

Fishermans Bend draft Framework & Planning Controls

Planning Review Panel Hearing

Expert Witness Report - Sustainability

Prepared for City of Melbourne and the City of Port Phillip

6 March 2018

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## Details of Expert Witness

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Qualifications	<p>B. Arts/Environmental Science (Hons)</p> <p>Cert III Environmental Change Management</p> <p>Accredited Thermal Energy Performance (FirstRate)</p> <p>Remote Area Power Supply System Design and Installation</p>
Current Roles	<p>Director, Creative Environment Enterprises Pty Ltd</p> <p>Director, Creative Environment New Zealand Pty Ltd</p> <p>ESD Advisor, City of Yarra</p> <p>Member, Built Environment Sustainability Scorecard Governance Board</p> <p>Member, Council Alliance for a Sustainable Built Environment</p>
Experience	<p>I have over 17 years experience in Environmentally Sustainable Design and Development (ESD) and sustainable energy project development. My experience includes both consulting on ESD to the development industry as well as working as an officer for local government assessing ESD town planning submissions as well as strategic planning and policy development.</p> <p>I am proficient in the use of all major ESD assessment tools utilised in the current industry including Green Star, the Built Environment Sustainability Scorecard (BESS), STORM and MUSIC, NatHERS (FirstRate), NABERS amongst others. I am familiar with most other ESD tools used internationally such as Passive House, LEED and The Living Building Challenge, One Planet Living. I have assisted develop several ESD tools including STEPS and the Australian Greenhouse Calculator. I have been an active member of the BESS Governance Board since inception and have assisted in building the BESS tool since it commenced in 2012.</p> <p>I have presented to Planning Panels Victoria as an expert witness in ESD on two occasions previously; for the Ministerial Advisory Committee and Panel Hearing for the Environmentally Sustainable Development Local Policy amendments for the Cities of Banyule (C73), Moreland(C71), Port Phillip(C97), Stonnington(C177), Whitehorse(C130) and Yarra(C133) in 2014, and as Expert Witness in ESD for the City of Moreland's Panel Hearing process for the Moreland Apartment Design Code (MADC) Amendment (C142) in 2015.</p> <p>I am currently the ESD Advisor to the Statutory Planning Department at the City of Yarra, and continue consulting for business and government on ESD and sustainable energy projects across Australia and New Zealand. I currently also assess ESD town planning submissions for the City of Banyule and continue to support other councils through occasional consulting such as the City of Greater Bendigo, Banyule and Moreland. My full CV and Professional Introduction is attached in Appendix 2.</p>

Areas of expertise	<p>To make this report I have drawn on the following areas of expertise;</p> <ul style="list-style-type: none"> <li>- Working as a sustainability professional for architects, designers and developers,</li> <li>- Carried out sustainability assessments of over 500 proposed developments for local government and the development industry,</li> <li>- Prepared and implemented various reports detailing technical ESD provisions,</li> <li>- Prepared planning scheme amendments and materials for local government, including benchmarking proposed planning provisions with current industry practice,</li> <li>- Practical experience using current ESD tools and standards.</li> </ul>
Adopted evidence	I adopt this report as my evidence.
Other contributors	There are no other significant contributors to this report.
Instructions & scope	In the preparation of this report I received instruction from the Cities of Melbourne and Port Phillip. The scope of this report includes the review of the sustainability goals, objectives and standards in the Fishermans Bend draft Framework and planning control amendments drafted for the City of Melbourne and the City of Port Phillip. I have considered the appropriateness of the drafted Framework and planning controls, how they compare to current planning controls in other councils in Victoria and how they benchmark against other similar urban renewal areas in Australia. Details of my Instructions and Scope are included in the Appendix 1 of this report.

## 1 Introduction

### 1.1 Background

- 1.1.1 I have been engaged by both the City of Melbourne and the City of Port Phillip to provide expert witness services for the Fishermans Bend draft Framework Panel Review and proposed planning controls amendment GC81. I have received instruction in this matter set out in a formal letter of instruction, dated 9<sup>th</sup> January 2018, and included in Appendix 1. I have drafted this report in line with Planning Panel Victoria Practice Note G2 *Guide to Expert Evidence April 2015*.

### 1.2 Sources of Information Summary

- 1.2.1 The following sources of information have been utilised in the collation of this report:
- Fishermans Bend draft Framework (FBdF)
  - Fishermans Bend draft planning controls for City of Melbourne and the City of Port Phillip
  - Fishermans Bend Vision document and Fact Sheets
  - Fishermans Bend Sustainability Strategy
  - City of Melbourne submission to the Fishermans Bend draft Framework review
  - City of Port Phillip submission to the Fishermans Bend draft Framework review
  - Additional submissions relating to ESD, specifically Submissions 153, 188, 224 and 245.
- 1.2.2 Background documents and reports also considered in this expert witness report that have provided and preliminary planning for the FBdF include;
- Urban Design Strategy 2017
  - Baseline Drainage Plan Options
  - Fishermans Bend Sustainability Strategy 2017
  - Fishermans Bend Waste and Resource Recovery Strategy 2017

## 2 Sustainability Overview & Recommendations

### 2.0 Introduction and Overview

- 2.0.1 The draft planning controls essentially bind planning applications to existing local policies in both the City of Melbourne and the City of Port Phillip. There are several requirements within the new draft planning controls that will also influence sustainability performance standards.
- 2.0.2 Within the Fishermans Bend draft Framework(FBdF) there are significant elements that require development in Fishermans Bend to a high standard in sustainability. This was built on the components of the Fishermans Bend Vision document, the Fishermans Bend Sustainability Strategy, Fact Sheets and other supporting reports.
- 2.0.3 The existing and proposed planning controls for Fishermans Bend are highly unlikely to achieve the standard of sustainability set out in the Fishermans Bend draft Framework and Vision document, the Sustainability Strategy or Fact Sheets.
- 2.0.4 When considering the planning control provisions as a whole, they do not represent a significant improvement on the standard of sustainability in current planning applications.
- 2.0.5 There are also some contradictions between the existing and proposed provisions that need to be clarified.
- 2.0.6 Additional details including clarification of sustainability performance standards and clear responsibility for reporting on sustainability is required in order for the sustainability goals and objectives of the FBdF to be realised.

### 2.1 Key ESD Issues Identified

- 2.1.1 There is no overall Green Star Communities rating included as an overall standard in the Fishermans Bend draft Framework, Sustainability Strategy or in the Planning Controls. In the absence of a rating or standard a minimum 4 Star Green Star Communities rating is most likely.
- 2.1.2 The net zero emissions target contained within the Fishermans Bend draft Framework, and Sustainability Strategy is not achievable by a Green Star Communities 4 Star, or the 4 Star Green Star Design and As Built rating contained within the proposed planning controls (See Schedules 1 and 4 to Capital City Zone Clause 37.04).
- 2.1.3 The requirement for 4 Star Green Star Design and As Built rating in Schedules 1 and 4 to Capital City Zone Clause 37.04 for buildings is lower than what is currently required by the City of

Melbourne's Energy, Water and Waste Efficiency Local Policy 22.19, which requires a 5 Star Green Star standard for developments larger than 5,000m<sup>2</sup>.

- 2.1.4 The 4 Star Green Star Design and As Built requirements in Schedules 1 and 4 to Capital City Zone Clause 37.04 is equivalent to what all development applications larger than 50m<sup>2</sup> are currently required to demonstrate under City of Port Phillip's Environmentally Sustainable Development (ESD) Local Policy 22.13, and so adds little to no additional value.
- 2.1.5 The exemption for extension and additions in the Schedule 1 to Capital City Zone Clause 37.04 to demonstrate 4 Star Green Star rating is in direct conflict with requirements for extensions and alterations under City of Port Phillip's ESD Local Policy 22.13.
- 2.1.6 The 50% tree canopy cover target for open space contained within the Fishermans Bend draft Framework and Sustainability Strategy is likewise not guaranteed by a 4 Star Green Star Communities rating. This is higher than what most 4 Star Green Star projects typically would achieve.
- 2.1.7 The target for 50% of food waste, and 70% of household waste diverted from landfill contained within the Fishermans Bend draft Framework and Sustainability Strategy is also not ensured by Green Star, and this is also generally higher than what 4 Star Green Star projects would achieve.

## 2.2 Recommendations

- 2.2.1 I recommend that the sustainability standards in all the proposed planning controls be updated to make greater reference to sustainability standards and performance outcomes as described in the Fishermans Bend draft Framework, Sustainability Strategy and Fact Sheets.
- 2.2.2 The proposed planning controls should include a proportionate sustainability performance standard relative to the scale of development, and example tools given to achieve this standard. The planning controls should be consistent across the Fishermans Bend precincts, and be clear and unambiguous.
- 2.2.3 I recommend a 6 Star Green Star Communities rating at a precinct level, a minimum 5 Star or 'Australian Excellence' Green Star Design and As Built for all buildings over 5,000m<sup>2</sup>, and a 4 Star Green Star or 'Best Practice' standard for development between 50m<sup>2</sup> and 5,000m<sup>2</sup>. *See Table 1 below for details.*
- 2.2.4 A responsible agent for delivering the ESD standard for each component should also be stipulated. *See Table 1 below for details.*
- 2.2.5 I recommend that Table 1 (*below*) should be inserted into both Fishermans Bend Urban Renewal Area Local Policies of City of Melbourne (22.27) and the City of Port Phillip (22.15).

- 2.2.6 I recommend a zero net emissions performance standard should be required by both Fishermans Bend Urban Renewal Area Local Policies of City of Melbourne (22.27) and the City of Port Phillip (22.15). This can be calculated via the Green Building Council of Australia's Greenhouse Calculator or by equivalent current industry definitions and practices including the National Carbon Offset Standard (NCOS) and the Federal Government National Greenhouse Accounts Factors and Methods Workbook. The greenhouse gas emissions calculations can include offsite purchases of Green Power, district scale renewable energy generation or onsite generation, energy storage systems and excess renewable energy exported via network electricity dispatch.
- 2.2.7 I recommend that Fishermans Bend Task Force act, in partnership with the Distribution Network Service Provider, electricity retailers and generators, Sustainability Victoria and local industry, and invest into a low carbon electricity distribution system at a multi-precinct level.
- 2.2.8 First flush arrangements for rainwater collection contained on page 5 of 8 in both Fishermans Bend Urban Renewal Area Local Policies of City of Melbourne (22.27) and the City of Port Phillip (22.15) should be carefully designed to maintain stormwater quality Best Practice standards.
- 2.2.9 I recommend specifying increased bicycle parking provision rates on page 7 of 8 within both the Fishermans Bend Urban Renewal Local Policies 22.27 and 22.15 to be: one secure bicycle space per bedroom for residential developments and one secure bicycle space for 20% of building occupants for non-residential.
- 2.2.10 I recommend a change in terminology in Schedule 1 and Schedule 4 to Capital City Zone Clause 37.04 from 'Environmentally Sustainable Design Statement' to 'Sustainability Management Plan', in line with current industry terminology, as set out in the ESD Local Policy in Port Phillip (22.13) and identical wording in 9 other Victorian councils' local policies.
- 2.2.11 I recommend that the existing ESD Local Policy 22.13 in the City of Port Phillip be amended to remove sunset clause.
- 2.2.12 I recommend the Fishermans Bend Taskforce join the Climate Positive Cities initiative.
- 2.2.13 I recommend that the following strategies are developed by the Victorian Government and its' agencies at the soonest opportunity to best guide the development of the planning controls.
- Precinct Plans, including;
    - Water sensitive urban design infrastructure
    - Tram network infrastructure upgrades
    - New road infrastructure
    - Open space development
  - Finalising the trams corridor plan
  - Zero Net Emissions Strategy
  - Climate Readiness Strategy



Table 1. Proposed Sustainability Triggers and Performance Standards

Development Scale	Sustainability performance standard	Rating with example tools	Responsible agent
Precinct	'International Leadership' in ESD <sup>^</sup>  Zero Net Carbon Emissions <sup>#</sup>	6 Star Green Star Communities	Fishermans Bend Taskforce
Residential or mixed use buildings, 10 dwellings or greater	'Excellence' in ESD <sup>*</sup>  Zero Net Carbon Emissions <sup>#</sup>	5 Star Green Star Design and As Built  70% BESS score	Development applicant
Non-residential buildings >5,000m <sup>2</sup> of new floor area	'Excellence' in ESD <sup>*</sup>  Zero Net Carbon Emissions <sup>#</sup>	5 Star Green Star Design and As Built  70% BESS score	Development applicant
Residential or mixed use buildings 2-9 dwellings or <50m <sup>2</sup> of new floor area	'Best Practice' in ESD <sup>**</sup>  Zero Net Carbon Emissions <sup>#</sup>	4 Star Green Star Design and As Built  50% BESS score	Development applicant
Non-residential buildings 50m <sup>2</sup> to 5,000m <sup>2</sup> of new floor area	'Best Practice' in ESD <sup>**</sup>  Zero Net Carbon Emissions <sup>#</sup>	4 Star Green Star Design and As Built  50% BESS score	Development applicant

<sup>^</sup> 'International Leadership' in ESD as defined by the Green Building Council of Australia as a 6 Star Green Star Standard.

