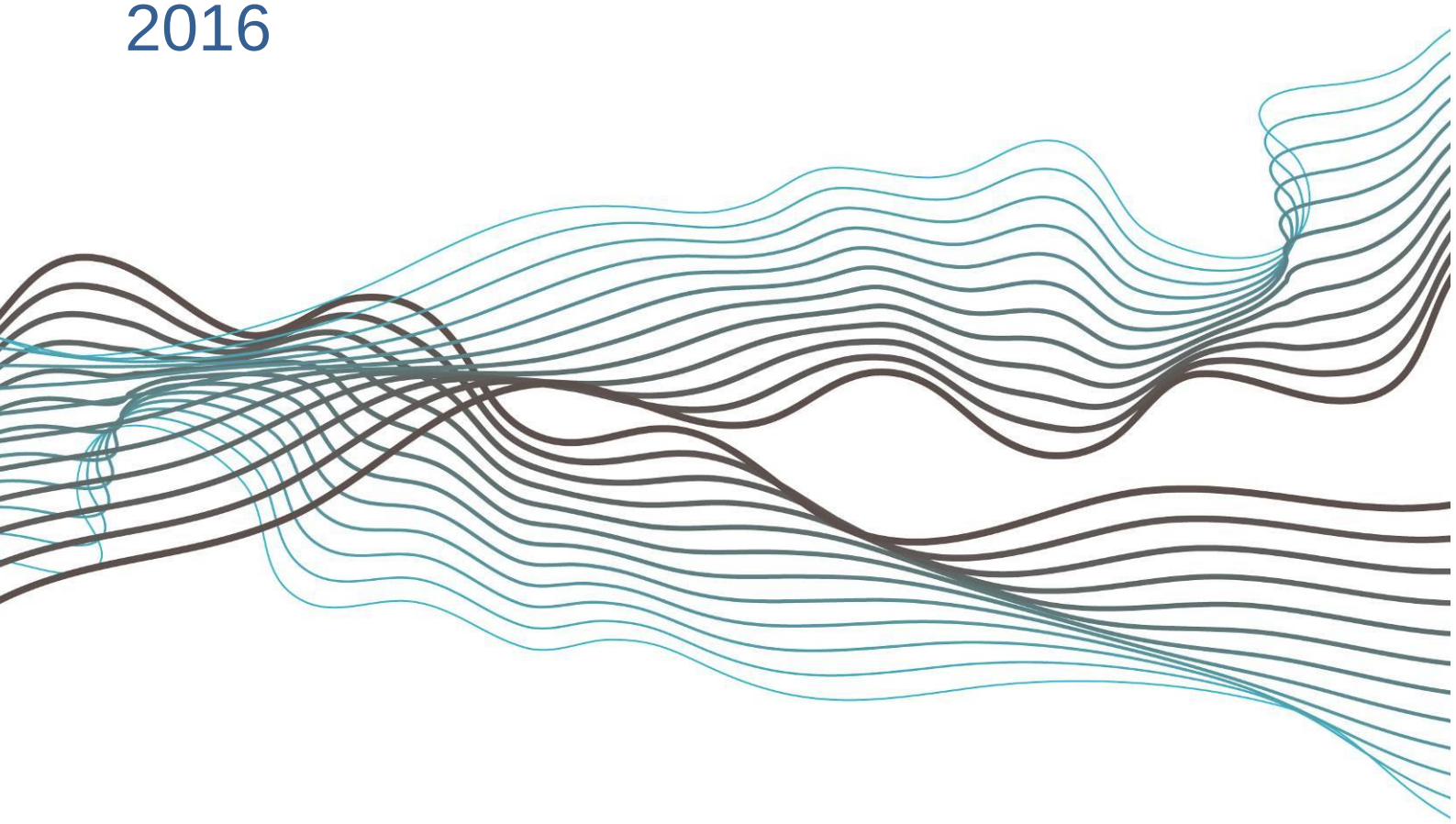
BOROONDARA
City of Harmony

Sustainable Council Buildings

Policy

2016



Responsible Directorate: Environment and Infrastructure
Authorised By: Council
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Policy Type: Council

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1. Introduction

1.1. Purpose

The Sustainable Council Buildings Policy sets out clear commitments for achieving improved sustainability standards in the way Council's buildings are planned, designed, built, used and maintained.

