Environmentally Sustainable Design (ESD)

Frankston City

Content

Frankston City Council is committed to move towards zero net development plan and committed to assisting you to incorporate ESD into your development during the planning process.

One.

ESD assessment in the planning process

When applying for a planning permit, you need to submit ESD information to the council for assessment as per Frankston Local Planning Policy Clause 15.01-2L-01

planning-schemes.app.planning.vic.gov.au/Frankston/ordinance/15.01

Application requirements

The ESD information submitted with a planning application depends on the type of the development as below:

Residential

A Sustainable Design Assessment (SDA) including an assessment using BESS, STORM (or other methods) for:

- 2–9 dwellings
- A building used for accommodation other than dwellings with a gross floor area between 50sqm and 1000sqm.

A Sustainability Management Plan (SMP) including an assessment using BESS/Green star, STORM/MUSIC (or other methods) and a Green Travel Plan for:

- 10 or more dwellings
- A building used for accommodation other than dwellings with a gross floor area of more than 1000sqm.

Non-residential

A Sustainable Design Assessment (SDA) including an assessment using BESS and STORM/MUSIC (or other methods) for:

- A non-residential building with a gross floor area of 300sqm to 1000sqm
- An extension to an existing non-residential building creating between 100sqm to 1000sqm of additional gross floor area (excluding outbuildings).

A Sustainability Management Plan (SMP) including an assessment using BESS/Green star, STORM/MUSIC (or other methods) and a Green Travel Plan for:

- A non-residential building with a gross floor area of more than 1000sqm
- An extension to an existing non-residential building creating more than 1000sqm of additional gross floor area (excluding outbuildings).

Mixed use

Refer to residential and non-residential requirements for the residential and non-residential components of the development.

Two.

What to submit

- ESD report
- ESD tools
- Plans including ESD initiatives

ESD report

The content of this report shows how a proposed development demonstrates compliance with the 10 sustainable building categories as below:

Energy

Reduce both energy use and energy peak demand through design measures such as:

- Building orientation
- Shading to glazed surfaces
- Optimising glazing to exposed surfaces
- Inclusion of or space allocation for renewable technologies.

Water

Reduce total operating potable water use through appropriate design measures such as water efficient fixtures, appliances, equipment, irrigation and landscaping.

- Encourage the appropriate use of alternative water sources (including greywater, rainwater and stormwater)
- Incorporate best practice water sensitive urban design to improve the quality of stormwater runoff and reduce impacts on water systems and water bodies
- Stormwater.

Indoor environmental quality (IEQ)

Achieve a healthy indoor environment quality, including thermal comfort and access to fresh air and daylight, prioritising passive design over mechanical heating, ventilation, cooling and lighting.

- Reduce indoor air pollutants by encouraging use of low-toxicity materials
- Minimise noise levels and noise transfer within and between buildings and associated external areas.

Waste

Promote waste avoidance, reuse and recycling during the design, construction and operation stages of development.

- Encourage use of durable and reusable of building materials
- Ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities.

Transport

Design development to promote the use of walking, cycling and public transport, in that order; and minimise car dependency.

- Promote the use of low emissions vehicle technologies and supporting infrastructure.

Urban ecology

Protect and enhance biodiversity by incorporating natural habitats and planting indigenous vegetation.

- Reduce urban heat island effects through building design, landscape design, and water sensitive urban design and the retention and provision of canopy and significant trees
- Encourage the provision of space for productive gardens, particularly in larger residential developments.

Management

Sustainable building design will only lead to a truly sustainable building if the project includes a sensible and well-conceived construction management approach and an ongoing building management allowance, including:

- An early commitment to environmental targets
- An operation waste separation strategy
- Regular tuning of building services
- Sensible use of building services, such as heating and cooling devices
- Preparation of a Building Users' Guide.

