



# PRESTON MARKET PRECINCT

## SUSTAINABILITY REPORT

JUNE 2020

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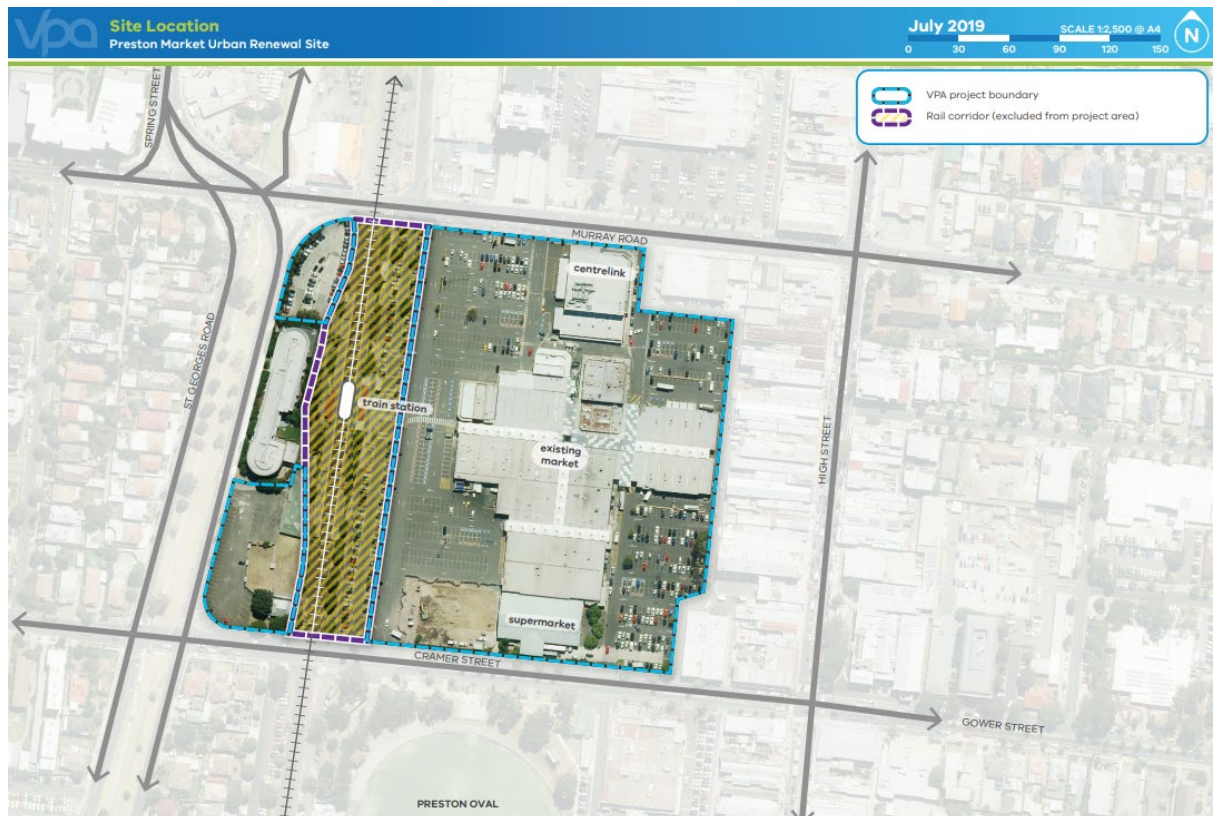
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## 1.1 PROJECT BACKGROUND

The VPA has been working in partnership with Darebin City Council, the landowners of Preston Market, the traders and the broader community to prepare new planning controls and create a structure Plan for the Preston Market Precinct.