1.2. Scope

This policy applies to buildings owned, leased or managed by the Council, including:

Administrative offices	Libraries	Commercial buildings
Leisure and aquatic centres	Depots	Residential buildings
Sportsground pavilions	Child care centres	Cultural buildings
Aged care centres	Community buildings	Town halls

The policy outlines a holistic approach to reducing the environmental impacts of Council's buildings. It defines expectations for managing demand for buildings, maintaining buildings and responsible use of buildings by Council staff, tenants and other building users. And critically, it defines the minimum sustainability standards to be achieved for new buildings, upgrades/expansions and building renewals.

The policy confirms that Council building projects must integrate consideration of their external landscape and public realm context, as well as increasingly frequent and extreme weather events (heatwaves, storm events etc) predicted as a result of climate change.

The policy does not cover sustainability standards for privately owned buildings.

1.3. Corporate framework

This policy supports realisation of the vision themes outlined in *Our Boroondara — Our City, Our Future*:

Vision theme 1: Community wellbeing
Vision theme 2: Managing a sustainable environment
Vision theme 3: Planning a well-designed and sustainable city
Vision theme 4: Connecting our community

This policy also supports Council's Vision and Mission by contributing to a range of strategic objectives and targets:

Council Plan 2013-17

- *Sustainable environment* - Our natural and urban environment is improved in a sustainable way
- *Quality facilities and assets* - The community's current and future needs for assets and facilities are proactively managed

Public Health and Wellbeing Plan 2013 - 2017

- Consider health promoting principles when planning and developing the built environment (Strategy 2.1)
- Encourage practices that assist Council and the community maintain and enhance our natural environment for future generations (Strategy 2.2)
- Reduce car dependency and promote active transport (Strategy 2.4)

Our Low Carbon Future Strategy 2009

- To reduce Council's corporate greenhouse gas emissions by 30 - 40 percent below 2007-08 levels by 2020 (Target)

Integrated Water Management Strategy 2014 - 2024

- To reduce Council's use of drinking water by 20 percent below 2011/12 levels by 2024 (Target)

2. Background

2.1. Context

Council's 200-plus buildings play an important role in achieving the community's long-term vision for Boroondara. These building assets require a significant amount of financial and material resource to build, operate and maintain over their lifecycle.

In 2014–15, building use accounted for 66 per cent of Council's total greenhouse gas emissions and around 40 per cent of potable water consumption as well as significant amounts of waste water, recyclables and landfill waste.

Council's buildings are publicly owned and operated to meet and respond to community needs over time, including emerging service demands due to population growth or demographic changes. Community services delivered through well-designed and well-utilised buildings can foster community connectedness and wellbeing in an environmentally and financially responsible way.

Council adopted the original Sustainable Buildings Policy in 2010. This update has been informed by a review of implementation of the original policy, consultation with relevant stakeholders within Council and benchmarking against sustainable buildings policies adopted by other local councils.

2.2. Sustainable buildings — definition, frameworks and standards

According to the Green Buildings Council of Australia (GBCA)[1]

> *"A green building incorporates design, construction and operational practices that significantly reduce or eliminate its negative impact on the environment and its occupants. Building green is an opportunity to use resources efficiently while creating healthier environments for people to live and work in. Green building can also significantly reduce construction and performance costs."*

[1] The GBCA is Australia's leading authority on green buildings and sustainable communities. They are a member-based, not-for-profit organisation dedicated to developing a sustainable property industry. They assess and rate buildings using the Green Star rating system, provide a range of education courses and assist organisations, including local governments, to undertake green transitions.