<sup>#</sup> "Zero Net Emissions" as defined by the National Carbon Offset Standard and utilising the methodologies contained within National Greenhouse Accounts Factors and Methods Workbook.

<sup>\*</sup> 'Excellence' in ESD as defined by the Green Building Council of Australia as a 5 Star Green Star standard or as a minimum 70% project score using the Built Environment Sustainability Scorecard (BESS) tool.

<sup>\*\*</sup> 'Best Practice' in ESD as defined by the Green Building Council of Australia as a 4 Star Green Star standard and as a minimum 50% project score using the Built Environment Sustainability Scorecard (BESS) tool.

### 3 Analysis of Proposed Planning Provisions per Amendment GC81

#### 3.0 Fishermans Bend draft Framework

3.0.1 There are eight key sustainability goals for Fisherman's Bend contained in the draft framework:

1. A connected and liveable community
2. A prosperous community
3. An inclusive and healthy community
4. A climate adept community
5. A water sensitive community
6. A biodiverse community
7. A low carbon community
8. A low waste community

3.0.2 These key development goals integrates sustainability within the strategic planning framework. Although the categories are different to Green Star Communities, we can see clear parallels between these eight key sustainability goals and the Green Star Communities tool categories which are;

- i. Governance,
- ii. Liveability
- iii. Economic Prosperity
- iv. Environment
- v. Innovation

3.0.3 In short, the two categorisations of sustainability are well matched between Green Star Communities and the Fishermans Bend draft Framework. The eight key sustainability goals of Fishermans Bend draft Framework (FBdF) contain a number of targets under each goal, with accompanying Objectives that are to be met. The Objectives have a number of Strategies to support the realisation of the Objectives and Targets. The Strategies under each Objective in most parts of the FBdF provide additional detail, but are often worded in aspirational language. In some instances, 'Catalyst Projects' are also included to assist the Objectives and Targets be met, but these are often small contributions by comparison to the overall targets that have been set.

3.0.4 The current gap between the actual catalyst projects and the targets aimed for in the FBdF, is particularly apparent on the Key Sustainability Goal 7 (Low-Carbon Community) where no catalyst project is offered for what is perhaps the most challenging sustainability goal.

3.0.5 The key strategies that relate to sustainability in the built form include under Objective 4.1 and 4.2 of the FBdF (A Climate Adept Community) are;

*4.1.1 Additional tree planting to deliver 50% tree canopy coverage in public spaces by 2050. Tree and plant selection will consider future climates*

*4.1.2 A diversity of tree species will be planted to create a resilient urban forest*

- 4.1.3 *Design and construct new streets to support the growth of existing and new healthy large trees, including irrigation with recycled water*
- 4.1.4 *Introduce design standards to deliver initiatives in private developments such as shading, cool or green roofs and facade albedo treatments*
- 4.1.5 *Incorporate measures such as shading and vegetation to reduce temperatures in public spaces*
- 4.2.1 *Encourage the inclusion of well- designed and managed green roofs and green walls in new development*
- 4.2.2 *Incorporate requirements for deep soil planting within new developments and public spaces*
- 4.2.3 *Ensure development on private land will not impact growth of healthy trees in public spaces*

3.0.6 The key strategies that relate to sustainability in the built form include under Objective 5.1 and 5.2 of the FBdF (A Water Sensitive Community) are;

- 5.1.1 *Harvest, treat and reuse stormwater to minimise flooding and other environmental impacts*
- 5.1.2 *Utilise smart grid technology to maximise the capture of rainwater in buildings, while maintaining enhanced flood mitigation*
- 5.1.3 *Ensure that stormwater is treated to reduce nutrient discharge and minimise environmental impacts*
- 5.1.4 *Prepare a strategy to holistically manage drainage to mitigate the impacts of storms and sea level rise.*
- 5.1.5 *Design the public realm to make water visible and part of the Fishermans Bend identity through water sensitive urban design*
- 5.1.6 *Retain design controls to raise habitable floor levels to avoid flooding*
- 5.2.1 *Support the delivery of a sewer mining plant and associated third- pipe infrastructure to provide recycled water as a substitute for potable water for toilet flushing, laundry and irrigation across all public and private development in Fishermans Bend. This will supplement stormwater harvested via rainwater tanks in all buildings*
- 5.2.2 *Minimise the potable water use by using recycled water and rainwater for toilet flushing, laundry and irrigation*
- 5.2.3 *Provide recycled water to maintain sports fields and other planting in streets and parks*

3.0.7 The Catalyst Project under these strategies is the sewer-mining project of South East Water; this is a welcomed innovation in the area, although there is some concern about the standards for buildings with the current inconsistencies and ambiguity in the proposed planning scheme controls. The FBdF sets out that;

*Buildings will incorporate best-practice water-efficient fixtures and rainwater tanks for flood mitigation. Through the inclusion of a 'third pipe' and smart grid technology in the building, captured rainwater and recycled water will be beneficially used for non-drinking water, use of toilet flushing, laundry and garden watering.*

3.0.8 The key strategies that relate to sustainability in the built form include under Objective 6.1 and 6.2 of the FBdF (A Biodiverse Community) are;

- 6.1.1 *Identify, utilise, protect and enhance existing biodiversity and habitats in the design of public open spaces*
- 6.1.2 *Design the open space network and streets to provide a mosaic of habitats that enhance ecologic connectivity*
- 6.1.3 *Investigate a significant new public space in the Fishermans Bend Employment Precinct*
- 6.1.4 *Encourage the inclusion of green infrastructure such as green roofs and walls into new development to increase biodiversity. New private open space should be designed with maximised vegetation volume to support a rich ecosystem*
- 6.1.5 *Plant trees early and select tree species to support biodiversity using the following hierarchy: – Plant native or indigenous trees where conditions are favourable for large canopy growth (such as medians) – Where exotic trees are planted, select species that provide resources for biodiversity, such as flowers, pollen, nectar and rough bark*
- 6.2.1 *Seek opportunities to create designated areas of complex vegetation that incorporate a wide variety of plant species and scales, including layers of ground covers, shrubs and trees*
- 6.2.2 *Design all public spaces to enhance biodiversity, including the provision of a diversity of native and indigenous species*
- 6.2.3 *Engage the community in biodiversity conservation, including residents, businesses, Aboriginal and community groups*
- 6.2.4 *Improve soil health in parks and streets*
- 6.2.5 *Maximise resources for biodiversity in open spaces, such as habitat logs, artificial habitat, mulch and water features*
- 6.2.6 *Increase understorey planting*

- 3.0.9 The key strategies that relate to sustainability in the built form include under Objectives 7.1, 7.2 and 7.3 of the FBdF (A Low-Carbon Community) are;
- 7.1.1 Provide clear direction of the actions needed now and in the future for the development sector, authorities, government and the community*
- 7.1.2 Develop a comprehensive net zero emissions strategy for Fishermans Bend*
- 7.2.1 Require new developments to meet 4 Star Green Star Standards or equivalent now, and clearly indicate future increases to performance requirements*
- 7.2.2 Develop a transition plan to help improve the energy performance of existing buildings within Fishermans Bend, either prior to long-term redevelopment or where buildings will be retained*
- 7.3.1 Maximise renewable energy generation such as solar panels on appropriate rooftops and sharing or storing of this energy*
- 7.3.2 Explore opportunities for precinct-wide sustainable energy generation and distribution*
- 3.0.10 The Zero Net Emissions Strategy document mentioned in the FBdF has not been developed or published yet. This document should contain clear direction and leadership from the Victorian State Government to lead Fishermans Bend to achieve this challenging goal. In my opinion, the Zero Net Emissions Strategy is needed now, to guide the development of these proposed planning controls.
- 3.0.11 The 4 Star Green Star standard requirement contained within the Fishermans Bend Urban renewal Local Policies (22.17 in CoM) and (22.15 in CoPP) for all new developments is lower than what the City of Melbourne expects for development over 5,000m<sup>2</sup> in the existing local policy 22.19 and typically does not account for more than 10% improvement in current energy efficiency standards in the National Construction Code, giving a 10-20% reduction in onsite carbon emissions. This is a long way from the zero net emissions goal of the FBdF and Sustainability Strategy.
- 3.0.12 A 4 Star Green Star building would typically meet 2-5% of the buildings demand through onsite solar generation. The current planning controls in the City of Melbourne and City of Port Phillip would typically give a 10-25% carbon reduction, which is far below the net zero target on the FBdF. Clearly the Zero Net Emissions Strategy promised by the Fishermans Bend Taskforce is needed now, to inform the FBdF process and the planning controls.
- 3.0.13 Strategy 7.3.2 of the Fishermans Bend draft Framework states on page 64 that the State Government are “*Exploring opportunities for precinct wide sustainable energy generation and distribution*” which sounds like a feasibility study at best. Feasibility studies are limited by the economic assumptions and calculations built into the economic modelling. Given the rate of change of technology and unforeseen reduction in the costs of solar PV over the last decade, greater commitment and leadership is warranted to see these crucial strategies realised, given the unique opportunities that Fishermans Bend provides.
- 3.0.14 No catalyst projects have been included in the FBdF or announced to meet the low carbon aspirations of the Fishermans Bend draft Framework Sustainability Goal 7, which needs to be addressed.
- 3.0.15 The key strategies that relate to sustainability in the built form include under Objective 8.1, 8.2 and 8.3 of the FBdF (A Low-Waste Community) are;

- 8.1.1 *Require high standards for building construction, design and operation to increase resource recovery rates. These standards will be harmonised across Fishermans Bend*
- 8.1.2 *Encourage food waste recovery systems in all new commercial and residential buildings*
- 8.1.3 *Construction of infrastructure (including buildings) will prioritise using recycled materials*
- 8.1.4 *Introduce innovative education and engagement programs for residents, businesses and the construction sectors*
- 8.2.1 *Provide shared collection services to reduce truck movement*
- 8.2.2 *Require high standards for waste management plans and building design guidelines to ensure all waste is managed within buildings*
- 8.2.3 *Utilise new smart city technologies, such as sensor technologies, to monitor bin volumes and optimise collection routes*
- 8.3.1 *Encourage new advanced resource recovery technology facilities to manage waste*
- 8.3.2 *Develop a new transfer station and resource recovery centre to improve the range and effectiveness of resource recovery options for businesses and residents*
- 8.3.3 *Create a sustainability hub containing the sewer mining plant, advanced resource recovery facilities, education centre, resource recovery centre and community facilities (e.g. community gardens, food recovery organisations and men's sheds)*

3.0.16 Next Steps listed in the FBdF are;

- Precinct Plans, including;
  - Water sensitive urban design infrastructure
  - Tram network infrastructure upgrades
  - New road infrastructure
  - Open space development
- Finalising the trams corridor plan
- Zero Net Emissions Strategy
- Climate Readiness Strategy

3.0.17 These supporting strategy documents are needed immediately to best guide the development of the planning controls, particularly in relation to the Zero Net Emissions Strategy. I recommend that these strategies are developed at the soonest opportunity.