The precinct takes in 5.1 hectares of privately-owned land bounded by Murray Road in the north, Cramer Street to the south, the rear of the High Street buildings to the east and St Georges Road to the west (excluding the existing apartment building and rail corridor). The precinct takes in Preston Market and is next door to Preston train station. Melbourne's overarching planning strategy, *Plan Melbourne 2017-2050*, designates the precinct as a strategic development site within the larger Preston-High Street Major Activity Centre, which will accommodate new homes, jobs and infrastructure.

The VPA is preparing the draft planning scheme amendment documentation including an Activity Centre Zone and schedule for the precinct. There has been extensive community consultation and engagement on this project to date. The Preston market is the lifeblood of the local activity centre, and best practice sustainability outcomes for a liveable neighbourhood are of interest to the community and the council. This report considers the sustainability objectives for the Structure Plan and uses an evidence base to justify key recommendations to ensure best practice can be achieved.



## 1.2 SUSTAINABILITY

Melbourne's current population boom underpins the importance of long-term land use planning and the integration of sustainability principles to meet the needs of the future. *Plan Melbourne 2017 – 2050* sets direction for a more sustainable and resilient city that manages its land, biodiversity, water, energy and waste resources in a much more integrated way.

To respond to the challenge of climate change and ensure Melbourne becomes more sustainable as it grows, a 'zero carbon' economy needs to emerge built around renewable energy, environmentally sustainable development and resource recovery. The Victorian Government *Climate Change Act 2017* requires a long-term emissions reduction target of net zero by 2050. There is a unique opportunity to plan for and implement best practice sustainability outcomes in the precinct due to the nature of the future development over the medium to long term given its strategic significance in the City of Darebin. Plan Melbourne also requires a response to liveability and climate change. This needs to be considered in how a precinct can respond to the impacts of climate change in relation to urban heat, more intense flooding and increased storm events.

Darebin City Council has an established approach to considering sustainability matters through various policies of Council and within their planning scheme. Addressing this opportunity through the planning scheme amendment is appropriate at this stage of the precinct's planning and design to ensure it is embedded early and approvals under planning and the building system can follow logically.

The Darebin City Council and community are passionate about sustainability and the need to respond to climate change. This is evident with Council being one of the first in Australia to declare a Climate Emergency through the *Climate Emergency Plan 2017*. Council also has several community strategies that commit and respond to best practice in waste management, sustainable transport and whole of water cycle management strategy.

The staging of future development for this precinct would be a long-term timeframe during which period it is anticipated minimum environmental performance standards will incrementally increase. Therefore, planning holistically for that change has been factored into how the VPA has approached sustainability for the precinct. The long-term nature of the precinct's development means there is a need to ensure development continually adheres to continued best practice and adopts new technologies or innovative ideas as they arise to achieve sustainable development outcomes. The approach in the Activity Centre Zone should allow flexibility in how solutions are determined to ensure that innovation and responsive outcomes are achieved.

The preparation of this *Sustainability Report* will inform the development controls for the precinct ensuring it responds to opportunities for environmentally sustainable development (ESD). Sustainable outcomes in the precinct have been considered against the key areas of waste, energy, water, transport and urban ecology.

## 1.3 SUSTAINABILITY VISION

Darebin City Council in October 2019 has developed *The Heart of Preston* document which includes 5 objectives and 40 key elements it considers are essential to create a great future Preston Market Precinct. The general Sustainability objective is shared between the State Government and Council.

***“The Preston precinct is developed as a model of a sustainable, liveable neighbourhood with world class architecture, open spaces, streetscapes, public areas and urban design”.***

The key elements recommended from the City of Darebin include:

- Meaningfully involve migrant communities in precinct design and creation of new open spaces.
- Create a fine-grain and liveable neighbourhood that is inviting and interesting from the ground floor up.
- Provide a variety of building heights and generous setbacks, with world class architecture and urban design.
- Provide a permeable street network that connects to the broader neighbourhood and prioritises pedestrians and cyclists.
- Provide opportunities to grow, prepare, share and compost food in the precinct.
- Provide at least 10% of the precinct as high quality, usable, green open spaces.
- Provide an additional financial contribution of up to 8.2% to enhance existing open space within the central Preston area.
- Provide canopy trees on all streets and laneways.
- No overshadowing of public open spaces, on and off the site.
- No car parking on the ground level and underground car parking wherever possible.
- Minimise vehicle movement within the precinct.
- Achieve a minimum of 6 star green star communities (or current best-practice Green Star).
- Minimise waste and maximise reuse of materials in the redevelopment of, and future operation of the precinct.
- Provide a safe, active connection to 421 High Street.
- A minimum 5-6 Green Star accreditation for all buildings as built (or current best-practice)
- A minimum 7 Star Nationwide House Energy Rating Scheme (NatHERS) rating (or current best-practice).<sup>i</sup>



## 1.4 DAREBIN PLANNING POLICY FRAMEWORK

The Darebin Planning Scheme provides for sustainable development at various clauses. The VPA notes that these clauses provide the strategic basis for pursuing ESD outcomes at the planning stage of the precinct:

- Clause 15.02-1S (Energy and resource efficiency) encourages land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.
- Clause 19.01-2R (Renewable energy - Metropolitan Melbourne) Facilitate the uptake of renewable energy technologies on a site-by-site and neighbourhood level during the master planning of new communities and in green wedge and peri-urban areas.
- Clause 19.03-3S (Integrated water management): provides for the need to implement water management initiatives including rainwater harvesting and managing the sustainable use of water as a resource. The clause facilitates the need to consider these outcomes through the provision and management of infrastructure such as drainage.
- Clause 19.03-5S (Waste and resource recovery): provides for the need to reduce waste and maximise resource recovery. As a new development, the precinct should meet all these objectives. The planning controls prepared will seek to implement specific outcomes.
- Clause 21.01-4 Municipal Strategic Statement (Issues for the future) Following on from key local and regional influences identified above, the key issues facing Darebin, focussed around four strategic themes, are: Environment Minimising negative impacts from land use and development on natural environmental assets, particularly creek and habitat corridors, and open spaces like Bundoora Park. Protection and enhancement of places of heritage significance. Developing strategies to ensure new development exhibits good design and contributes to liveable and environmentally sustainable built environments. Management of environmental risks in the natural and built and environment.
- Clause 21.06-3.1 (Multi-Residential and Mixed-Use Development): Sustainability objectives to achieve development design that is guided by environmentally sustainable design principle, highly energy efficient development, highly water efficient development and sustainable development with a high level of internal amenity.
- Clause 22.12 (Environmentally Sustainable Development): provides for the need to implement sustainable development outcomes to residential and non-residential development. The - precinct provides an opportunity to wholly adopt the strategies and objectives of this clause through a co-ordinated and holistic approach to environmentally sustainable development management and implementation.

## 1.5 SUSTAINABILITY OUTCOMES

Implementing ESD outcomes is achievable at the precinct-level and at the individual development scale. Below is a summary of the proposed sustainability outcomes:

### **Energy**

Development in the precinct should adopt key energy reduction measures with a first principles approach to maximising passive design which includes optimising solar access, daylight and natural ventilation opportunities which are then supported by use of appropriate materials and finishes, efficient plant and other appliances. On-site renewable energy generation should be implemented including the use of solar power generation on building roofs and surfaces as well as energy storage solutions. Gas free connection for residential development should be encouraged to reduce future reliance on fossil fuels. Preparing for a zero-carbon precinct approach should be encouraged for the ongoing operation of new buildings and the market with innovative solutions to energy management and the purchasing of offset clean energy where needed. Adaptive reuse or rebuild of the existing market must ensure highest possible energy efficiency and thermal comfort.

### **Waste**

Where possible the reconfiguration and integration of the market into the precinct must consider adaptive reuse of materials and resources as this has a major impact on the embodied energy that contributes to long term carbon emissions and resource depletion. This would also ensure the market is refurbished or reimaged in the most energy efficient way.