A range of sustainability rating tools for buildings exist in Australia. In setting sustainability standards for Council buildings, this policy primarily references the GBCA's holistic design framework and assessment tool *'Green Star - Design and As Built*[2], which is widely used in the commercial and local government sectors and considered the most appropriate tool for Council buildings.

The Green Star tool provides a holistic framework to deliver sustainability improvements across nine impact categories:

- Indoor Environmental Quality (IEQ)
- Energy
- Transport
- Water
- Materials
- Land Use and Ecology
- Emissions
- Innovation
- Management

Under the Green Star rating and certification scheme:

- 4 Star Green Star - Best Practice
- 5 Star Green Star - Australian Excellence
- 6 Star Green Star - World Leadership

The Green Star framework can be used by project teams to guide design and construction to confirm 'equivalence' to a star rating standard. Where justified, projects can be formally assessed for rating by an independent certified assessor. Only projects that are formally certified can publically claim achievement of the Green Star rating and use of the logo. Further detail is provided in Appendix 1.

2.3. Key stakeholders

This policy impacts a wide range of stakeholders across Council and the Boroondara community.

Key internal stakeholders include:

- Departments within Community Development Directorate that plan and deliver Council's ageing, cultural, disability, family, health, leisure, recreational and library services from Council buildings, as well as coordinate tenancy and community use of most of our buildings.
- Departments within Environment and Infrastructure Directorate responsible for building and landscaping works and maintenance, asset planning, sports pavilion tenancies, and sustainability policy and reporting.
- Departments within Corporate Services Directorate responsible for coordinating Council's financial planning, commercial and property services.

[2] https://www.gbca.org.au/green-star/

Key community stakeholders include:

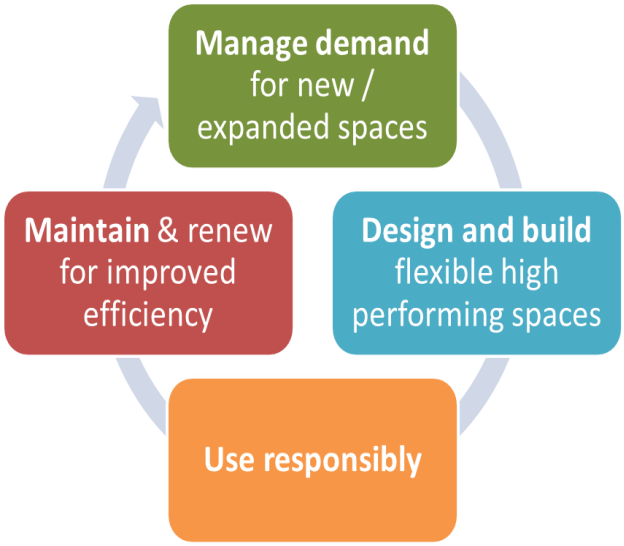
- Organisations, clubs and groups that are permanent or seasonal tenants of our buildings
- Community clubs and groups that intermittently lease or hire out our buildings
- Members of our community that use our buildings on a regular or occasional basis.

3. Policy Statement

3.1. Guiding principles

The City of Boroondara is committed to continuing to embed sustainability in the way we plan for, design, build, maintain and use Council buildings.

Improving the environmental sustainability of our buildings is not just about building design, but requires a holistic approach and an organisational culture that supports the building and operation of sustainable buildings.



Council will achieve this by:

- managing demand for new building spaces
- facilitating optimal and sustainable use of our existing buildings
- ensuring design and construction of sustainable buildings including planning for climate change and landscaping appropriately for the intended use and local context.
- supporting common-sense 'like for better' sustainability opportunities through building maintenance and upkeep.

3.2. Managing demand for new building spaces

Council will ensure that our service delivery prioritises optimal use of existing buildings; actively promoting and planning for shared use of our buildings and thereby reducing demand for additional buildings.