## 3.1 Planning Controls for City of Melbourne

### *Analysis of Proposed Planning Provisions per Amendment GC81 (cont.)*

#### **3.1.0 Current Provisions relating to ESD (CoM)**

- 3.1.1 Existing planning provisions in the City of Melbourne, notably the Energy, Water and Waste Efficiency Local Policy 22.19 requires proportionate energy, waste and water measures for developments above 2,000m<sup>2</sup>, including a 5 Star Green Star Standard of Australian Excellence for developments of 5,000m<sup>2</sup> or larger.
- 3.1.2 Unlike the City of Port Phillip, there are currently no specific provisions in the City of Melbourne for developments smaller than 2,000m<sup>2</sup>.
- 3.1.3 In addition, Clause 22.19-6 of the Melbourne Planning Scheme stipulates that developments in Urban Renewal Areas “be capable of connecting to available and planned alternative district water supply, energy supply, waste collection and treatment systems.”

3.1.4 The current Fishermans Bend Strategic Framework Plan July 2014, (amended Sept 2016) includes five broad Sustainability Objectives which are:

- 7.1 Flood Protection,
- 7.2 Water Efficiency,
- 7.3 Stormwater Management,
- 7.4 Energy Efficiency and Thermal Comfort, and
- 7.5 Waste Management.

3.1.5 A series of Standards underpins each of these current Sustainability Objectives with clear direction that each of these standard must be addressed, but lacks any quantifiable benchmarks, reference points or industry standards. The elements within these Objectives and Standards are covered by the Fishermans Bend draft Framework currently under consideration, presumably rendering these Objectives and Standards obsolete.

3.1.6 In summary, the main current planning provisions relating to sustainability and built form in the City of Melbourne are:

- Clause 22.19 Energy, Water and Waste Efficiency
- Clause 22.23 Stormwater Management (Water Sensitive Urban Design)
- Clause 55 Two or More Dwellings on a Lot and Residential Buildings (Better Apartments)
- Clause 58 Apartment Developments (Better Apartments)
- Fishermans Bend Strategic Framework Plan (amended Sept 2016)

## 3.2 Proposed New Provisions relating to ESD (CoM)

1. Clause 22.27 Fishermans Bend Urban Renewal Area Local Policy
2. Schedule 67 to Clause 43.02 Design and Development Overlay
3. Schedule 4 to Capital City Zone Clause 37.04

### 3.2.1 Fishermans Bend Urban Renewal Area Local Policy Clause 22.27 (CoM)

3.2.2 **Energy.** Key energy efficiency requirements on page 4 of 8 in the draft Clause 22.27 include; 20% improvement in the National Construction Code efficiency standards for services and building shell), 7 Star NatHERS average rating for each building, and specific renewable energy provisions both on each building and a precinct wide of local distributed low carbon supply.

3.2.3 **Urban Heat Island.** Key requirements on page 4 of 8 in the draft Clause 22.27 include; Low solar absorbance glazing, 70% of area in plan view to comprise of landscaping, buildings to include deep soil planting, green roofs, walls or facades.

3.2.4 **Sea level Rise, Water Recycling and Management.** Key requirements on page 4 and 5 of 8 in the draft Clause 22.27 include; Building design to mitigate flooding and maintain urban design elements, third pipe recycled water for non-potable water uses, rainwater collected from 100% of all suitable roof areas, Best Practice in Water Sensitive Urban Design. First flush systems required to meet South East Water requirements (details not stated).

- 3.2.5 **Waste Management.** Key requirements on page 5 of 8 in the draft Clause 22.27 include; Best practice waste management, including separate waste streams for general waste, recycling, hard waste, food waste and green waste.
- 3.2.6 **Public and Communal Spaces.** Key requirements on page 5 and 6 of 8 in the draft Clause 22.27 include; various details specific to publically accessible and private communal open spaces including protection of microclimatic conditions, size requirements and various other details to the satisfaction of the responsible authority.
- 3.2.7 **Sustainable Transport.** Key requirements on page 7 of 8 in the draft Clause 22.27 include; various provisions relating to sustainable transport including priority to pedestrian and bicycles in internal connections, “high levels” of bicycle parking spaces and end-of-trip facilities. I recommend that these are clarified and specified as: one secure bike parking space per bedroom for residential and one secure space for 20% of occupants for non-residential.
- 3.2.8 Schedule 4 to Capital City Zone Clause 37.04 (CoM)**
- 3.2.9 **Conditions** (pages 6 and 7 of 12) are listed in these provisions to be used on permits granted for the development of individual buildings or planning applications. There are three concerning a 4 Star Green Star Design and As Built requirement. It is also noted that alterations and additions are exempt. The wording of these is supported, except in regards to the 4 Star standard – *see previous comments on 4 Star Green Star.*
- 3.2.10 **Application Requirements.** The application requirements (page 7 or 12) detail information for submissions for planning applications including information relating to technical and supporting information sustainability and environmentally sustainable design and development.
- 3.2.11 The application requirements are generally supported and suitable, however I would recommend a change in terminology from ‘Environmentally Sustainable Design Statement’ to ‘Sustainability Management Plan’, in line with current industry terminology, as set out in the ESD Local Policy in Port Phillip (22.13) and identical wording in other Victorian councils.
- 3.2.12 **Decision Guidelines** (page 8 of 12) also include reference to sustainability and Green Star, although without a specific Star rating, which is entirely suitable.
- 3.2.13 Design and Development Overlay Schedule 67 to Clause 43.02 (CoM)**
- 3.2.14 Key planning controls related to sustainability contained within the DDO include;
- Building heights, separation and setbacks (Table 1 page 3 and 4 of 13)
  - Building finishes (page 7 of 13)
  - Landscaping (pages 7 and 8 of 13)
- 3.2.15 The provisions in the DDO will assist building achieve sustainability provisions such as Indoor Environment Quality, including access to daylight and natural ventilation.
- 3.2.16 City of Melbourne’s Eco-City goals of Clause 21.02-7 are also acknowledged.

City of Melbourne's reference documents, are;

- City of Melbourne Ecologically Sustainable Buildings Guidelines, 2001.
- City of Melbourne Stormwater Management Plan, 2000.
- Solar Technology Installations in the City of Melbourne's Residential Areas, 2001.
- Melbourne's Greenhouse Action Plan-2001—2003, 2001.
- Melbourne Sustainable Energy and Greenhouse Strategy, 2000.
- Urban Stormwater Best Practice Environmental Management Guidelines, 1999.
- Growing Green, 2003.
- Total Watermark 2004, 2004.
- Zero Net Emissions by 2020 – A Roadmap to a Climate Neutral City, 2003.
- Business Park Precinct Noise Management Regime 1998.
- Melbourne Docklands Lighting Regime for the Business Park Precinct 1999.

### 3.3 Planning Controls for City of Port Phillip

#### 3.3.1 Current Provisions relating to ESD

- 3.3.2 The existing planning provisions in the City of Port Phillip include the ESD Local Policy Clause 22.13, which requires applicants to reach a 'Best Practice standard' in ESD for residential or non-residential developments of 50m<sup>2</sup> of new floor area, or greater. This is typically demonstrated through a 4 Star Green Star standard or a 50% BESS project score and accompanying STORM score, presented in either a Sustainability Management Plan (large developments) or a Sustainable Design Assessment (small and medium developments).
- 3.3.3 Clause 22.12 in the City of Port Phillip Planning Scheme *Stormwater Management (Water Sensitive Urban Design)* also requires best practice standard in stormwater management typically demonstrated through a STORM score of 100% or greater, for residential or non-residential developments of 50m<sup>2</sup> of new floor area, or greater.
- 3.3.4 Unlike the City of Melbourne, there are no specific provisions in the City of Port Phillip for developments larger than 5,000m<sup>2</sup>, over and above what it expects from developments of 1,000m<sup>2</sup>.
- 3.3.5 The current Fishermans Bend Strategic Framework Plan July 2014, (amended Sept 2016) includes five broad Sustainability Objectives which are:
- 7.1 Flood Protection,
  - 7.2 Water Efficiency,
  - 7.3 Stormwater Management,
  - 7.4 Energy Efficiency and Thermal Comfort, and
  - 7.5 Waste Management.



3.3.6 A series of Standards underpins each of these current Sustainability Objectives with clear direction that each of these standard must be addressed, but lacks any quantifiable benchmarks, reference points or industry standards. The elements within these Objectives and Standards are covered by the Fishermans Bend draft Framework currently under consideration, presumably rendering these Objectives and Standards obsolete.

3.3.7 In summary, the main current planning provisions relating to sustainability and built form in the City of Port Phillip are:

- Clause 22.12 Stormwater Management (Water Sensitive Urban Design)
- Clause 22.13 Environmentally Sustainable Development
- Clause 55 Two or More Dwellings on a Lot and Residential Buildings (Better Apartments)
- Clause 58 Apartment Developments (Better Apartments)
- Fishermans Bend Strategic Framework Plan (amended Sept 2016)

### 3.4 Proposed New Provisions relating to ESD

- Clause 21.03 Ecologically Sustainable Development (Unique MSS to CoPP)
- Clause 21.15 Fishermans Bend Urban Renewal Area Local Policy (Identical to 22.27)
- Schedule 30 to Clause 43.02 Design and Development Overlay
- Schedule 1 to Capital City Zone Clause 37.04

#### 3.4.1 Clause 21.03 Ecologically Sustainable Development (Unique MSS to CoPP)

This references the existing ESD Local Policy (Clause 22.13) and Urban Design Policy for Non-Residential Development and Multi-Unit residential Development (Clause 22.06) and adds some overarching objectives and strategies with generally encouraging language, but without any additional requirements outside the existing Local Policies (22.13 and 22.06).

#### 3.4.2 Clause 21.15 Fishermans Bend Urban Renewal Area Local Policy (CoPP)

3.4.3 This is identical to 22.27 of City of Melbourne, details follow.

3.4.4 **Energy.** Key energy efficiency requirements on page 4 of 8 in the draft Clause 22.27 include; 20% improvement in the NCC efficiency standards for services and building shell), 7 Star NatHERS average rating for each building, and specific renewable energy provisions both on each building and a precinct wide of local distributed low carbon supply.

3.4.5 **Urban Heat Island.** Key requirements on page 4 of 8 in the draft Clause 22.27 include; Low solar absorbance glazing, 70% of area in plan view to comprise of landscaping, buildings to include deep soil planting, green roofs, walls or facades.

3.4.6 **Sea level Rise, Water Recycling and Management.** Key requirements on page 4 and 5 of 8 in the draft Clause 22.27 include; Building design to mitigate flooding and maintain urban design elements, third pipe recycled water for non-potable water uses, rainwater collected from 100% of all suitable roof areas, Best Practice in Water Sensitive Urban Design

- 3.4.7 **Waste Management.** Key requirements on page 5 of 8 in the draft Clause 22.27 include; Best practice waste management, including separate waste streams for general waste, recycling, hard waste, food waste and green waste.
- 3.4.8 **Public and Communal Spaces.** Key requirements on page 5 and 6 of 8 in the draft Clause 22.27 include; various details specific to publically accessible and private communal open spaces including protection of microclimatic conditions, size requirements and various other details to the satisfaction of the responsible authority.
- 3.4.9 **Sustainable Transport.** Key requirements on page 7 of 8 in the draft Clause 22.27 include; various provisions relating to sustainable transport including priority to pedestrian and bicycles in internal connections, “high levels” of bicycle parking spaces and end-of-trip facilities. I recommend that these are clarified and specified as: one secure bike parking space per bedroom for residential and one secure space for 20% of occupants for non-residential developments.
- 3.4.10 Schedule 1 to Capital City Zone Clause 37.04 (CoPP)**
- 3.4.11 Identical to CoM Schedule 4 to Capital City Zone Clause 37.04, with the following two exceptions:
- CoPP exemption for Dwelling (as a use) not to require a permit, in non-core areas of Sandridge and Wirraway which they are required in CoM.
  - Floor Area Ratios
- 3.4.12 **Conditions** are listed on page 7 of 14 in these provisions to be used on permits granted for the development of individual buildings or planning applications. There are three concerning a 4 Star Green Star Design and As Built requirement. It is also noted that alterations and additions are exempt. This is in direct conflict with the City of Port Phillip ESD Local Policy that has a 50m<sup>2</sup> extension trigger.
- The remaining wording of these is supported, except in regards to the 4 Star standard – *see previous comments on 4 Star Green Star.*
- 3.4.13 **Application Requirements.** The application requirements (pages 7 and 8 of 14) detail information for submissions for planning applications including information relating to technical and supporting information sustainability and environmentally sustainable design and development.
- 3.4.14 The application requirements are generally supported and suitable, however I would recommend a change in terminology from ‘Environmentally Sustainable Design Statement’ to ‘Sustainability Management Plan’, in line with current industry terminology, as set out in the ESD Local Policy in Port Phillip (22.13) and identical wording in other Victorian councils. Industry practice is now to refer to the reports as a Sustainability Management Plan (large scale developments), or Sustainable Design Assessment (small and medium scale).
- 3.4.15 **Decision Guidelines** on pages 8 and 9 of 14 also include reference to sustainability and Green Star, although without a specific Star rating, which is entirely suitable.