Material

Mandatory Requirements are the National Construction Code (NCC) requirements and;
Council's Best Practice Standards are:

- Substituting some cement content of concrete with recycled content
- Selecting low embodied energy materials – limiting or not using aluminium, zinc and other high embodied energy materials
- Sourcing all timber from sustainably managed sources that hold third party verification
- Selecting recycled or re-usable materials
- Avoiding materials which are toxic in manufacture and use
- Selecting low maintenance and highly durable materials
- Dematerialising project through reduction in the quantity of materials required.

Innovation

The objective of the Innovation category is to encourage design features and technologies that are not recognised elsewhere within BESS because they are new to Victoria, or because they go well beyond the best practice standard in BESS.

Three.

ESD tools

To prepare the ESD report, ESD tools need to be used given the type of development size as mentioned in section one.

ESD Fact sheets:
casbe.org.au/what-we-do/sustainability-in-planning

Application requirements

The ESD information submitted with a planning application depends on the type of the development as below:

Built Environment Sustainability Scorecard (BESS)

bess.net.au

BESS is an ESD tool for buildings at the planning permit stage. BESS supports the 'Sustainable Design Assessment in the Planning Process' framework and the Environmentally Sustainable Design (ESD) Local Planning Policies. BESS assesses projects against a benchmark in nine environmental categories: energy, water, stormwater, indoor environmental quality (IEQ), waste, transport, urban ecology, management, innovation.

Green Star

new.gbca.org.au/green-star/exploring-green-star

Founded by Green Building Council of Australia in 2003, Green Star is an internationally recognised rating system setting the standard for healthy, resilient, positive buildings and places. Developed for the Australian environment, Green Star has certified thousands of sustainable fitouts, buildings, homes and communities right across the country.

Green Star is versatile and can be applied to any project whether it be a new or existing building, a mixed-use precinct, a residential community, or fit-out, there's a Green Star tool that will suit your needs:

- **Green Star Buildings**
  Covering all building types, the next iteration of Green Star will meet current and future demands on the built environment with aspirational benchmarks to address the key issues of the next decade: climate action, resource efficiency, and health and wellbeing
- **Green Star Homes**
  Launched in August 2021, Green Star Homes is a standard assessing the health, resilience and energy efficiency of the places where we live
- **Green Star Interiors**
  Transforms the interior fit-outs in everything from offices and hotels, to schools and shops
- **Green Star Performance**
  Our most popular tool boosts the operational efficiency of existing buildings
- **Green Star Communities**
  Improves the sustainability of projects at the neighbourhood, precinct or community scale.

STORM

storm.melbournewater.com.au

STORM can be used to assess whether best practice water quality objectives have been achieved for your site. Results of STORM assessments can be submitted to statutory authorities along with development applications to demonstrate compliance with objectives. Achievement of a 100% STORM rating means you have achieved a 45% reduction in the typical annual load of total nitrogen and achieved best practice objectives. To improve your STORM rating you need to provide treatment for impervious surfaces that currently have no treatment or increase the size of existing treatments.

MUSIC

melbournewater.com.au/building-and-works/stormwater-management/storm-and-music-tools

MUSIC is a computer model representing a project or catchment area, the drainage connections and a series of stormwater treatments. It simulates rainfall and runoff at six-minute intervals over at least one year, and then treatment by sediment basins, wetlands and other water sensitive urban design measures. MUSIC is more sophisticated than STORM, allowing you to adjust many design dimensions and model a series of treatments, called a treatment train.

NatHERS tool

nathers.gov.au

The Nationwide House Energy Rating Scheme (NatHERS) measures a home's energy efficiency to generate a star rating. It was first introduced in 1993. The higher the star rating, the less energy needed to heat and cool the home to keep it comfortable.

There are currently four software tools accredited for use under NatHERS, all based on the CSIRO calculation engine, Chenath (v3.21):

- AccuRate
- FirstRate5
- BERS Pro
- HERO

Four.

Assessment process

Before submission

- Prepare ESD report and show ESD initiatives on your plans
- Have consistency between your plans and the ESD commitments in your ESD documentation.