Service planning for new built spaces must be driven by **demonstrated and documented community need.**

Before determining that a new or expanded building is required, service departments will:

- Review available capacity and options for re-configuration within existing buildings
- Consider alternative ways to deliver services (applying strategic foresight regarding possible service model options applicable over the medium to long term)
- Consider the social, financial and environmental impacts of a new / expanded building.

Where current service demands justify new or expanded buildings, then during the project scoping and planning phase service departments will:

- Document functional requirements to meet the reasonable needs of the community, giving consideration to emerging service demands.
- Share the objectives and expectations of this policy with potential and target building user groups. Communicate the reality that Council's project may not be able to meet all the expectations of all user groups. Each project's scope and scale must be justifiable as providing broad community benefit and socially equitable outcomes in a financially and environmentally responsible way.
- Contain the 'footprint' size of the new/expanded building through carefully managing stakeholder expectations and prioritising conceptualisation of flexible and adaptable spaces to accommodate multiple user groups and uses.
- Ensure early budget estimates and conceptual briefs incorporate required Sustainability Standards for the building and associated landscape.

3.3. Sustainable use of Council buildings

Individuals and organisations using Council buildings, be they staff, tenants, or general public, are expected to take steps to **minimise their environmental impact and resource use.**

All building users are expected to:

- Adopt principles of 'Avoid, reduce, reuse, recycle' to minimise waste sent to landfill.
- Use heating and cooling systems responsibly.
- Avoid unnecessary or wasteful use of electricity, drinking water and other resources.
- Dispose of waste liquids (paint, chemicals etc) and e-waste (computers, televisions, batteries etc) responsibly.
- Share facilities as the norm unless this is impractical due to safety, security or other reason.
- Where responsible for building fit-out, only select appliances and electrical equipment with an energy rating or performance within one star or 10 per cent of best available[3] and selected as 'fit for purpose'.

Council will support sustainable use of our buildings by:

- Educating and supporting staff in sustainable practices.
- Providing new building tenants with building user guides and educational signage to encourage sustainable behaviours.
- Where responsible, fit-out buildings with appliances and electrical equipment with an energy rating or performance within one star[3] or 10% of best available and selected as 'fit for purpose'.
- Negotiating tenancy agreements that support appropriate shared use and incentivise sustainable practices[4].

[3] http://www.energyrating.gov.au/

[4] Sustainable practices will be considered when negotiating new tenancy agreements and as part of renewals to existing tenancy agreements.

3.4. Design and construction of sustainable buildings

Council buildings will be built, expanded or upgraded to an **agreed minimum Sustainability Standard** dependent on the nature of the project. For the majority of building projects, the aspiration reflects a minimum Green Star 5-Star (or equivalent) standard. This does not preclude Council deciding to seek a higher standard (e.g. 6 star) on particular projects id supported by a positive feasibility assessment.

The minimum Sustainability Standards required for various categories of Council building works are defined in Table 1 below.

Table 1 Environmentally Sustainable Development (ESD) standards for Council building projects

Building Project Type	ESD Tool and Minimum Standard	Specific Requirements[6]
Major New Building[5] Total project cost over $4 million. For example: • Hawthorn Aquatic and Leisure Centre (2014) • North East Community Hub (2016)	**Green Star Design and As Built - 5 Star**	Carry out Commissioning and tuning in accordance ESD tool credit (2.1-2.4) [6] Prepare a Climate Change Adaptation Plan credit 3.0.1 Prepare a Landscape Plan[7]
Major Renewal, Expansion or Upgrade[8] Over $4 million - broad scope of works. For example: • Camberwell Library and Office Project (2011) • Boroondara Sports Complex (2015) • Balwyn Library (2016-17)	**Green Star Design and As Built - 5 Star**	Review opportunities improve to overall building ESD as part of the project in a cost effective way Carry out Commissioning and tuning in accordance with credit (2.1-2.4)[6] Prepare a Climate Change Adaptation Plan credit 3.0.1 Prepare a Landscape Plan[7]
Other New Buildings[5] New building with a total project cost under $4 million and over $1 million. For example: • Burwood Reserve Pavilion (2013)	**Green Star Design and As Built - 5 Star**	Prepare a Climate Change Adaptation Plan credit 3.0.1 Prepare a Landscape Plan[7]
Other Renewal, Expansion or Upgrade[8] Under $4 million and over $1 million For example: • Balwyn Senior Citizens (Evergreen) (2014) • Camberwell Fresh Food Market (2014-15)	**Green Star Design & As Built - 5 Star**[9]	Prepare a Landscape Plan[7] Opportunities for climate change adaptation readiness considered in project planning and design. Review opportunities to improve overall building ESD as part of the project in a cost effective way
Minor works and maintenance Works under $1 million	**Refer section 3.5**	
Demolition All major demolition work with high value recyclables or >10m^3 of mixed waste	**Target 80%** of construction and demolition waste is diverted from landfill.	Review opportunities to re-use materials on site or at other projects.

