Statement of compliance</i> from developer and details around infrastructure installation.
<b>6.9.3</b> Provide WiFi opportunities in at least one public space(s) that people gather in the <i>project</i> .	<i>Statement of compliance</i> from developer and plans of WiFi locations.



Criteria	Required Supporting Documentation
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## 6.10 SAFE AND ACCESSIBLE LIVING

**INTENT:** To provide facilities and housing which are appropriate and accessible for a *variety* of people.

**REQUIREMENT:** Achieve the following:

**6.10.1** Achieve in at least 50% of dwellings 'Silver' performance levels under the Livable Housing Australia's 'Livable Housing *design guidelines*'.

Evidence in *design guidelines*.

## 6.11 HEALTHY AND ACTIVE COMMUNITIES

**INTENT:** To design and deliver communities which promote community-based physical activity and support healthy lifestyle behaviours.

**REQUIREMENT:** Achieve at least TWO credits from the following options:

**6.11.1** Ensure all dwellings have access to neighbourhood parks within 400m (or a five minute walk) for a pocket park, and up to 800m (or a ten minute walk) for playing fields.

Evidence in plans and statement from planner.

**6.11.2** Provide a number of parks throughout the neighbourhood(s), catering for a range of uses and people of varying ages and abilities.

Open space strategy and statement from planner.

**6.11.3** Provide active travel links that are attractive, safe, direct and convenient to ensure permeability, creating better accessibility towards a destination.

Evidence in plans and statement from planner.

**6.11.4** Provide supporting infrastructure in desirable locations of the *project* with shade including resting areas, entertainment space, information boards, toilets and water bubblers.

Evidence in plans and statement from planner.

**6.11.5** Demonstrate that roads offer multiple use functions, providing opportunities for roads to act as a legitimate public domain. This could include but is not limited to providing on-road bicycle paths where possible or lowering speed limits on local streets.

Evidence in plans and statement from planner.

# SOLVING PROBLEMS THAT MATTER

- | Planning
- | Urban design
- | Landscape architecture
- | Environmental services
- | Heritage
- | Community engagement
- | Project management



# glossary

*Affordable* in the context of residential property means:

- (a) the average weekly rent payable by occupiers for a residence in the local region is equal to or less than 30% of the median household income for the local region; and
- (b) the average weekly home loan repayment payable by owner occupiers for a residence in the local region is equal to or less than 30% of the median household income for the local region where weekly mortgage repayments are calculated on the basis that the initial loan was for an amount equal to 90% of the purchase price for a term of 30 years and the interest rate is equivalent to the standard variable home loan rate charged by the *project* developer's financial institution.

*AFFL* means above finished floor level.

*AFS* means Australian Forestry Standard.

*Appropriately qualified professional* means a person or persons with tertiary qualifications or equivalent in the relevant area to the satisfaction of the EnviroDevelopment Board of Management.

*ARI* means average recurrence interval; the average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.

*Brownfield site* means land within an urban area, which at the time of purchase, a minimum of 50% of the site had been previously built on.

*Building Code of Australia* means Volumes One and Two of the *National Construction Code*, being the set of technical provisions for the design and construction of buildings and other structures, produced and maintained by the Australian Building Codes Board (ABCB) on behalf of the Australian Government and State and Territory Governments.

*Building Products Innovation Council* means the national body representing Australia's building product associations and developer of the Building Products Life Cycle Inventory.

*Building Products lifecycle Inventory Data Protocol* means the method and database developed by the *Building Products Innovation Council* for life cycle assessment of building products.

*Climatic zones* means those defined as per the *Building Code of Australia*.

*Communal uses* means facilities and spaces within a *project* that are designed and constructed for communal use by owners, occupiers, residents and employees (as applicable).

*Community Development Officer* means a person engaged to oversee a range of practices to service members of the community and increase liveability and social interaction.

*Community facilities* includes community halls, community centres, recreational clubs, parkland and other facilities designed and constructed for communal use by owners, occupiers, residents and employees (as applicable).

*COP* means coefficient of performance of air conditioning systems.

*CPTED* means the Crime Prevention Through Environmental Design strategy for the local government area or State (as applicable) in which the *project* is located, being the strategy which outlines how physical environments can be designed in order to lessen the opportunity for crime. If a *CPTED* strategy is not in place for the local government area or State in which the *project* is located, then the *CPTED* strategy for Queensland will be the relevant document.

*Deep planting* means an area dedicated to the protection and establishment of significant landscape trees.

*Design guidelines* means an enforceable system of design and related principles whether operating under contract, deed, covenant, architectural and landscape code for body corporates or some other means satisfactory to the National EnviroDevelopment Board of Management. The developer may be asked to demonstrate active design guideline enforcement.

*Environmental weed* is a plant that invades native ecosystems and adversely affect the survival of indigenous flora and fauna. They may have significant economic and social impacts, as well as environmental impacts, including reduction in biodiversity.

*Project* means the development which is the subject of the application for EnviroDevelopment.

*EER* means the energy efficiency ratio relating to the performance of air conditioning systems.

*EPBC Act* means Environmental Protection and Biodiversity Act 1999, as amended or replaced from time to time.

*FSC* means Forest Stewardship Council.

*IUCN Redlist* means the index compiled by the International Union for Conservation of Nature to identify and document plant and animal species most in need of conservation attention if global extinction rates are to be reduced, as amended or replaced from time to time.