After submission

- A preliminary assessment by Council's planning team
- Review of your application by Council's ESD officer
- Then the ESD officer will either confirm the submission is acceptable, or require sustainable design improvements
- Make sure the agreed ESD initiatives are reflected in the details on your endorsed plans and in your endorsed documentation (such as SMP or SDA report).

What you'll demonstrate

Our expectations for sustainable developments can be found in two stages:

- **Planning stage**
  During design or planning you must demonstrate how your development's design addresses the 10 sustainable building categories. To demonstrate best practice in environmentally sustainable design, your development should incorporate the initiatives listed under each of the 10 sustainable building categories.
- **Building stage**
  During compliance and building you must provide an ESD Implementation Report to demonstrate how the ESD features of the design were successfully incorporated into the built outcome. Your planning permit will include a condition that requires you to submit an ESD Implementation Report demonstrating how the ESD features of the design were successfully incorporated into the built outcome. An acceptable ESD Implementation Report will be endorsed as part of your planning approval prior to building occupancy. The ESD Implementation Report will be written by the same author of the endorsed ESD documentation or a similarly qualified person who has been involved in the building stage of the project, such as an ESD consultant, architect or project manager.

Five.

Frankston's Sustainable Design policy guideline

15.01 BUILT ENVIRONMENT
Frankston Planning Scheme - Ordinance

» Refer to Section 15.01-2L-01

planning-schemes.app.planning.vic.gov.au/Frankston/ordinance/15.01

Six.

Water Sensitive Urban Design (WSUD)

WSUD requirements

Council's Water Sensitive Urban Design Guidelines aim to encourage best practice environmental management of urban stormwater for Council and developers. Council has installed and maintains many raingardens and swales to assist in removing gross pollutants such as litter, coarse sediment and nutrients from stormwater which can lead to poor water quality and encourage algal growth in our waterways and Bay.

Related Information: frankston.vic.gov.au/Community-and-Health/Environment/Water-and-beaches/Stormwater

Typical WSUD features

A rainwater tank that collects stormwater run-off from the roof and connects to toilets for flushing is a common WSUD measure for small-scale developments. Other typical stormwater management features include raingardens, porous paving and a mixture of different features on a single site.

Related Information: Frankston WSUD Guidelines

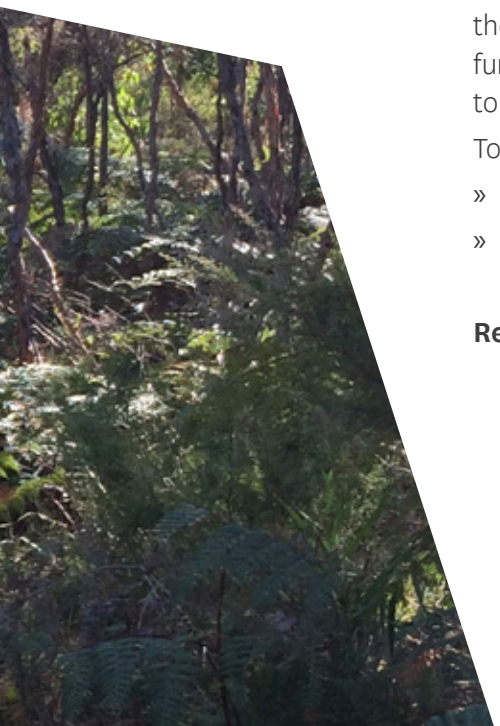
Maintenance

The maintenance requirements vary for the different WSUD assets. It is therefore important to have a maintenance procedure that clearly outlines the maintenance requirements to ensure the WSUD assets maintain their functionality. The ongoing maintenance costs should also be estimated prior to hand over so the costs can be factored in to the budgets.

To address these matters in your WSUD response:

- Include a table detailing which measures will be implemented
- Provide a simple site layout plan indicating where the measures will be located

Related Information: Frankston WSUD Guidelines



Need help?