Consideration should be given to precinct scale collection which includes recycling, organic waste such as food, and green waste. Recycling services should be accessible and convenient across the precinct, such as the inclusion of recycling waste and food waste (chutes or food waste disposal units in multi-unit and multi-user buildings and follow best practice design guidelines from Sustainability Victoria. Consolidated loading and waste sorting and separation facilities for the market needs to be ensured. A circular economy approach needs to be considered and small-scale precinct organic waste to compost or energy needs investigation for the market food waste. This could used locally and encourage local food growing.

### **Water**

Opportunities for rainwater harvesting should be maximised through the use of raingardens, rooftop capture, water sensitive urban design, permeable paving and passive irrigation to landscaped vegetation. Access to alternative water supplies should be considered where possible including rainwater collection for toilet flushing or laundry services and greywater reuse for garden irrigation.

Cardno's assessment of the precinct's drainage reveals it is subject to flooding during a 1:100 year rainfall event (adjusted for climate change). While the precinct was subject to flooding, the majority was within a safe and reasonable hazard level. In responding to drainage issues, Cardno recommended considering options to ensure the precinct meets the current expected standards for drainage, storm water quality and flooding. Some of the potential design responses may include:

- detention storages to manage flood behaviour
- water tanks and raingardens to improve storm water quality

- underground drainage upgrades to increase drainage network capacity.

Integrated water management opportunities such as treatment and reuse of stormwater onsite for irrigation purposes (e.g. the oval south of Cramer Street) should also be investigated and encouraged.

### Urban ecology

A biodiversity value of at least 20% should be achieved across the development of the precinct with the aim to improve habitat. Landscape plans at permit stage should indicate how the development will integrate green infrastructure and achieves a net increase in biodiversity. Tree canopy cover from plantings should achieve a minimum 30% across the precinct and a diversity of species selection to ensure resilience to future climate. Urban forests, rooftop gardens and vertical greening should be considered in building design where practical and will encourage ecosystems for nature and reduce the urban heat island effect. Provision of a minimum 10 per cent of open space with integration of cool and green spaces allowing stormwater to flow in the landscape through Water Sensitive Urban Design (WSUD).

### Transport

The Preston Market Precinct is well provisioned with public transport options with Preston train station to be upgraded in the future. Vic Track will work with local government and the Level Crossing Removal Project to integrate placed-based transport planning in the precinct.

Sustainable transport outcomes should be achieved to ensure a mode-shift towards sustainable transport alternatives which include walking and cycling. Below ground car parking and consolidated car parking associated with the market towards the edge of precinct will limit impact on pedestrians. High amenity pedestrian access across the precinct and good articulation and permeability from the Preston train Station through to High Street will ensure walkability. Pedestrian comfort will be achieved through greening and cooling of streets with increased canopy cover. The precinct will include adequate bike storage at the station and bike storage requirements for residential development. Articulation of cycling paths linking destinations and neighbouring communities will be prioritised. Consideration should be given to emerging vehicle technology such as EV charging. Coordination of reduced car parking requirements for residential developments (see *Nightingale 6 Florence St*<sup>1</sup>) should be mandated.

## 1.6 GREENSTAR COMMUNITIES AND DESIGN AND AS BUILT TOOL

Noting some of the challenges in applying local ESD planning guidance to a development of this scale, it is a *recommendation* of this report to adopt a precinct-wide sustainability rating tool.

Rating tools have demonstrated the greater emissions abatement potential when larger systems within the built environment, such as precinct-scale energy, water, waste systems and transport options and governance are included. Buildings are thus no longer being seen in isolation, but as a

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<sup>1</sup> **Moreland CC Planning decision** Reduction of the standard car parking requirement to zero  
<https://www.moreland.vic.gov.au/globalassets/key-docs/meeting/agenda-council-upc/2020-agendas/council-meeting-agenda-10-june-2020---planning-reports.pdf>



part of an integrated and dependent precinct wide system. This is more readily achievable when the precinct is under single ownership.