[5] New buildings include projects which utilise part of an existing structure but there is a significant departure from the original structure.
[6] Specific credits refer to 'Greenstar Design and As Built' technical documentation ie Submission Guidelines
[7] Unless public realm or landscape changes are specifically excluded from the project scope following Director approval.
[8] ESD minimum standard applies only to parts of building within project scope. For projects with restricted scope, the approach should be to achieve ESD standards for project elements included in scope. The achieved credits should be consistent with the level which would be required to achieve the specified star rating if the entire building was in scope.
[9] Where a new building is required to meet service requirements and utilisation is expected to be low, 4 Star minimum may be approved at Director level.

In addition to the designated star rating against the Green Star tool, projects must also address the specific requirements noted against each project type:

Landscape plan
To deliver optimal ESD outcomes, Council building projects should be planned with consideration of the surrounding landscape and public realm. Unless specifically excluded from the project scope, landscape planning and implementation should be commensurate with the building project, the intended use of the building and the location of the building.

Specific requirements (commensurate with scope):

- A suitably qualified landscape architect should be engaged from the beginning of the project to ensure the opportunity for a well-integrated landscape plan is maintained.
- Building footprint should be constrained to maximise ground level landscaping opportunities.
- Landscaping opportunities should be considered for all structure (rooftops, balconies, walls etc).

Rationale:

Well integrated landscaping directly supports sustainable built form outcomes through elements such as deciduous shade (reducing building heat gain in Summer as well as enabling passive solar warming in Winter), WSUD raingardens and permeable paving (to slow down, treat and reuse stormwater run-off), and insulating 'green roofs'. Such elements can also reduce building operating costs for heating, cooling and water use. More broadly, appropriate site planning and landscape design, that carefully considers the siting and planned use of the building and its associated outdoor spaces, is critical to achieving the best possible environmental, amenity and community health outcomes from 'green infrastructure'[10] .

Climate change adaptation
Specific requirements:

- Design of building Heating Ventilation and Air Conditioning (HVAC) and associated plant should be robust in heatwave conditions while seeking to maintain reasonable thermal comfort of building occupants.
- Building envelope and drainage should be resilient in the face of extreme weather including heavy rainfall and/or high winds.

Rationale:

The CSIRO and Bureau of Meteorology predict increasing mean temperatures, more extreme heat days and more frequent extreme rainfall events throughout Victoria. These effects are already being observed but are predicted to worsen over the coming decades with average temperature likely to increase by more than 2°C by the end of the century.

More extreme weather increases the risk of damage to Council facilities, with potential for increased maintenance costs, reduced asset lifespan, increased OHS hazards for staff and reduced service delivery capacity.

[10] 'Green infrastructure' is defined in Australian Standard 5334-2013 as 'the network of natural and built landscape assets, including green spaces and water systems within and between settlements'. NOTE: Individual components of this environmental network, such as gardens, parks, recreation areas, highway verges and waterways, are sometimes referred to as green infrastructure assets'.