### 3.4.16 Schedule 30 to Clause 43.02 Design and Development Overlay (CoPP)

3.4.17 This provision is identical to City of Melbourne Design and Development Overlay Schedule 67 to Clause 43.02, except for additional maximum 70% site coverage in Port Phillip (Sandridge and Wirraway only) contained on page 7 of 13.

3.4.18 Key planning controls related to sustainability contained within the DDO include;

- Building heights, separation and setbacks (Table 1 page 3 and 4 of 13)
- Building finishes (page 7 of 13)
- Landscaping (pages 7 and 8 of 13)

3.4.19 The provisions in the DDO will assist building achieve sustainability provisions such as Indoor Environment Quality, including access to daylight and natural ventilation.

## 3.5 Fishermans Bend Proposed Planning Controls Overview Table

City of Melbourne			
Title	Key Components	Details & Issues	Recommendations
Clause 22.27 Fishermans Bend Urban Renewal Area Local Policy	Energy Urban Heat Island Sea-level Rise & Water Recycling Waste Management Public and Communal Spaces Landscaping	Energy standards (page 4) wont meet zero net emission standard of Sustainability Goal 7 of the FBdF.  First flush requirement (page 5) can undermine stormwater quality standards	Include a zero net emission requirement to meet the Sustainability Goal 7 of the FBdF  Include notation to ensure stormwater quality standards are met.
Schedule 4 to Capital City Zone Clause 37.04	Application Requirements Conditions Decision Guidelines	4 Star Green Star standard (pages 6 and 7) contradicts existing local policy 22.19 and is not appropriate for larger buildings	See Table 1 and proposed scaled provisions
Schedule 67 to Clause 43.02 Design and Development Overlay	Building Heights Separation and setbacks Building Finishes Landscaping	Building set backs will assist and support sustainability outcomes	None

City of Port Phillip			
Title	Key Components	Details & Issues	Recommendations
Clause 21.03 Ecologically Sustainable Development	ESD Sustainable Transport	Refers to ESD Local Policy within the MSS	Amend to remove sunset clause in 22.13
Clause 21.15 Fishermans Bend Urban Renewal Area Local Policy	Energy Urban Heat Island Sea-level Rise & Water Recycling Waste Management Public and Communal Spaces Landscaping	Energy standards (page 4) wont meet zero net emission standard of Sustainability Goal 7 of the FBdF.  First flush requirement (page 5) can undermine stormwater quality standards	Include a zero net emission requirement to meet the Sustainability Goal 7 of the FBdF  Include notation to ensure stormwater quality standards are met.
Schedule 1 to Capital City Zone Clause 37.04	Application Requirements Conditions Decision Guidelines	Extensions and additions exemption contradicts existing ESD Local Policy 22.13 with a 50m <sup>2</sup> extension trigger  4 Star Green Star standard (page 7) does not add value beyond existing ESD Local Policy 22.13 and is not appropriate for larger building types	See Table 1 and proposed scaled provisions
Schedule 30 to Clause 43.02 Design and Development Overlay	Building Heights Separation and setbacks Building Finishes Landscaping	Building set backs will assist and support sustainability outcomes	None

## 4 Green Star Communities and Green Star Design & As Built

### 4.1 Green Star Communities

- 4.1.1 The use of Green Star Communities is supported as an appropriate tool for the Fishermans Bend area as a whole, however it is problematic that no Green Star Communities rating has been set as an overall performance standard for sustainability. To reduce the costs and complexities associated with Green Star it is safe to assume that the Fishermans Bend site will achieve only the lowest rating, which is a 4 Star Green Star Communities rating. This would be the most cost effective way of meeting the commitment of a Green Star Communities rating.
- 4.1.2 A 4 Star Green Star Communities standard is unlikely to add much additional ESD performance benefit to the development at Fishermans Bend, above the existing planning requirements at a building level that themselves require a 'Best Practice' 4 Star Green Star Standard in Port Phillip (Clause 22.13) and the 5 Star Green Star standard of 'Australian Excellence' in City of Melbourne (Clause 22.19).
- 4.1.3 Meeting the minimum current and proposed requirements of both the Cities of Melbourne and Port Phillip Planning Schemes, in conjunction with other details included in the FBdF such as public open space and tram network upgrades is likely to achieve a 4 Star Green Star Communities Standard.
- 4.1.4 After careful consideration and analysis of the Green Star Communities tool and credits it is my opinion that the existing planning scheme requirements will give the majority of credits and points required to achieve a 4 Star Green Star Communities standard. This standard will not, however, deliver the Sustainability Goals, Objectives and Strategies of the Fishermans Bend draft Framework, or Sustainability Strategy and Fact Sheets.

### 4.2 Green Star Design and As Built

- 4.2.1 The Green Star Design and As Built tool is an appropriate tool to use for benchmarking the sustainability performance standard of buildings in Fishermans Bend.
- 4.2.2 There are some practical issues with using Green Star Design and As Built as an instrument within formal planning controls. Firstly, the inherent flexibility of the tool, means that development applicants can pick and choose across a broad range of environmental categories, and effectively trade off between categories for the most cost-effective list of credits or environmental benefits. The categories within Green Star Design and As Built are roughly equivalent to the Objectives and Strategies relating to sustainability within the Fishermans Bend draft Framework, however the flexibility with the tool means that not all these Objectives and Strategies will be support by development applications at a building level. This risk could be somewhat alleviated by a higher Green Star standard (5 Star or 6 Star).

- 4.2.3 Being able to trade off the thermal efficiency of the building shell with building management practices is attractive to development applicants cost shifting to future residents and owners corporations, but it is problematic as a planning instrument as many of the credits within Green Star Design and As Built are not the traditional domain of planning.
- 4.2.4 This implies that many environmental benefits claimed within Green Star Design and As Built cannot be clearly identified at the planning stage, and may not in fact be evident until the final construction phase or occupancy and use of the building.
- 4.2.5 For these reasons, complementing the Green Star Design and As Built with additional environmental initiatives, such as the minimum 7 Star NatHERS rating contained within the Fishermans Bend Urban Renewal Local Policies (CoM 22.27 and CoPP 22.15) is a welcomed addition to assist meet the Sustainability Goals and Objectives of the FBdF. This is also the case with the other additional planning scheme requirements within the Fishermans Bend Urban Renewal Local Policies (discussed in detail above) which are also complementary and will generally assist development applicants reach a 4 Star Green Star Design and As Built standard and the Sustainability Goals and Objectives of the FBdF.
- 4.2.6 Applicants are likely to require guidance on a case-by-case basis from a suitably qualified ESD Consultant to given guidance on complying with the Green Star credits and criterion as well as the planning scheme requirements. This is a commonplace current practice in the industry.
- 4.2.7 The nature of using Green Star Design and As Built is somewhat problematic in terms of timing, as full certification of a 4 Star Green Star Design & As Built standard cannot happen at the planning approvals stage. This is somewhat addressed by the proposed draft conditions on permit contained within the proposed Schedule 1 & 4 to Clause 3.04 Capital City Zone, which are;
- *Prior to the commencement of any works, evidence must be submitted that demonstrates the project has been registered to seek a minimum 4 Star Green Star Design & As-Built rating (or equivalent).*
  - *Prior to the occupation of the building, evidence must be submitted that demonstrates the building has achieved minimum 4 Star Green Star Design Review certification (or equivalent).*
  - *Within 12 months of occupation of the building, certification must be submitted that demonstrates that the building has achieved a minimum 4 Star Green Star Design & As Built rating (or equivalent).*
- 4.2.8 The Green Building Council of Australia's submission to this Fishermans Bend Review Panel process (submission 245), requested that the "or equivalent" wording is removed from these conditions, which effectively binds development applicants into only one ESD tool product. However, this recommendation is not suitable because town planning controls need to focus on performance standards and outcomes, and not lock applicants into only one possible (paid) product for compliance, that is owned by a third party.
- 4.2.9 The reference to "or equivalent" is commonplace in planning scheme provisions, and in this instance refers to the commonplace practice of using the Green Star credits and criterion to benchmark a development, without undertaking the formal registration and assessment process that is overseen by the Green Building Council of Australia. This practice is recognised in the

industry to add value to the project by creating a comprehensive set of checks and third party accreditation to the claims made by a development proponent and their design team. Registering a project and gaining certification as a Green Star development, requires an extensive evidence gathering and documentation process that is a significant cost to developers but assists in compliance and monitoring to a degree of detail that responsible authorities would currently struggle to resource.

- 4.2.10 There are other tools available to development applicants and responsible authorities, notably the Built Environment Sustainability Scorecard (BESS) *see discussion following in Section 5.*
- 4.2.11 In summary, Green Star Design & As Built is suitable for use in the proposed planning controls, in conjunction with the additional requirements of the two Fishermans Bend Urban Renewal Local Policies (22.15 in the City of Port Phillip and 22.27 in the City of Melbourne), if the increased standards of a 5 Star standard is adopted for larger developments greater than 5,000m<sup>2</sup>, as discussed and recommended above and detailed in Table 1 of this report.
- 4.2.12 I also recommend that an “or equivalent” remain, as currently is drafted, in the Schedule 1 and Schedule 4 to Clause 37.04 Capital City Zone. See discussion concerning BESS and other ESD tools below.

## 5 Built Environment Sustainability Scorecard (BESS) and other tools

- 5.1 The Built Environment Sustainability Scorecard (BESS) was created by an alliance of local governments to assist developers demonstrate that they meeting the sustainability requirements as part of planning permit applications. It is currently used by 22 councils across Victoria and has had over 10,000 development applications register to use the tool.  
[www.bess.net.au](http://www.bess.net.au)
- 5.2 It replaces two older tools, STEPS and SDS, that have been supporting sustainable built-environment outcomes in Victoria since 2000. BESS is designed especially for the planning permit approvals process and facilitate a consistent network and assessment of sustainability for any size or type of development.
- 5.3 It also has a number of categories that are similar to Green Star tools and would complement the Sustainability Strategy for Fishermans Bend as well as assist meet the Objectives and Strategies that relate to sustainability.
- 5.4 BESS differs from Green Star in that it does not have an 'as built', or building permit/occupancy permit stage to the tool, but instead focuses on setting the sustainable performance standard in a consistent and clear manner, producing reports suitable for endorsement by responsible authorities for planning permit approvals processes.
- 5.5 A BESS score of 50% demonstrates 'best practice' in sustainability and is roughly equivalent to a 4 Star Green Star standard. A 70% BESS score demonstrates 'excellence' in sustainability and is roughly equivalent to a 5 Star Green Star project. BESS only includes actions or elements that can be demonstrated at planning permit stage, and unlike Green Star it has minimum pass scores for energy, water, stormwater management and indoor environment quality. All data from BESS projects is compiled for local government monitoring and reporting and remains transparent and accountable via the BESS Governance Board.
- 5.6 BESS is free to use for all development applicants and does not have the resource-heavy administration burden of Green Star, but neither does it have the assurance that a third party assessment like Green Star can offer via the Green Building Council of Australia.
- 5.7.0 BESS relies on planning permit holders completing their legal responsibilities to implement development in accordance with the permit requirements, much like the expectations placed upon traffic, heritage or waste management implementation. BESS reports should always be endorsed and form part of a planning permit. BESS does not include a third party verification process, although the BESS reports and outputs can be used to undertake implementation reports and onsite verification, if desired.