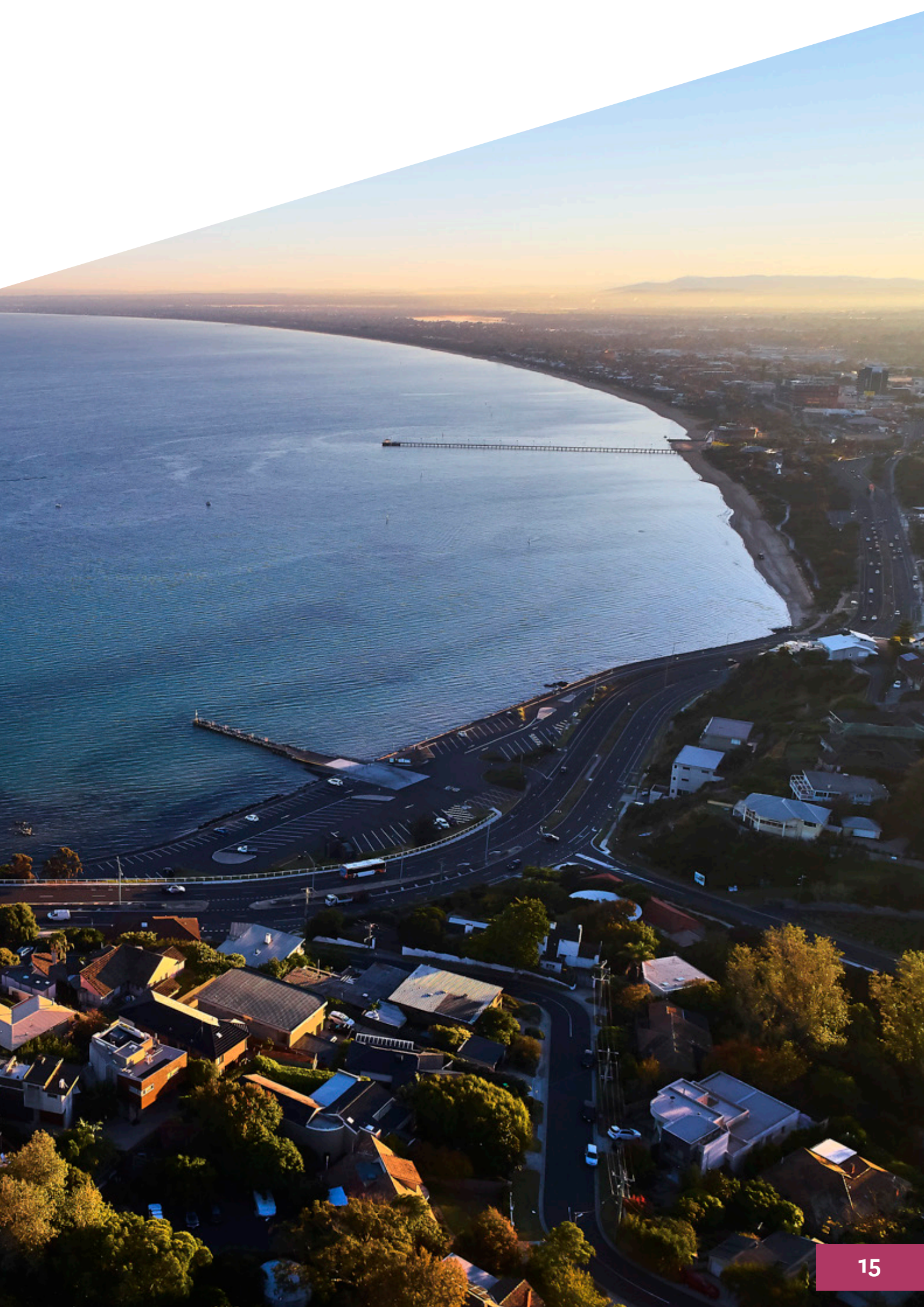
If you have any queries about or need assistance with sustainable design, please contact us:

Frankston City Council >> Urban Design

30 Davey Street, Frankston Victoria 3199

Tel: 1300 322 322

E: info@frankston.vic.gov.au



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