The ESD local policy has limitations in its ability to enable assessment against the whole of precinct to ensure best practice integration of a sustainable and liveable community. Through the use of Greenstar Communities tool, the Activity Centre Zone will support a precinct wide approach which follows naturally with supporting assessments of buildings for each planning permit application. This will better encourage a cohesive and consistent response to energy, water, waste and ecology through an economy of scale and a more distributed approach promoting efficiencies.

Out of the sustainability rating tools assessed, the Green Star Communities tool is considered the best suited for a large-scale and mixed-use development of the type proposed in the amendment. The holistic tool allows for flexibility to support the continuous improvement of the built environment and is updated frequently to ensure best practice is always being represented. The benefits of the Green Star Communities tool compared to other similar tools is the assurance that design outcomes are followed through to construction, operation and marketability stages of the project. Additional benefits of the Green Star Communities tool include:

- Allows for continual monitoring of a project with submissions made every five years;
- Third party verification and monitoring of the progress of the development and compliance with the benchmarks;
- Provision for community engagement throughout development;
- Rating achieved is dependent on the number of initiatives that have been targeted and achieved by the project;
- Ensures the community that the precinct is committing to the highest level attainable in liveability and sustainable design and development.

Under the Green Star Communities tool, a 6-star rating (World leadership) is the most appropriate for development in the precinct based on the existing rating standards in use across Australia, including the Fisherman's Bend Urban Renewal Precinct. The Precinct has had a high-level assessment during the structure planning process against the credits of the Green Star Communities tool (see appendix). The assessment indicates the Precinct has adequate opportunities to achieve world leadership post the structure planning approval.

### **Precedence for Greenstar Communities in Victoria – Fishermans Bend**

The final Fishermans Bend Framework builds on the commitments made in the initial draft requiring that all developments in the new precinct achieve a minimum 4 Star Green Star rating, with buildings over 5,000 square meters to be built to a 5 Star Green Star standard.

Government has embraced the Green Star – Communities model and chosen to require even more environmental rigour at Fishermans Bend with the increase in requirements to a 5 Star Green Star rating for large-scale buildings which will boost the standard from best practice to Australian excellence

Under the Green Star system, 4 Stars represents best practice, 5 Stars represents Australian excellence and 6 Stars represents world leadership. The Review Panel assessing Fishermans Bend considers that if the Vision of a world leading urban renewal project that sets new benchmarks for sustainability is to be achieved, the planning controls must start with a standard for **buildings** that represents at least Australian excellence – that is, **5 Stars**, and a standard for **communities** that

represents world leadership – that is, **6 Stars**. Other urban renewal projects in Australia have committed to a 6 Star community certification, including Barangaroo in Sydney. The 6 star Communities Rating is now widely accepted as industry best practice and will also be a requirement through the Arden Structure Plan with the City of Melbourne.

The Amendment introduces mandatory Star rating requirements in Fishermans Bend for the first time. Notwithstanding this, the Review Panel considers that a 4 Star buildings rating is too low a starting point. It is lower than the current policy settings in both Port Phillip and Melbourne planning schemes, and represents a ‘minimal’ standard according to the evidence of both Professor Bates (for the Minister) and Mr Williamson. The Review Panel accepts Mr Williamson’s evidence (and the submissions of the Property Council and the Green building Council) that there is growing market acceptance of 5 Stars. It also notes that the Net Zero Carbon Strategy recognises that 4 Star standards for buildings “will need to be rapidly ramped up to avoid locking in poor building performance ...”