- 5.7.1 Some councils currently using the BESS tool often require an implementation report, by condition on planning permits, to confirm that all sustainability actions have been completed. This would normally be undertaken by a 'second party' (ESD consultant engaged by developer) rather than the 'third party' verification offered by the Green Building Council of Australia (GBCA) for Green Star.
- 5.7.2 Although second party (ESD Consultant) verification is not legally comparable to the third party verification of GBCA, the technical scope is the same. Independent verification of BESS scores could be possible if 'third party' or external consultants were required, by condition on permit, to undertake these verification processes. Engaging a different consultant to those who wrote the Sustainability Management Plans would add an additional layer of objectivity and rigour to a verification process, compared to 'self-verification'. Engaging an external consultant to the under verification could be one possible interpretation of the three current draft conditions with the draft Schedule 1 and 4 to Clause 37.04 Capital City Zone that include "or equivalent" in relation to Green Star rating.
- 5.7.3 Whether verification is undertaken by a third party consultant or the GBCA, both processes are exposed to some bias and subjectivity and probably lack the legal and technical rigour of a thorough financial audit or contaminated land process, for example. Both approaches, however, I believe are suitable for ensuring sustainability commitments of developers are implemented without relying heavily on the limited resources of local government, and both approaches suitable for consideration by the Fishermans Bend Review Panel.
- 5.7.4 It is worth noting that the Green Building Council of Australia's main sponsors are the development industry, and it is not entirely clear what conflict-of-interest process they use to ensure that their third party verification is independent of bias when undertaken by sustainability consultants, themselves also engaged regularly by the development industry.
- 5.7.5 Green Star Design and As Built offers assurance to decision makers that sustainability features will be implemented via an industry third party. BESS relies on the assessment by the responsible authority and the legally binding nature of endorsed documents and planning enforcement mechanisms. Both are suitable, but neither approach can fully protect against potentially rogue operators acting in an intentionally fraudulent manner. Although the likelihood of this occurring in larger scale developments is low at the current time.
- 5.8 In comparing the two tools, Green Star Design and As Built, and BESS, both have their strengths and weaknesses. Both have a broad industry patronage, and both have a potentially valuable contribution to the Fishermans Bend Urban Renewal Area.
- 5.9 All other sustainability requirements that are built into Victorian planning provisions do not limit the assessment framework or ESD tools used by planning applicants, so there is no clear reason for Fishermans Bend to only stipulate Green Star Design and As Built for building applications.

- 5.10 All relevant ESD tools such as Green Star, BESS, STORM, MUSIC, NatHERS, NABERS, LEED and the Living Building Challenge should be able to be used by planning applicants in Fishermans Bend. I therefore recommend that an “or equivalent” remain, as currently is drafted, in the conditions within Schedule 1 and Schedule 4 to Clause 37.04 Capital City Zone.

## 6 Review of Submissions to Fishermans Bend draft Framework and Planning Scheme Amendment

### 6.1 City of Melbourne's Submission

6.1.1 I agree with several points made in the submission City of Melbourne made to Fishermans Bend Draft Framework and Planning Scheme Amendment GC81, notably Key Issues 5 and 6 that

“the planning controls will not deliver the agreed vision or targets set out in the Framework”,

and,

*“The commitment to embed precinct wide sustainability through the Green Star Communities tool is strongly supported but the Framework falls short of demonstrating how its sustainability aspirations will be achieved”.*

### 6.2 City of Port Phillip's submission

6.2.1 I agree with the majority of points made by the City Port Phillip that relate to ESD, including;

- *Supporting the delivery of the Sustainability Hub*
- *Set a higher benchmark for sustainability*
- *“‘Leading practice’ sustainability standards for development and the public realm”*
- *“Innovative and integrated energy, water and waste infrastructure solutions that deliver real change”*

6.2.2 There are a few specific suggested policy changes that I support, and a few details that I disagree with. The suggested points that I believe are worth the Panel considering are;

- *Stronger sustainability requirements strengthening the sustainability provisions to make them mandatory.*
- *Raise the bar on Green Star requirements.*
- *The requirement for Green Star Design and As Built as a condition of permit in the CCZ1 is considered too late in the process. Council considers that it must be an upfront consideration of any planning permit and be a key part of the design of the development (in the same way as heritage, amenity and other key development considerations must be taken into account).*
- *Include a requirement in the CCZ1 which identifies key minimum Green Star Credits which a development must achieve to ensure that key environmental outcomes are achieved and not traded off. These include:*
  - *– Credit 18 Water efficiency*
  - *– Credit 26 Stormwater*
  - *– Credit 17 Sustainable Transport*
  - *– Credit 19 Life cycle impacts – Building Reuse (where facades or structures of existing buildings are proposed to be reused)*
  - *– Credit 3 Adaptation and Resilience*

- – Credit 15 Greenhouse Gas Emissions
- – Credit 16 Peak Electricity Demand Reduction
- – Credit 14 Thermal Comfort
- – Credit 25 Heat Island Effect.
- *A requirement for a 5.5 NABERS rating in commercial developments.*
- *Strengthen the requirement for renewable energy generation. All developments should supply at least 10 per cent of building energy use from on-site renewable energy sources or provide a development contribution specifically for a regional renewable energy facility within Fishermans Bend.*
- *Clarify the provisions to ensure it is clear that all fixtures are plumbed to be third pipe ready. This would enable water to be supplied from precinct wide developments or on-site water in future years.*
- *Define best practice for WSUD as Best Practice Environmental Management (BPEM) 1999 as amended. Include clear application requirements including a Stormwater Management Plan must be submitted demonstrating the proposed stormwater strategy.*
- *All developments should provide external shading to windows and balconies to reduce the urban (suggested rewording)*
- *In provisions, include a requirement that a Waste Management Plan must be provided for all development which complies with Council's or the relevant authority's Guidelines for Waste Management Plans and demonstrates how the development meets the waste targets in the draft Framework will be met.*

6.2.3 There are a few suggested policy changes (*in italics below*) that I do not support, which I have inserted comments on these below;

6.2.4 *Amend the CCZ1 to increase the requirement for 4 Star Green Star Design and As Built to 5 Star Green Star (refer Part B Priority Outcome 6.3).*

In my opinion a 5 Star standard is too high for smaller developments (under 5,000m<sup>2</sup>), and that a proportional requirement for higher standards in larger developments is more equitable and justifiable in the current development industry context.

6.2.5 *Strengthen the requirement which seeks to achieve a 20 per cent improvement on current National Construction Code energy efficiency standards by specifically identifying elements key to improving outcomes for energy efficiency. The requirement should address greenhouse gas emissions reduction, energy consumption reduction, high performing building envelope, glazing, lighting, ventilation and air-conditioning, domestic hot water systems, building sealing and accredited green power. The requirements should apply to residential, commercial and retail developments.*

In my opinion a 20% improvement on current National Construction Code energy efficiency requirements is adequate by itself and that the additional detail recommended simply makes the wording of the requirement more complex and doesn't add any particular value.

6.2.6 *Increase the NatHERS rating to be achieved to 8 star with no dwelling achieving an outcome of less than 7 star NatHERS.*

In my opinion an average 8 Star NatHERS and minimum 7 Star is too high for the current development industry, being a standard that is currently only reached by 'boutique' developments, and is likely to add considerable additional costs to development projects.

- 6.2.7 *Mandate the capture of rainwater from 100 per cent of roof areas (including podiums and other above ground surfaces – not just suitable areas). Rainwater must be retained in a rainwater tank with any controlled release to the satisfaction of the relevant authority to reduce the flood risk in Fishermans Bend.*

Although issues associated with flooding are not within my specific area of expertise, this recommendation also relates to stormwater quality and water conservation, which are central to ESD and my sphere of expertise. In my opinion, mandating the capture of rainwater from areas deemed ‘marginal’ catchment or ‘not suitable’ is problematic, as it will necessitate expensive filtering and treatment. Other Water Sensitive Urban Design features, such as raingardens, are entirely suitable for this purpose and can address the stormwater quality requirements of these catchment areas. ‘Fit for purpose’ use of rainwater from suitable roof areas will often require only basic filtering. It is important to recognise that a sewer and stormwater-mining third-pipe system will be provided by South East Water to assist reach water efficiency Goals and Objectives within the FBdF. Requiring 100% of catchment to be used for rainwater harvesting is overly simplistic and limits options for Water Sensitive Urban Design. I do agree, however, that rainwater tanks and their controlled release should be to the satisfaction of the responsible authority.

- 6.2.8 *Strengthen the green infrastructure requirements within buildings, prioritising trees planted in ground, deep root bulb planted trees, green roofs, green facades and green walls. Include a requirement that developments incorporate a green roof that is at least 20 per cent of the total site area.*

There are already sufficient deep soil planting requirements in Clause 55 and 58 of the VPP, and requiring at least 20% of the site area to be a green roof is a overly difficult target to deliver, considering the other existing requirements that will compete for roof space including communal and private open spaces and renewable energy. A more sophisticated measure to encourage green roofs should be investigated.

## 6.3 Other Submissions Concerning ESD

- 6.3.1 The Green Building Council of Australia’s submission to this Fishermans Bend Review Panel process (submission 245), requested that the “or equivalent” wording is removed from these conditions, which effectively binds development applicants into only one ESD tool product, owned and operated by the Green Building Council of Australia. However, this recommendation is not suitable because town planning controls need to focus on performance standards and outcomes, and not lock applicants into only one possible (paid) product for compliance, that is owned by a private party (The Green Building Council of Australia).
- 6.3.2 Submission 224 from William Tolis had a number of useful and interesting points made, notably the removal of the sunset clause from the existing ESD Local Policy 22.13 in the City of Port Phillip’s Planning Scheme. This is an excellent recommendations that I also support and have included in my own recommendations, recognising that this local policy provision is also included in the planning schemes of 9 other Victoria councils (The Cities of Banyule, Darebin, Knox, Manningham,

Monash, Moreland, Stonnington, Whitehorse and Yarra), the amendment should be made to all these existing local policies.

- 6.3.3 William Tolis also recommends minimum standards and not just rely on Green Star Design and As Built to deliver the goals and objectives of the FBdF. This is in some ways addressed by additional requirements in the FBALP. Mr Tolis' recommendations to consider the WELL Building Standard is also worth of considerations, but exactly how and where it should fit into the proposed framework is not clear.

## 7 Discussion and Justification for Proposed Sustainability Standards

- 7.1 An overall standard for the precinct of International Leadership (6 Star Green Star Communities) in sustainability is appropriate for Fishermans Bend Review Panel to consider given;
- The scale of Fishermans Bend is unprecedented and the largest urban redevelopment site in Australia.
  - Barangaroo has set a 6 Star Green Star Communities precedent for a similar urban redevelopment in Sydney. See below for further discussion within Section 7 following.
- 7.2 A standard of 'Australian Excellence' or 5 Star Green Star is recommended for the two Fishermans Bend Urban Renewal Local Policies (22.15 in the City of Port Phillip and 22.27 in the City of Melbourne) for larger developments over 5,000m<sup>2</sup> and a lesser standard of 4 Star Green Star or 'Best Practice' in ESD for medium sized developments. This is justifiable for all development applications within Fishermans Bend, across both local government areas, considering;
- 7.2.1 (i) The current reference to a 5 Star Green Star standard or 'Australian Excellence' in the City of Melbourne Local Policy 22.19, for larger developments (<5,000m<sup>2</sup>), and
- 7.2.2 (ii) The current reference to a 4 Star Green Star standard of 'Best Practice' in the City of Port Phillip Local Policy 22.13, for development of 50m<sup>2</sup> or larger.
- 7.2.3 It would be beneficial for the sake of consistency to have greater clarification of sustainability requirements in the City of Melbourne parts of Fishermans Bend for developments smaller than the 2,000m<sup>2</sup> trigger in the existing Local Policy 22.19. By including a consistent set of triggers for smaller developments with the two Fishermans Bend Urban Renewal Local Policies in both the Cities of Melbourne and Port Phillip, it will present a consistent set of planning controls to developers across all Fishermans Bend precincts.
- 7.2.4 Similarly, there are no specific additional provisions in the City of Port Phillip for developments larger than 5,000m<sup>2</sup>, over and above what it expects from developments of 1,000m<sup>2</sup> in the existing Local Policy 22.13. Adding specific triggers and requirements for larger developments within the Fishermans Bend Urban Renewal Local Policies in both the Cities of Melbourne and Port Phillip will also help present a consistent set of planning controls to developers across the Fishermans Bend precincts.
- 7.2.5 There is a need for consistency in sustainability across the whole Fishermans Bend urban redevelopment area. This would be beneficial for development applicants, local government as well as other industry and community stakeholders.
- 7.2.6 The overall precinct scale target of International Leadership and a 6 Star Green Star Standard will require improved standards in all development applications that occur within the urban redevelopment area. A 4 Star Green Star Design and As Built requirement for buildings will not reach this precinct scale by itself.