Delivering buildings that are more resilient to extreme weather events can help avoid the need for costly upgrades, repairs or retrofits in future.

3.5. Maintenance and minor works on Council buildings

Maintenance and minor works applies to building maintenance or other capital works with a project cost below $1 million dollars[11].

Minor works and renewals costing under $1 million should refer to the Green Star tool (either Design and As Built or Interiors) to guide ESD where this is relevant to the project scope, however limited scope projects (eg. roof restoration) are not expected to be scored against the entire tool.

Maintenance should contribute to improvement in the sustainability of Council buildings over time. Maintenance will be carried out so as to avoid unnecessary waste or impact on the environment and should comply with Council's Procurement Policy, in particular Section 15 which relates to sustainability and Section 4.1.1 which relates to 'Best Value'. The Procurement policy states "*price should take into account the whole life cost of the provision as far as is practicable*".

Planned and unplanned maintenance represent cost effective opportunities to improve Council's buildings. The cost of a 'Best Value' sustainable option is often only a small increment higher than the 'like for like' replacement and in many instances deliver significant cost savings over time.

When planning and delivering building maintenance, Council will:

- Adopt a 'better than like'[12] approach.
- Pursue opportunities for cost effective building improvements such as improvements in thermal comfort through insulation, draft sealing and glazing.
- Pursue opportunities to reduce energy and water demand by lighting, HVAC and other plant, appliances or equipment by:
    - Installing appropriately sized appliances.
    - Utilising intelligent control approaches that reduce inefficient use.
    - Installing efficient appliances and fittings eg lights.
- Proactively plan for future maintenance to enable use of sustainable options in response to unplanned and emergency events.

4. Implementation and monitoring

4.1. Implementation

In their capacity as building users, all staff have a role to play in environmentally responsible, safe and efficient use of Council facilities.

In particular, Council Service Departments (Project Sponsors), Projects and Strategy Department (Capital Works delivery), Environment and Sustainable Living Department (Policy custodian), Facilities Management (building maintenance) and individual Project Managers have delegated responsibilities for ensuring compliance with this policy.

[11] Refers to maintenance carried out for or by Council.

[12] Rather than replacing plant or equipment with a similar piece of plant or equipment ('like for like'), choose better plant or equipment. 'Better' may reflect more efficient, longer lasting or more appropriate for purpose.

In order to enable compliance with this policy, officers will update or develop operational tools and processes including but not limited to:

- Project management process maps, guidance and decision frameworks
- Model ‘sustainability clauses’ within Capital Works procurement templates, and building lease and licence agreements
- Facilities usage audit reports
- An online ‘facilities booking system’
- Standard Operating Procedures or guidelines relating to building maintenance.

Relevant Council staff will undertake professional development required to deliver projects compliant with this policy (for example, training in the Green Star tool).

4.2. Monitoring and reporting

Implementation and compliance with this policy will be monitored to ensure that it is meeting the needs of Council and the community. The focus for monitoring and reporting will be:

Desired Policy Outcomes	Performance Measure	Target	Data source(s)	Responsibility	Reporting
Well utilised community facilities	Facility utilisation rates	Establish baseline utilisation rates	Facilities usage audits Online Facilities Booking System (when available)	Innovation and Community Development	Annual once baseline is established
New/expanded buildings driven by documented needs	Project business case / scope documents unmet community need	N/A	Within Council report / budget bid	Community Development	At scoping/ feasibility stage
Build flexible, energy and water efficient spaces	Percentage of building projects compliant with specified Green Star Minimum Standards	90% of projects over $2M	ESD report at 'Design Documentation' and then 'Practical Completion'	Projects and Strategy	Annual (CIQ)
Maintenance improves efficiency	Develop Standard Operating Procedures (SOPs) for key maintenance categories	SOPs in place	ProMapp	Facilities Management with Environment and Sustainable Living	At policy review (3 years)
Progress towards adopted strategic targets	Building sector: • Greenhouse gas emissions (CO2e) • Drinking water use (kl) • Water harvest/reuse (kl)	Set annually	Utility and metering data	Environment and Sustainable Living	Annual (Strategic Indicators)

The effectiveness of the policy will be reviewed after three years with a report back to Council.