In accordance with the primary recommendation of the Review Panel to progress Amendment GC81, the following key changes have been included in the amended Clause 22.XX and the Capital City Zone: In Clause 22.XX-3, include the Review Panel’s recommended wording regarding a **6 Star Green Star – Communities rating for Fishermans Bend**. In the Capital City Zone, require buildings to meet the Green Star requirements set out in the Review Panel’s preferred version.<sup>2</sup>

### **Greenstar Design and As Built**

The benefits of the Greenstar tool are numerous. Research has shown that a 6 star Greenstar building can have over a 70 percent energy saving and 90 percent water saving compared to a Business as usual building. A Greenstar building can also trigger an increase in productivity, a healthier environment to work and live, enhances prestige and good for business.<sup>3</sup>

Many aspects of good ESD design, such as designing compact buildings with good solar orientation and improved insulation, will have minimal or even positive capital and operational cost implications. Research undertaken by the Green Building Council of Australia (GBCA) in 2016 of Green Star rated buildings revealed that Green Star projects can be delivered for less than 1% of the overall project budget. On average developers/ building owners are spending an additional:

- 1.5% to achieve 4 Stars at average \$3,020 per square metre
- 2.7% to achieve a 5 stars at \$3,536 per square metre
- 3.2% to achieve 6 stars at \$4,588 per square metre<sup>4</sup>

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<sup>3</sup> **Benefits of Greenstar** <https://www.gbca.org.au/uploads/91/2139/GBCA012%20Green%20Benefits130510.pdf>

<sup>4</sup> **GBCA Financial Transparency** <https://gbca-web.s3.amazonaws.com/media/documents/gbca-research-paper--financial-transparency-2016.pdf>

Initial investment in ESD will be returned through cost savings from building operation, management, the reduction in greenhouse gas emissions and stormwater pollution. Green Star has adopted a Carbon

Positive Pathway that requires all accredited Green Star buildings to have a 100% renewable electricity supply by 2026, by 2020 for 6 star buildings. This is consistent with state and local ambitions.

### **Nationwide House Energy Rating Scheme (NatHERS) increased performance**

New housing in Australia must meet minimum energy performance requirements. The federal government's Nationwide House Energy Rating Scheme (NatHERS) provides residences with a star rating out of 10 based on an estimate of its potential energy use. Since 2013 new Victoria apartments must achieve an average 6-star rating. Essentially, NatHERS scores the thermal performance of a dwelling. A zero-star rating means the building does little to reduce the discomfort of hot or cold temperatures. A six-star rating is a good, but not great, indicator of thermal performance.

The rating depends on:

- the layout of the home;
- the construction of its roof, walls, windows and floor;
- the orientation of windows and shading to the sun's path and local breezes; and
- how well these suit the local climate.

Research for Victorian dwellings indicates that only 1.5% were designed to perform at the economically optimal 7.5 stars and beyond and that the average rating in Victoria is 6.2 stars.<sup>5</sup> In the 2018 COAG report "Report for Achieving Low Energy Homes", it describes how post 2022 the National Construction Code (NCC) will require homes to be built to at least 6.5 and 7.0 NatHERS stars equivalent in NCC climates 6 (Melbourne), 7 and 8. In addition, the COAG trajectory is for these homes to be 'ready' to accommodate on-site renewable energy generation, storage and electric vehicles, so as to be ready to achieve net zero energy and carbon. Many Melbourne developers are now reaching a 7.5 star NatHERS standard in new apartments. This can be seen across the metropolitan Municipalities and has been developer led even without specifying the increase NatHERS rating in planning control requirements, as it is becoming market driven and more common practice. Potential purchasers are becoming more sustainability aware and are demanding more energy efficient and thermally comfortable homes and also want to ensure that their ongoing costs associated with energy bills are kept at a minimum.

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<sup>5</sup> Minimum Energy Standards <https://www.rmit.edu.au/news/all-news/2019/jun/minimum-energy-standards>

## 1.7 IMPLEMENTATION SUMMARY

The below table provides a summary of the key recommendations and actions required for managing sustainability matters in the precinct.