- 7.2.7 The proposed allocation of open space, tram network, precinct scale stormwater-mining and the other elements contained within the FBdF as a whole, will place the Fishermans Bend Taskforce in an excellent position to reach a 6 Star Green Communities standard, particularly with the enhanced sustainability requirements for buildings that I have recommended in Section 2 of this report.
- 7.3 Given the scale of the development and the opportunities presented by Fishermans Bend a higher standard of sustainability performance expressed in the Fishermans Bend Vision and draft Framework documents is justified, but unfortunately will not be achieved by the proposed planning framework.
- 7.4 I therefore recommend Fishermans Bend planning provisions require a 6 Star Green Star Communities standard at a precinct level, as well as the recommended increased standards for buildings. The Barangaroo development in Sydney is the largest urban re-development site in Australia in recent years. It has achieved a 6 Star Green Star Communities rating and has committed to zero net emissions through the Climate Positive Cities. Barangaroo exists as the most relevant benchmark for Fishermans Bend. For more detail on Barangaroo's 6 Star Green Star Communities rating see <https://new.gbca.org.au/showcase/projects/Barangaroo/> for details.
- 7.4.1 There are also other relevant 6 Star Green Star Communities case studies projects such as Alkimos Beach (WA), Tonsley (SA) and also Aura in Queensland (rating pending) on the Green Building Council of Australia's website, here <https://new.gbca.org.au/showcase/projects/>
- 7.5 Zero net emissions should be required by the two Fishermans Bend Urban Renewal Local Policies (22.15 in the City of Port Phillip and 22.27 in the City of Melbourne) for all development applications in Fishermans Bend. Zero net emissions should also be pursued by Fishermans Bend Taskforce and development applicants, similar to Barangaroo in Sydney.
- 7.5.1 Zero net emissions can be calculated via the Green Star Greenhouse Calculator or by equivalent current industry definitions and practices including the National Carbon Offset Standard (NCOS) and the Federal Government National Greenhouse Accounts Factors and Methods Workbook. The greenhouse gas emissions calculations typically can include offsite purchases of Green Power, district scale renewable energy generation, onsite renewable energy generation/storage and also the network dispatch of electricity into the electricity network.
- 7.5.2 I recommend Fishermans Bend Taskforce consider joining the Climate Positive Cities initiative. Barangaroo in Sydney has joined this initiative and this has added value and prominence to the urban redevelopment site. For more information on Barangaroo's zero net emissions precedent. See <http://www.barangaroo.com/the-project/progress/sustainability/> for details.
- 7.5.3 The suggestion of including zero net emissions requirement in a planning scheme control is acknowledged as an innovation, and the first time it has been introduced in Victoria to my knowledge. Although an ambitious target, the performance standard is clearly set out in the Fishermans Bend draft Framework and Sustainability Strategy, and can now be accurately measured and implemented, based on current industry tools such as the Green Star Greenhouse



Calculator, and the National Carbon Offset Standard. As a performance standard it can be reached in numerous different ways, giving development applicants options on how to meet the standard.

7.5.4 A zero net emissions development typically undertakes the following practical sustainability management steps, that are often presented in a hierarchy, an example of which follows;

- (1) Optimise energy efficiency opportunities in the building shell or envelope
- (2) Specify energy efficient equipment and services
- (3) Integrate onsite renewable energy
- (4) Purchase accredited Green Power electricity contracts from local district supply or from another market source within the Australian Electricity Market
- (5) Measure, monitor and report ongoing greenhouse gas emissions and purchase accredited carbon offsets for any residual carbon emissions not covered by the previous steps (1) to (4) above.

## 8 Administrating the Sustainability Performance Standards

- 8.1 The commitment to using Green Star Communities tool sets a standard for the whole Fishermans Bend area at a multi-precinct level. It is not clear however, who is the registered entity responsible for ensuring that all development applications meet this standard. Currently, it is not clear who is responsible for what standard in ESD, or how the Green Star Communities process will be administered.
- 8.2 It is reasonable to expect the Fishermans Bend Taskforce, and ultimately the Victorian State Government to be responsible for meeting the overall precinct-wide sustainability standards in Green Star Communities. I would also expect development applicants to be responsible for meeting the relevant ESD performance standards in their proposed developments, assessed at planning application stage by the Cities of Melbourne and Port Phillip Statutory Planning Departments.
- 8.3 It is also reasonable to expect that the responsible authority in each of the local government areas (Cities of Melbourne and Port Phillip) will assess the sustainability standards of individual development applicants against the requirements of the planning framework to the satisfaction of the responsible authority and that all submission concerning sustainability become endorsed documents and therefore legally binding requirements of planning permits.

## 9 Increased Scale and Sustainability Performance Standard

- 9.1 The current development industry in Victoria has generally accepted the proportionate relationship of development scale to sustainability performance standard. This is reflected in the direction given by VCAT in numerous appeal decisions (*see Jolin Nominees PL v Moreland CC (Red Dot) [2006] VCAT 467, 31 March 2006*) and was noted in the Panel Report of the *Ministerial Advisory Committee and Panel Report for the ESD Local Policies April 2014* (page 34 et al). The central premise to this approach is that larger development sizes can justify higher standards in ESD. This is a standard approach by local governments in inner city municipalities when negotiating with development applicants for increasing height or density of development.
- 9.2 There is an opportunity to apply this logic to the Fishermans Bend planning controls given the precedent set across Victoria. See Table 1 on page 9 of this report.
- 9.3 Increased sustainability standards where proposed floor areas exceed 5,000m<sup>2</sup> to a standard of Australian Excellence, equivalent to 5 Star Green Star Design and As Built or a 70% BESS Score, demonstrated at planning approvals stage by each development application, will greatly assist the overall Green Star Communities 6 Star rating be achieved and is entirely suitable for larger scale residential, mixed and non-residential developments in the current market.
- 9.4 This is consistent with City of Melbourne's existing ESD Local Policy 22.19 and this logic has been applied to the suggested Table 1 of sustainability planning controls at the end of my Recommendations Section 2 of this report.

## 10 Precinct or District Scale Infrastructure

- 10.1 Clause 22.19-6 of the Melbourne Planning Scheme stipulates that developments in Urban Renewal Areas “be capable of connecting to available and planned alternative district water supply, energy supply, waste collection and treatment systems.” This is also reflected in the proposed Fishermans Bend Urban Renewal Local Policies of both the City of Melbourne (22.27) and the City of Port Phillip (22.15) that acknowledge (page 4) it is policy for,

*Development to incorporate renewable energy generation, on-site energy storage, and opportunities to connect to a future precinct-wide or locally distributed low-carbon energy supply.*

- 10.2 There is some detail in the Fishermans Bend draft Framework concerning South East Water’s precinct scale alternative water supply (page 62), although more details on the administration and proposed timeline of this initiative would be welcomed at the earliest opportunity. This is a crucial component of the sustainability measures for Fishermans Bend.
- 10.3 Recommend that Fishermans Bend Taskforce pursue district scale waste collection and treatment system and a district scale alternative energy supply, to support the existing provision in Clause 22.19 of the City of Melbourne Planning Scheme and the proposed Fishermans Bend Urban Renewal Area Local Policies of both the City of Melbourne (22.27) and the City of Port Phillip (22.15).

### 10.1 Energy Networks

- 10.1 Given the constrained nature of the existing National Electricity Market, the additional electrical power demands of development in the Fishermans Bend urban renewal area are significant.
- 10.2 The tension between increased electricity demand and supply in Fishermans Bend provides an unique opportunity to design a new approach to distributed electricity through embedded network generation, energy storage and dispatch systems to avoid expensive electricity network upgrades. I note that a feasibility study is included as Strategy 7.3.2 under the Low-Carbon Sustainability Goal in the FBdF, but no further commitment to finding or catalyst project has been announced.
- 10.3 I recommend that Fishermans Bend Task Force act, in partnership with Distribution Network Service Provider, electricity retailers and generators, Sustainability Victoria and local industry, and invest into a low carbon electricity distribution system at a multi-precinct level.
- 10.4 There are other examples of district or precinct- scale low carbon energy infrastructure within Australia such as;
- 10.4.1 The Doncaster Hill District Energy System and MC<sup>2</sup> Tri-generation System:

<https://www.manningham.vic.gov.au/climate-and-energy>

10.4.2 The Dandenong Precinct Energy Plant:

<http://www.greaterdandenong.com/document/25759/precinct-energy-plant>

10.4.3 The City of Sydney Tri-generation system:

<http://www.cityofsydney.nsw.gov.au/vision/towards-2030/sustainability/carbon-reduction/trigeneration>

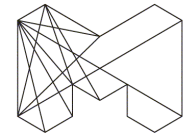
10.4.5 There are also relevant examples of similar initiatives overseas, notably Woking in the UK:

<https://www.theade.co.uk/members/district-heating/woking>

## 11. Declaration

- 11.1 I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

## APPENDIX 1      Letter of Instruction



**CITY OF MELBOURNE**

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9 January 2018

Euan Williamson  
Creative Enterprise Environment  
[Euan@creative-environment.com.au](mailto:Euan@creative-environment.com.au)

Dear Mr Williamson

### **Project Brief**

#### **Fishermans Bend Planning Panel - Amendment GC81 Expert Witness – ESD**

Thank you for accepting this brief to advise City of Melbourne and City of Port Phillip jointly in relation to the Fishermans Bend Planning Review Panel appointed to review and advise on Amendment GC81 to the Melbourne and Port Phillip Planning Schemes. We now jointly write to brief you and provide you with joint formal instructions to prepare independent expert evidence in relation to sustainable development regarding proposed Amendment GC81 on behalf of both Councils before the Review Panel.

#### **1. Amendment GC81**

Fishermans Bend is one of several priority precincts identified in Plan Melbourne and plays a central role in accommodating significant growth. Plan Melbourne designates Lorimer, Wirraway, Sandridge and Montague precincts within Fishermans Bend as priority major urban renewal precincts (mixed use precincts) comprising more than 250 hectares of land.

The draft Fishermans Bend Framework has been created to provide direction for development and establishes benchmarks for high quality design and development outcomes.

To support the implementation of the draft Framework, a suite of planning controls has been prepared to provide detailed planning guidance for new development. These controls once introduced into the City of Melbourne and City of Port Phillip Planning Schemes, will replace the current interim planning measures.

Amendment GC81 to the Melbourne Planning Scheme and Port Phillip Planning Scheme proposes to translate elements in the draft Fishermans Bend Framework into planning terms and address the following key issues for Fishermans Bend:

- Identifies the preferred land use, form and intensity of urban development in each of the four mixed use precincts, including new floor area ratios and maximum height controls.
- Identifies and safeguards potential key transport alignments and services and the preferred locations for public open space and community infrastructure.

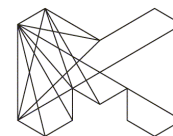
Seventeen background reports were prepared for the Taskforce to assist with preparation of draft provisions.

In summary, the Amendment implements the built form and land use elements of the draft Fishermans Bend Framework (October 2017) as follows:

#### *Melbourne Planning Scheme*

- Amending Clauses 21.01, 21.04, 21.08, 21.13, 21.16, 21.17;
- Introducing new Planning Scheme Map No 7 to the Environmental Audit Overlay;





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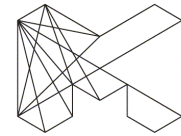
- Replacing Clause 22.27 regarding Fishermans Bend Urban Renewal Area Local Policy which provides guidance on how to evaluate and exercise discretion in the assessment of planning permit applications. This includes; employment, dwelling densities, community and diversity, design excellence, active street frontages, energy, urban heat island, water management, waste, management, public open space, new streets and laneways, smart cities, sustainable transport and floor area uplift;
- Replaces Schedule 4 to Clause 37.04 with a new Schedule 4 to the Capital City Zone. This outlines land use and development outcomes. This includes; land uses, subdivision, floor area ratios, floor area uplift, building Green Star requirements, provision of streets and laneways, core and non-core areas, open space network and advertising signs;
- Replace Schedule 67 to Clause 43.92 with a new Schedule 67 to the Design and Development Overlay which outlines built form controls. This includes; building heights, setbacks and separation, overshadowing, wind, active street frontages, adaptable buildings, building finishes and landscaping;
- Replace Schedule 13 to Clause 45.09 to the Parking Overlay which sets maximum car parking rates to foster sustainable transport outcomes. This overlay also establishes additional car parking plan requirements, which includes the provision of bicycle, car share and motorcycle spaces. Additional design standards are included to provide further guidance;
- Consequential amendments to clauses 61.03 and 81.01.

