SECCCA ESD Matrix

Introduction

In 2013 WSP Parsons Brinckerhoff developed Cardinia Shire Council's Sustainable Buildings Matrix. The matrix was developed in excel. It considers a list of inputs about a Council facility, and based on these inputs provides a lists of outputs.

The matrix has been a great tool to assist Cardinia Shire Council achieve its sustainable design aspirations. Cardinia Shire Council always intended to improve the level of detail in the tool and make it more accessible and user friendly.

The tool was discussed with other Councils in the SECCCA region, who expressed interest in developing a similar system for their buildings. In early 2018 WSP Parsons Brinckerhoff was engaged by SECCCA on behalf of 8 south east councils to further develop the ESD Matrix to make it suitable for all councils.

The ESD Matrix is now available for use by local Councils across Victoria.

Aim and benefits

Local governments construct a wide range of facilities including sports pavilions, community centres, libraries, offices and arts centres. Each facility is unique in terms of location and function. Ensuring that these facilities utilise Environmentally Sustainable Design (ESD) elements will deliver energy and resource efficiencies as well as greatly enhanced wellbeing outcomes for the community.

There is a significant gap in the tools available to establish what design elements should be included in a sustainable community facility before the design process commences. This results in local councils failing to articulate the ESD elements in project briefs and relies on project architects to address this requirement.

A check list solution only listing sustainability requirements is not suitable given the diversity of Council community facilities. The excel based SECCCA ESD Matrix addresses the needs of a diverse range of building types and allow Councils to easily and simply specify ESD criteria as part of the design brief. The SECCCA ESD Matrix ensures that ESD criteria remain a significant focus through a project from the commencement of design works. While currently a variety of ESD tools are available these assist with reviewing the design of a facility (BESS (Built Environment Sustainability Scorecard) and Greenstar) or monitoring building performance and operation (NABERS).

The ESD Matrix produces ESD requirements that can be included in architectural tender / quotation documentation to outline the sustainability requirements of each project.

The matrix would be completed by council officers as part of the preparation of tender documentation, and the results included in the documentation when seeking architectural services. Things to be considered as part of the matrix include:

- Project budget
- Type and size of facility
- Use of facility
- Availability of recycled water
- Climate zone of facility

The matrix is also versatile and adaptable. Councils can choose the level of ESD they are aiming for (essential, best practice and leading) and tailor the matrix outputs to suite their specific requirements. The basic (essential) ESD matrix outputs would be expected to add less than 5% to the cost of a building. The medium (best practice) outputs would be expected to add 5% to 8% to the building cost, whist the high

level (leading) outputs would be expected to add 8% to 13%. Many initiatives that form part of the matrix outputs have attractive payback periods.

Many Councils have implemented Sustainable Design Assessment in the Planning Process (SDAPP). SDAPP has established the Built Environment Sustainability Scorecard to measure the design of private development and ensure it exceeds the minimum Building Code of Australia (BCA) requirements in relation to Sustainable Design. It is important that all Councils are encouraged to meet or exceed the requirements being established by BESS, for Councils' own buildings. The basic level of ESD specified through the ESD Matrix will be conducive to the design meeting or exceeding a BESS pass mark, though individual Councils will retain the ability to modify matrix outputs to suit their specific ESD aspirations.

If many Councils adopt the ESD Matrix, they will be encouraged to contribute to future upgrades to enhance it. With enough funding and support, an online version of the tool could be created in the future with features that are beyond the scope of excel.

Areas that the ESD Matrix covers include:

- Indoor Environmental Quality
- Energy and water Efficiency
- Stormwater Management
- Building Materials
- Transport
- Waste Management
- Ecology
- Innovation
- Climate Resilience

Possible requirements include the use of:

- The BCA standard
- Green Star
- NABERS
- Melbourne Water's STORM tool
- Thermal efficiency modelling

Sustainable features included in the matrix include:

- Insulation
- Energy efficient lighting
- Shading
- Building sealing
- Solar hot water
- Heating and cooling
- Double glazing
- Electrical sub-metering
- Rain water collection
- Water efficiency of fixtures
- Use of recycled water
- Materials
- Cyclist facilities
- Innovation
- Solar Electricity

The Matrix has the ability to be easily updated in the future.

Technical Working Group

The Technical Working Group (TWG) provided expert technical advice to assist in the development of the ESD Matrix tool and consists of council officers involved in building management, design and construction, procurement and ESD. Members of the group are from the following councils:

Bayside City Council
Kingston City Council
Mornington Peninsula Shire Council
City of Greater Dandenong
City of Casey
Cardinia Shire Council
Baw Baw Shire Council
Bass Coast Shire Council

A user guide has been developed as part of the tool and group training is available on request to assist councils' officers in use of the tool.

For more information please contact:

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