Aspect	Considerations	Implementation response
<b>Building design</b>	Building design should achieve minimum sustainability rating criteria through the use of appropriate tools.	<p>The Activity Centre Zone will require applications to include a Green Star rating '<i>design and as built</i>' assessment to the satisfaction of council.</p> <p>This planning control recommendations involves setting a mandatory minimum planning standard that development must achieve and maintain for a period of 12 months post completion the following ratings:</p> <p>It is recommended at permit stage for it to be assessed against the Design and as Built – Aim to achieve 6 star but minimum 5 star (10 or more dwellings residential or gross floor area 1000m<sup>2</sup> or more). NatHERS minimum 7.5 for all residential.</p>
<b>Precinct-wide sustainability outcomes</b>	Capitalise on precinct-level considerations to implement sustainability outcomes, using the Green Star Communities 6 star rating tool.	The Activity Centre Zone will require the implementation and adoption of the Green Star Communities rating tool prior to the commencement of development of the precinct. This will be managed by the lead developer. If super lots are sold and subdivided in the future, commitment to Greenstar Communities principles can be preserved through a contract of sale.
<b>Energy supply</b>	<p>Consideration of a zero carbon precinct. Including through operation.</p> <p>Energy supply should draw on renewable energy where possible, including generation on-site where possible.</p>	Renewable energy generation will be encouraged under the Activity Centre Zone and reiterated by the application of the Green Star rating tools. Council and developer should investigate opportunities to offset with clean energy where feasible.
<b>Energy consumption</b>	Design of buildings should consider ways to reduce energy consumption which includes	Siting and design guidelines and prescribed energy consumption targets in the Activity Centre Zone should be met by

	siting through solar access and appropriate materials and finishes to buildings or surfaces.	all development applications. This is reinforced through the requirement for assessment against Green Star rating tools
<b>Waste collection</b>	Waste collections services should include organic waste and green waste services.	Waste collection of organic and green waste will be encouraged in the Activity Centre Zone with siting and design guidelines seeking for waste management to be a considered part of development applications. This is reinforced through the requirement for assessment against Green Star rating tools. The market precinct would encourage centralised collection of waste.
<b>Recycling</b>	Reuse or recycle materials from construction or demolition where possible.	The reuse or recycling of materials from construction and demolition will be encouraged in the Activity Centre Zone. This is reinforced through the requirement for assessment against Green Star rating tools
<b>Water Sensitive Urban Design</b>	Water Sensitive Urban Design principles should be adopted across the precinct.	The Activity Centre Zone will include guidelines for Water Sensitive Urban Design. This is reinforced through the requirement for assessment against Green Star rating tools
<b>Urban Heat Island Effect</b>	Actions to reduce the urban heat island effect should be considered wherever possible. Cooling targets as to the satisfaction of Council.	Actions to reduce the urban heat island effect will be encouraged in the Activity Centre Zone. This is reinforced through the requirement for assessment against Green Star rating tools. Permeable paving, reflective materials and light colours.
<b>Rainwater harvesting</b>	Collect rainwater for use in passive irrigation or building services such as toilet flushing to reduce the demand on potable water supply.	Integrated Water Management requirements will be provided under the Activity Centre Zone. This is reinforced through the requirement for assessment against Green Star rating tools
<b>Biodiversity</b>	Increase the precinct's biodiversity by a minimum 20% as per Greenstar tool.	Biodiversity targets will be included in the Activity Centre Zone guidelines. This is reinforced through the requirement for

		assessment against Green Star rating tools
<b>Climate resilience</b>	Selection of species for vegetation should consider appropriately adaptive species which accommodate climate resilience.	Selection of appropriate species will be required under the Activity Centre Zone This is reinforced through the requirement for assessment against Green Star rating tools
<b>Tree canopy cover</b>	Achieve a 30% tree canopy cover across the precinct.	Tree canopy target of 30% coverage across the precinct will be included in the Activity Centre Zone.