*Port Phillip Planning Scheme*

- Amending Clauses 21.1, 21.02, 21.03, 21.04, 21.05 and 21.06 of the Municipal Strategic Statement
- Replacing Clause 22.15 of the Local Planning Policy Framework with a new Clause 22.15 to guidance on how to evaluate and exercise discretion in the assessment of planning permit applications. This includes; employment, dwelling densities, community and diversity, design excellence, active street frontages, energy, urban heat island, water management, waste management, public open space, new streets and laneways, smart cities, sustainable transport and floor area uplift.
- Replacing the Capital City Zone – Schedule 1 with a new Schedule 1 which outlines land use and development outcomes.
- Replacing Design and Development Overlay – Schedule 30 with a new Schedule 30 which outlines built form controls. This includes; building heights, setbacks and separation, overshadowing, wind, site coverage, active street frontages, adaptable buildings, building finishes and landscaping.
- Replacing Schedule 1 to the Parking Overlay with a new Schedule 1 to set maximum car parking rates to foster sustainable transport outcomes.
- Introducing a new Schedule 2 to the Development Plan Overlay to protect areas of strategic importance to ensure development achieves defined outcomes.
- Amending schedules to clauses 61.03 and 81.01.
- Introducing new Planning Scheme Map Nos. 2DPO, 3DPO, 1EAO, 2EAO, 3EAO, IESO.

Amendment GC81 was out for public comment between 31 October and 15 December 2017, to which both Councils have made a submission. In total, 241 written submissions have been made. A planning review panel has been appointed to consider the submissions and a two Stage public hearing. Stage One will be held in the weeks of 19<sup>th</sup> and 26<sup>th</sup> February 2018, and 5 March (and possibly 12 March 2018). Stage Two will be held in the weeks of 9, 16, 23 and 30 April 2018. It is yet to be determined how many submitters will present before the Review Panel with updated Request to be Heard forms due by 19<sup>th</sup> January after which an updated timetable will be prepared by the Panel.

A copy of the directions of the review panel and the terms of reference for the panel are included in an Index to your brief (**Tabs 2 and 3**). The Councils will present



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during Stage One and have an option to make submissions, call further evidence and make closing submissions during Stage Two.

## 2. Purpose

Council is seeking an independent expert to provide sustainable development evidence.

The purpose is to provide expert witness services in relation to Amendment GC81.

## 3. Your brief and timeframe

You are briefed to review the Fishermans Bend Draft Framework and Amendment documents and advise on and prepare written independent evidence regarding sustainable development in accordance with 'Guide to Expert Evidence', prepared by Planning Panels Victoria. Specifically, your statement of evidence should:

- Assess to what extent the sustainability goals, aims and targets set out in the Fishermans Bend Draft Framework will be delivered via the proposed strategies identified in Fishermans Bend Draft Framework and the planning scheme Amendment documents
- Provide advice regarding what changes would be required to the sustainability goals, aims and targets set out in the draft Amendment GC81 documentation and the supporting Fishermans Bend Draft Framework for it to be considered "best practice" from an urban renewal perspective. This advice should consider the appropriate thresholds and rating goals from an ESD perspective such as, but not limited to GreenStar, NABERS and NatHERS.
- Respond to any specific directions made by the Review Panel including the list of issues prepared by the Review Panel (**Tab 5**).
- Respond to any specific ESD issues identified in the 241 submissions including submissions prepared by both Councils from an independent perspective (we do not expect you to read all of these and will advise you on which are relevant, if any).
- Review and respond to any other reports on ESD that are prepared by other submitters or the Taskforce in due course, if any.
- On the basis of the above, make any recommendations for changes (if required) to Amendment GC81.

Expert evidence is due for circulation by no later than 12<sup>th</sup> February 2018. A draft should be provided on midday Wednesday 7<sup>th</sup> February 2018 to allow time for review and any modifications if required.

You will be required to attend Stage 1 of the Hearing during the week of 26<sup>th</sup> February 2018 to present your evidence, and answer questions from the Review Panel and submitters. In addition, you may be recalled during the period of the Stage 2 Hearings commencing 9 April 2018. If you wish to attend the Accompanied Site Inspection on 14<sup>th</sup> February 2018 please let us know before 6<sup>th</sup> February so that we can advise DELWP. Please also let us know if you have constraints on your availability as the timetable progresses.

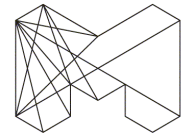
## 4. Project outputs

The key project output is the review of material and the provision of a written statement in addition to presenting oral evidence before the Review Panel.

Electronic copies of the statement are required in Word and PDF format.

## 5. Submission

We refer to your fee proposal dated 08 January 2018 for \$16,100 excluding GST:



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Please provide a declaration of any conflict of interest and how any conflict of interest may be managed.

Please provide separate invoices to City of Melbourne and City of Port Phillip for 50% of the fees in line with your payment schedule.

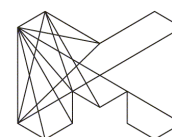
**6. Project management and further information**

The Project Managers are:

- Daniel Boden, Senior Strategic Planner – Urban Renewal, Urban Strategy, City of Melbourne who can be contacted on (03) 9658 9878 or [daniel.boden@melbourne.vic.gov.au](mailto:daniel.boden@melbourne.vic.gov.au)
- Shelley Bennett, Principal Strategic Planner, City Strategy, City of Port Phillip who can be contacted on (03) 9209 6535 or [shelley.bennett@portphillip.vic.gov.au](mailto:shelley.bennett@portphillip.vic.gov.au).

The following resources and materials are available to you for your review:

- Amendment documentation for Amendment GC81 (**Tabs 4 and 5**)



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## INDEX

No	Document	Link
1	PPV Guidelines for Expert Witnesses dated April 2015	<a href="https://www.planning.vic.gov.au/_data/assets/word_doc/0024/9483/G2-Guide-to-Expert-Evidence-April-2015.DOCX">https://www.planning.vic.gov.au/_data/assets/word_doc/0024/9483/G2-Guide-to-Expert-Evidence-April-2015.DOCX</a>
2	GC81 Terms of Reference dated 22 October 2017	<a href="https://www.planning.vic.gov.au/_data/assets/word_doc/0029/88058/Fishermans-Bend-Planning-Review-Panel-TOR-FINAL.docx">https://www.planning.vic.gov.au/_data/assets/word_doc/0029/88058/Fishermans-Bend-Planning-Review-Panel-TOR-FINAL.docx</a>
3	Letter and Directions of the Review Panel dated 28 December 2017 (to be updated in late January)	<a href="https://engage.vic.gov.au/application/files/1715/1442/5946/PPV_Fishermans_Bend_Review_Panel_-_Directions_letter_-_281217.pdf">https://engage.vic.gov.au/application/files/1715/1442/5946/PPV_Fishermans_Bend_Review_Panel_-_Directions_letter_-_281217.pdf</a>
4	PPV Document homepage for GC81	<a href="http://www.fishermansbend.vic.gov.au/documents">http://www.fishermansbend.vic.gov.au/documents</a>
5	Engage Vic Document homepage for GC81	<a href="https://engage.vic.gov.au/fishermans-bend-draft-framework">https://engage.vic.gov.au/fishermans-bend-draft-framework</a>
6	Preliminary list of issues for GC81 prepared by the Review Panel	<a href="https://engage.vic.gov.au/application/files/3415/1442/0743/Planning_Review_Panel_-_Preliminary_list_of_Key_Issues_TABLED.pdf">https://engage.vic.gov.au/application/files/3415/1442/0743/Planning_Review_Panel_-_Preliminary_list_of_Key_Issues_TABLED.pdf</a>

## APPENDIX 2      Professional Introduction and CV

## Professional Introduction & CV

Euan Williamson



### Skills and Services

- Project management
- Sustainable building design
- Energy auditing and retrofitting
- Thermal Energy Assessor
- Solar photovoltaic system design
- Technological and data analysis
- Training and workshops

### Personal Details

Nationality: British/Australian

Email: euan@creative-environment.com.au

### References

Verbal or written references available upon request.

## Relevant skills, knowledge and experience

*B. Arts/Environmental Science (Hons)*

*Cert III Environmental Change Management*

*Accredited Thermal Energy Performance (FirstRate)*

*Remote Area Power Supply System Design and Installation*

### **Current Roles**

*ESD Advisor, City of Yarra*

*Director, Creative Environment Enterprises*

*Director, Creative Environment New Zealand*

*Member, Built Environment Sustainability Scorecard Governance Board*

*Member, Council Alliance for a Sustainable Built Environment*

*Lecturer, RMIT University*

Euan brings extensive skills and knowledge to any project team built on over 17 years experience in ESD and sustainable energy project development. He is currently the ESD Advisor to the Statutory Planning Department at the City of Yarra, and continues consulting for business and government on sustainable energy projects in Victoria, New South Wales and New Zealand.

## Career Highlights

### **Victorian State Government Better Apartments Working Group**

In April 2016, Euan joined the Better Apartments Working Group to provide input into a Victorian State based initiative driven by DEWLP and OVGA. The Working Group was formed to provide technical input into a draft suite of measures aimed to improve the standard of apartment developments in Victoria. Euan is the only member of the Working Group that specialises in ESD, daylight and natural ventilation, and brings valuable skills and experience to this project.

### **Moreland Apartment Design Code (C142)**

During 2015 Euan was thrilled to support Moreland City Council as expert witness for Environmentally Sustainable Design (ESD) matters during the formal Panel Hearing process for the Moreland Apartment Design Code. Covering several important technical aspects of the proposed code including access to daylight, natural ventilation and thermal comfort. Euan assisted through undertaking technical analysis, interpreting numerous technical aspects of the Code. He also assisted preparing the formal written submission for Moreland which he co-presenting to the panel over the 4 days of the Hearing.

### **Environmentally Sustainable Development Planning amendment (C71/C133)**

#### **Panel Hearing**

During 2013, Euan was an active member for the Council officers from the six joint Councils (Moreland, Yarra, Darebin, Banyule, Port Phillip and Whitehorse), that prepared and presented their submission to the Ministerial Advisory Panel for consideration a major ESD planning amendment for the six Councils' local planning provisions. Euan was honoured with the role of personally represented both the City of Yarra and Moreland City Council as an expert witness to the panel, which included verbal and written submissions, and coordinating a tour of site visits and case for the Ministerial Advisory Panel members. This ESD Local Policy is now formally part of the planning scheme in 7 municipalities and represents a step change in ESD in Victoria.

### **ESD Advisor, City of Yarra**

Since 2012, Euan has been the ESD Advisor to the City of Yarra. This role has predominantly involved ESD referrals within the Statutory Planning process for development applications within Yarra, including over 500 large mixed use and multi-residential apartment building projects. Working as ESD Advisor also includes training and support for the Statutory Planning branch in all matters concerning ESD technical and design, preparing and supporting VCAT appeals involving ESD, planning policy development and communicating current industry practices and innovation. During Euan's time in the ESD Advisor role, 100% of all eligible developments applications participated in the SDAPP



process, leading Victoria in this innovative approach to improving the standard of ESD of local developments. Euan represents Yarra on the CASBE Steering Committee and the Governance Board of BESS (Built Environment Sustainability Scorecard). As ESD Advisor, Euan also supports Yarra ESD Building Policy to uphold high standards of ESD in Councils own buildings. He reviewed the ESD Buildings Policy in 2014 after undertaking a performance review of the buildings, and updated the policy document which was endorsed by Council in August 2014.