4.3. Financial implications

Achieving a ‘5 Star’ equivalent standard for Council’s building projects is expected to add approximately five per cent to the up-front cost of buildings. Reductions in energy and water utilities and reduced maintenance are expected to return this investment within five to ten years. Similar upfront costs and savings are expected from adoption of a “better than like” approach to maintenance.

The GBCA provides a number of case studies presenting the costs and benefits of Green Star building projects. These include the City of Gosnells’ Civic Centre Redevelopment, which required a sustainability ‘premium’ of three per cent and a predicted financial payback of five years.[13]

Avoided building works and more effective use of existing buildings has the potential to deliver large financial savings over time.

[13] https://www.gbca.org.au/advocacy/green-star-case-studies/

Appendix 1: Application of the defined minimum Sustainability Standards

The required Sustainability Standard will be considered at all project stages from project scoping through to handover and operation. ESD standards should be factored into all project budget estimates and Quantity Surveying calculations.

Where changes in scope occur during development or delivery of a project, such that it changes category according to Table 1, the required Sustainability Standard will reflect the delivered project and will apply to the entire scope of the project.

Where Green Star is not appropriate for the scope of works of the project, alternative tools may be approved at Manager level. Where an alternative tool is used, the outcome should be as good as or better than for Green Star as per Table 1.

The Administration will take one of two approaches to achieving the defined Sustainability Standard:

Option 1: Follow the Green Star Design and As Built tool in a way that would enable Green Star certification

Option 2: Use the Green Star Design and As Built tool as a framework/benchmarking tool throughout the project but where the ESD consultants identify holistic or alternative options that do not score Green Star points, allow these alternatives where they result in an equivalent or better outcome. If this approach is followed the alternatives should:

- Result in a better environmental outcome or result in an equivalent environmental outcome at lower cost.
- Be clearly documented and verified by an independent commissioning agent or ESD consultant prior to “practical completion” of the project.
- Be subject to independent peer review at critical stages in project planning and delivery.

The pros and cons of the two options are discussed below. The approach for each project will be confirmed early in scoping phase (following discussion at PCG where relevant) and approved by the Manager Projects and Strategy.

Sustainability Standards option	**Advantages and disadvantages**
Option 1: Design and build according to the Green Star Design and As Built tool following the tool in a way that would allow Green Star certification if desired	**Advantages** • has the potential to deliver a greater overall ESD benefit as the consultants and contractors will be required to demonstrate that the project has been designed and constructed according to the Green Star criteria for the targeted credits. • Achieving a certified rating means that an external party has verified that the design and construction meets a particular ESD standard and allows Council to be formally recognised for this, and publicise accordingly. Although the Green Star tool

	is freely available for self-assessment, a design, project or building cannot publicly claim or promote a Green Star rating or use the Green Star rating logo unless the GBCA has validated the project's achievement through formal assessment. **Disadvantages** • If certification is desired, project would have a marginally higher consultancy cost for preparation of Green Star documentation. Certification fees could also apply. • Risk of perverse outcomes resulting from seeking Green Star points.
Option 2: Design and build using Green Star Design and As Built as a framework/benchmarking tool throughout the process but where the ESD consultants identify holistic or alternative options that do not score Green Star points, allow these alternatives where they result in a better outcome.	**Advantages** • May be most appropriate for expansion, renewal or upgrade projects where narrow scope restricts the number of Green Star points that can be achieved. • Allows more flexibility and may result in a better more holistic outcome. • Reduces the risk of perverse outcomes resulting from seeking Green Star points. **Disadvantage** • Risk of non-compliance with policy objectives and intent. • Requires greater rigour in project management and from ESD consultants and internal ESD advisors.