*Key worker* is a person who is employed as an emergency service worker (police, ambulance, fire brigade etc), nurse or educator.

*Line haul station* means a public transport interchange located on a fixed line public transport corridor, such as heavy rail line, light rail line or busway.

*Locally native* means native plants which are endemic to the area.

*Low emission adhesives* means adhesives which meet the following VOC limits:

- Indoor Carpet Adhesives <50g/L
- Carpet Pad Adhesives <50g/L
- Outdoor Carpet Adhesives <150g/L
- Wood Flooring Adhesive <100g/L
- Rubber Floor Adhesives <60g/L
- Subfloor Adhesives <50g/L
- Ceramic Tile Adhesives <65g/L
- VCT and Asphalt Tile Adhesives <50g/L
- Dry Wall and Panel Adhesives <50g/L
- Cove Base Adhesives <50g/L
- Multipurpose Construction Adhesives <70g/L
- Structural Glazing Adhesives <100g/L
- Single Ply Roof Membrane Adhesives <250g/L

*Low emission floor coverings* means floor coverings which have maximum VOC limit of <0.5mg/m<sup>2</sup>/hr (14 days).

*Low emission paints* means paints which have a VOC limit of <50g/L.

*Low emission sealants* means sealants which meet the following VOC limits:

- Architectural <250g/L
- Marine Deck <760g/L
- Nonmembrane Roof <300g/L
- Roadway <250g/L
- Single-Ply Roof Membrane <450g/L
- Other <420g/L

*MUSIC* means the Model for Urban Stormwater Improvement Conceptualisation simulation software which simulates urban stormwater systems operating at a range of temporal and spatial scales, catchments and modelling time steps.

*National Construction Code* means the *National Construction Code* published by the Australian Building Codes Board comprising the *Building Code of Australia* (Volumes One and Two) and the *Plumbing Code of Australia* (Volume Three) as amended or replaced from time to time.

*Non-metropolitan sites* means *projects* that are located in areas, towns and other localities outside the boundaries of capital cities and major urban centres.

*Potable water* means water of a quality suitable for drinking, cooking and personal bathing having regard to the Australian Drinking Water Guidelines developed by the National Health and Medical Research Council and amended or replaced from time to time.

*Public spaces* means land that is publicly accessible but must be more than just road.

*RAP* means reclaimed asphalt pavement.

*Significantly modified* means land which has previously been utilised for intensive uses and has little or limited ecological value.

*Statement of compliance* means a statutory declaration or other form of written statement by the developer or a senior *project* representative engaged by the developer of the *project*, which sets out the particular facts and circumstances and details the level of compliance with the criteria.

*Threatened species* means as listed under the *EPBC Act* or IUCN Red List or legislation for the State in which the *project* is located.

*VOC* means volatile organic compounds.

*Weighting of Environmental Impacts in Australia* means the report produced to establish a toolkit of resources that will permit comprehensive Life Cycle Assessment of building and construction materials and products, building elements and assemblies, and whole buildings in Australia. The report outlines the approach taken to developing a set of regionally relevant and Australian average weighting factors, which reveal how Australian stakeholders subjectively judge the relative importance of different environmental impacts in different locations/climates around Australia.

# appendix

## 1.1 – Performance table for water harvesting in Victoria:

Average Annual Rainfall (mm)	Volume to harvest as % of total impervious runoff volume
200	93%
300	88%
400	83%
500	77%
600	72%
700	68%
800	64%
900	60%
1000	56%
1100	53%
1200	50%
1300	48%
1400	46%
1500	44%
1600	42%
1700	40%
1800	38%
1900	37%
2000-2500	32%
2500-3000	28%
3000-3500	25%
3500-4000	22%



# Technical Standards Taskforce

EnviroDevelopment would like to acknowledge the input from the following professionals involved during the Technical Standards Review Process:

## National EnviroDevelopment Board of Management

- Sarah Macoun - HopgoodGanim (National Chair)
- Tammy Berghofer - Minter Ellison (Taskforce Chair)
- James Coutts - Department of State Development, Infrastructure and Planning, Queensland Government
- Leanne Weekes - Cooper Grace Ward Lawyers
- Graham Marshall - National Affordable Housing Consortium
- Nelson Wills - New Ground
- Peter Egerton - RPS
- Andrew Sly - Department of Sport and Recreation, Queensland Government
- Steve Dunn - Victorian Planning Authority
- Aaron Organ - Ecology & Heritage Partners
- Mark Taylor - Josh Byrne & Associates
- Lex Barnett - Taylor Burrell Barnett

## Queensland Taskforce

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- Chris Boyle - Mosaic Property Group
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- Patrick Campbell - Hutchinson Builders
- Dy Currie - Brisbane City Council
- Peter Egerton - RPS
- Will Francis - Wesley Mission Queensland
- Alan Hoban - Bligh Tanner (Ecosystems, Water)
- Sheree Hughes - Heart Foundation
- Genaea Keith - Economic Development Queensland
- Sarah Macoun - HopgoodGanim
- Graham Marshall - National Housing Consortium
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- Michael Darby - Quantum Management (Community)
- Ben de Waard - Sustainable Development Consultants (Energy, Water, Ecosystems)
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- Ian Holloway - All Things Residential
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- Mark Taylor - Josh Byrne & Associates
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## Notes

## Checklist

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An Initiative of



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