### **RMIT University Melbourne**

During 2012, Euan was the Course Coordinator of RMIT University's ENV11049 / ARCH1137 Energy and Urban Planning, Energy Policy and Management and ENV11137 Environmental Politics and Social Change. Filling in for Alan Pears, while he took a leave of absence to write a book, Euan coordinated three other staff to deliver Alan's popular Energy and Urban Planning/Energy Policy Course, and delivered lectures, tutorials and key components of the course himself.

### **Built Environment Sustainability Scorecard (*continuing*)**

Since 2012 Euan has been an active member of the Built Environment Sustainability Scorecard (BESS) project team and now sits on the BESS Governance Board. Focusing on business analysis he has been a part of the development of key technical aspects of the tool including scoring, the daylight calculator, DTS Energy compliance pathways, the Technical Reference Panel and numerous communication and interpretation tasks. Euan continues to work on this cutting edge ESD tool specifically designed to compliment the SDAPP framework and the ESD Local Policies in Victoria.

### **Maryborough RACV Energy Breakthrough**

Since 2008 Euan has partnered with Treecreds to deliver energy, water, waste and transport auditing services to this innovative and much-loved event for students from across Australia and overseas. Inspecting the operations of the events closely, Euan has identified numerous environmental performance improvements that have been undertaken by the event team. Euan's work with Treecreds, avoided de-forestation experts, has covered numerous other clients and contexts, but the Energy Breakthrough is by far the largest, most ambitious and most effective of these practical environmental mitigation projects for events undertaken by this partnership.

### **Woking Borough Council**

In 2006/07 Euan worked with global leaders in sustainable energy, Woking Borough Council (WBC). He assisted WBC develop world's best practice projects in the UK and provided strategic and technical support to Energy Centre for Sustainable Communities, WBC's ESD consulting partner.

This included developing programmes for the uptake of distributed energy generation and other ESD applications, to meet and surpass the local planning requirements for a compulsory 20% onsite renewable energy generation.

### **Moreland Energy Foundation**

In 2006 he completed 5 years as a Program Coordinator for the Moreland Energy Foundation Ltd (MEFL). As a founding staff member of the MEFL team, Euan helped build award-winning programs for this lead Australian organisation designing and delivering practical sustainability projects, including components of the multi-million dollar Solar Cities project.

His roles and responsibilities at MEFL including ESD consulting to households, businesses and communities on individual building and renovation projects, commercial precinct re-development and multi-unit medium density housing projects.

### **Borough of Queenscliffe**

With Creative Environment Enterprises, Euan and Liam delivered a comprehensive and achievable Carbon Neutral Action Plan for the Borough of Queenscliffe in Victoria. Working closely with both the Council and the local community, CEE is developing separate strategic plans for both the Council's operations and the community, aiming for carbon neutrality through practical project implementation and education.

### **Indian Green Electricians Training**

In 2010, Euan and Liam from Creative Environment Enterprises partnered with India's Centre of Environment Education, a world leading Centre of Excellence for education of environmental studies and sustainability in India. Supported by the Australian Government's DFAT, the project developed an enhanced curriculum module for the current Electrical Trade apprenticeships in Industrial Training Institutes (ITIs) in Gujarat, India. By incorporating energy efficiency and basic renewable energy elements into the syllabus for Electrical Apprentices the project will continue throughout 2012 and 2013, aiming to enhance the curriculum across all Indian ITIs.

### **RMIT University - Germinate Project, Solar Sound System (2010 continuing)**

In 2010, Euan mentored RMIT students through a design and built process of a now fully operational 5kW mobile solar sound system. Designed for running larger audio and lighting systems, this project is continuing and expanding into new exciting areas of applied learning for RMIT BA Music Industry students. Germinate is in its fifth year of operation and has successfully enabled students to operate the system at over 50 events and festivals such as The Melbourne Music Week, Music Outback (NT), The Harvest Festival and numerous Council events and functions, playing great gigs to a total audience number of over 450,000 people. See [www.thegerminateproject.com](http://www.thegerminateproject.com) for more info.

**Southern Cross University, NSW Sunflower Solar Sound System (2012 cont.)**

Continuing from 2012, Euan delivered key ESD design and build components for the ground-breaking Sunflower project. Building on the experience of the Germinate Project, this project leads the industry with a lithium battery based system, and an innovative and eye-catching solar array design. Launched at the 2013 Byron Blues Festival, the *Sunflower* is enjoying it's fifth summer of festivals and events.

**Sunsonic, New Zealand (2013 continuing)**

Delivered in partnership sister company, Creative Environment Enterprises New Zealand, Euan and the CEE team have broadened their geographic target and launched a third solar sound system in New Zealand. Launched at the recent *Splore* festival in early 2014, this innovative system is set to enjoy great patronage and use through New Zealand North Island.

**RMIT Energy Audit**

During 2009 Euan managed the energy audit project throughout all RMIT campuses for over 450,000m<sup>2</sup> of buildings. He coordinated and trained a team of auditors, identifying and quantifying large carbon mitigation opportunities with CEE's close working partner, Ironbark Sustainability. This work was sub-contracted by Maunsell/AECOM Melbourne.

**Summer of Sustainability**

Delivered key technological input into the 'Summer of Sustainability' (SOS) festivals project with the State Government body 'Sustainability Victoria'. This involved delivering energy and water audits of the 'Big Day Out' (Australia's largest music festival), 'St. Jerome's Laneway Festival' and 'Golden Plains' and the creation of sustainability management plans for the events and entertainment industry.

## Sustainable Building Expertise

- ESD Advisor, City of Yarra (*continuing*)
  - Assessing over 500 SDAs and SMPs for current planning applications for the City of Yarra (2012-18)
  - Built Environment Sustainability Scorecard Governance Board member
  - Detailed technological knowledge of ESD in the built environment, including relevant tools, including NatHERS, Green Star, STORM, STEPS and SDS, BESS as well as relevant government initiatives including SDAPP programs, MEPS, WELS, E3 program and other associated programs.
  - Reviewing and updating the ESD Buildings Policy for Council capital works projects
  - Input on PCG for 6 Star Green Star Public Building, the North Fitzroy Library and Community Hub, currently in construction and tendering phase.
  - Represented Yarra as expert witness in current ESD planning amendment process.
- Senior ESD Officer, Moreland City Council (2013-14)
  - Assessing numerous SDAs and SMPs for current planning applications for Moreland City Council
  - Reviewing and updating the ESD technical specifications for Council capital works projects
  - Project managed two CEEP funded projects on Council facilities, double glazing and pool blanket retrofit projects
  - Represented Moreland as expert witness in current ESD planning amendment process.
- Managing Director, Creative Environment Enterprises (*current*)
  - Senior ESD consultant and energy water auditor
  - Technical specialist IEQ, energy and water
  - Numerous commercial and domestic refurbishments
  - Project design and implementation, project management
  - Auditing and retrofitting project management
  - Numerous private contractual engagements and through various government bodies and agencies.
- Accredited Thermal Energy Assessor (2004-2014)
  - Over 200 individual households consultations
  - Over 1000 multi-unit medium density dwellings
  - Numerous commercial refurbishment and retrofitting projects
- Project Management, Ironbark Sustainability (2005-2008)
  - Energy Auditing, RMIT University (all campuses);
  - ESD, energy and water programs, Moreland City Council

- Solar bulk-buying assessment panel, (WAGA, EAGA)
- Recreation centres / swimming pools, Hume and Nillumbik Councils
  
- Program Manager, Woking Borough Council (2005-2006)
  - Project design and evaluation
  - Technical ESD specification and micro-generation and building design (numerous residential sites)
  
- Program Coordinator, Moreland Energy Foundation (2001-2005)
  - Project design, delivery and evaluation
  - Extensive ESD, energy auditing, domestic and small commercial buildings, and Moreland City Council's SHIP projects
  - Policy and advocacy
  - Technical and strategic program design, Coburg Solar Cities
  - Capacity Building and training development and delivery
  - Consulting and business model development

Euan has extensive ESD skills and knowledge, energy and water auditing and retrofitting experience through working across a broad range of industries and contexts. He has developed and managed projects focusing on practical carbon mitigation; policy development; consulting, advice and information provision from large-scale commercial buildings through new-build housing developments as well as hundreds of individual households.

Euan has practical auditing and retrofit experience in apartment buildings, office buildings, factories, schools, early learning centres, social housing projects, healthcare facilities, health and recreation facilities, outdoor festivals and music venues, cafes and restaurants and heritage listed buildings in Australia and Europe.

## Training and Capacity Building

Many of the programs Euan has delivered involve training and practical capacity building in energy and water efficiency with architects, trades-people, corporate staff, migrant groups as well as various government bodies and community organisations.

Training Euan is currently delivering includes;

- *ESD Advisor, City of Yarra.* Ongoing training and support to statutory planners including support through assessment of SDA level applications, ESD theory and applying theory to 'real' applications.

Previously Euan has worked on the following training and education projects, including:

- *RMIT Master of Engineering, (Sustainable Energy), Domestic and commercial energy efficiency and auditing (current and continuing) MIET 2125 Energy Efficiency and Demand Management,* and also a guest lecturer in Environmental Impact Assessment and Public Participation for the *ENVI 1049 Environmental Management.*
- *RMIT Course Coordinator, ENVI1049/ARCH1137 Energy and Urban Planning, Energy Policy and Management, ENVI1137 Environmental Politics and Social Change,* RMIT Energy and Environment stream within the School of Global Studies, Social Science and Planning.
- *Indian Green Electricians project, Gujarat, India.* Curriculum development for the inclusion of ESD and sustainability into the existing course content for electrical apprenticeships. Mostly focusing on energy efficiency, energy management and the basics of solar energy and waste management.
- *Sustainable Built Environment for planning/capital works projects staff*
- *Introduction to Energy Management and Advanced Energy Management course design for Moreland Energy Foundation Ltd. (MEFL) for government staff, consultants and organisations,*
- *Energy & Water Retrofitting for home maintenance and HACC teams,*
- *Energy auditing and retrofitting for the NECA EcoSmart Electricians,*
- *Green Plumbers program, and,*

Euan has worked as a consultant and project manager assisting the establishment of numerous sustainability programs with local government across Victoria. He has coordinated and participated in numerous sustainability projects over the last 15 years.

## Previous clients include

- Australian Federal Government
  - Department of Sustainability and Environment
  - Sustainability Victoria
  - Arts Victoria
  - Moreland Energy Foundation Ltd
  - Woking Borough Council, UK
  - Energy Centre for Sustainable Communities (Thameswey Ltd.), UK
  - Royal Melbourne Institute of Technology
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- Borough of Queenscliffe
  - City of Melbourne
  - Moreland City Council
  - City of Yarra City
  - City of Darebin
  - Banyule City Council
  - Shire of Nillumbik
  - City of Hume
  - City of Brimbank
  - City of Swan Hill
  - City of Greater Dandenong
  - Hobson's Bay City Council
  - Coffs Harbour City Council
  - Shires of Nambucca Heads
  - Bellingen Shire Council
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- Maunsell
  - AECOM
  - RACV
  - Bricon Constructions
  - Toyota Australia
  - Tupperware
  - AGL Energy
  - Sydney Myer Music Bowl
  - Aphids Productions
  - Green Initiatives
  - The Big Day Out
  - Meredith Music Festival
  - St. Gerome's Laneway Festival

- The Corner Hotel
  - The Yarraville Club
  - Rainbow Serpent Festival
  - The Lounge
  - Blockbusta Video
  - Westwyck
  - Treecreds
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- National Electrical and Communications Association (Victoria & NSW)
  - Master Plumbers Association of Australia (Green Plumbers)
  - Construction, Forestry, Mining & Energy Union
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- Landcare
  - Sustainable Living Foundation
  - Australian Lebanese Welfare Association
  - The Brotherhood of St. Lawrence
  - Friends of the Earth
  - Moreland Community Health Centres
  - Northern Alliance for Greenhouse Action
  - Western Alliance for Greenhouse Action
  - Eastern Alliance for Greenhouse Action
  - Central Victorian Greenhouse Alliance
  - CERES
  - Environment Victoria
  - International Council for Local Environmental Initiatives
  - Otway Ranges Environment Network
  - PBS FM

Euan has also directly supported over 8000 individual households, businesses and organisations in Australia, UK, Europe and India.