1 City of Darebin. The Heart of Preston. Online [https://s3-ap-southeast-2.amazonaws.com/ehq-production-australia/5c71a3c6192e15bcbac20bb155efc1f37160adb8/redactor\\_assets/assets/000/058/852/original/Heart of Preston\\_d oc.JPG?1566971887](https://s3-ap-southeast-2.amazonaws.com/ehq-production-australia/5c71a3c6192e15bcbac20bb155efc1f37160adb8/redactor_assets/assets/000/058/852/original/Heart_of_Preston_d oc.JPG?1566971887)

2 Fishermans Bend Planning Review Panel \_ Report No. 1 – Volume 1 \_ 19 July 2018 p.131-143 – Environmental and other issues. [https://stfpbsprodapp01.blob.core.windows.net/amendmentfiles/17b87d48-6c70-e811-a857-000d3ad11a22\\_f1c305c8-46be-4bde-a26b-280df3bd10ea\\_GC81%20Explanatory%20Report%20Approval%20Gazetted.pdf](https://stfpbsprodapp01.blob.core.windows.net/amendmentfiles/17b87d48-6c70-e811-a857-000d3ad11a22_f1c305c8-46be-4bde-a26b-280df3bd10ea_GC81%20Explanatory%20Report%20Approval%20Gazetted.pdf)



## APPENDIX

### Possible Greenstar Communities points achievable for Preston Markets

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED
<b>Governance</b>				<b>28</b>	
<b>Green Star Accredited Professional</b>	To recognise projects that engage a Green Star Accredited Professional to support the Green Star certification process.	1.0	Green Star Accredited Professional	1	1
<b>Design Review</b>	To encourage and recognise projects that undertake a design review process designed to facilitate sustainable urbanism.	2.1	Site Planning and Layout	4	4
		2.2	Urban Design	4	4
<b>Engagement</b>	To encourage and recognise projects that develop and implement a comprehensive, project specific stakeholder engagement strategy early in the planning process to inform the planning and design of the plan for development.	3.1	Stakeholder Engagement Strategy	3	3
		3.2	Strategy Implementation	3	3
<b>Adaptation and Resilience</b>	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	4.1	Climate Adaptation	2	2
		4.2	Community Resilience	2	2
<b>Corporate Responsibility</b>	To encourage and recognise projects with a project applicant that has corporate responsibility as a core value.	5.1	Corporate Responsibility	1	1
		5.2	Sustainability Reporting	2	2
<b>Sustainability Awareness</b>	To encourage and recognise those projects that enhance knowledge and understanding of its sustainability attributes.	6.1	Community Users' Guide	1	1
		6.2	Sustainability Education Facilities	1	1

Community Participation and Governance	To encourage and recognise projects that establish mechanisms for community management arrangements for facilities and programs.	7.1	Community Facility Management	1	1
		7.2	Community Program Management	1	1
Environmental Management	To encourage and recognise the adoption of formal environmental management practices.	8.1	Environmental Management System	1	1
		8.2	Environmental Management Plan	1	1
Total				28	0.0

<b>Liveability</b>			<b>25</b>	
<b>Healthy and Active Living</b>	To encourage and recognise projects that promote healthy and active living.	9.0 Minimum Requirement - Footpaths	-	
		9.1 Active Lifestyle	2	2
		9.2 Recreational Facilities	2	1
		9.3 Healthy Places	1	1
<b>Community Development</b>	To encourage and recognise projects that engage in and facilitate the development of the project's community.	10.0 Minimum Requirement - Community Development Plan	-	
		10.1 Community Development Officer	1	1
		10.2 Community Group	1	1

		10.3	Community Events	1	1
		10.4	Community Information	1	1
<b>Sustainable Buildings</b>	Certified Non-Residential Buildings	11.1	Certified Non-Residential Buildings	4	4
		11.2	NatHERS and Livable Housing Australia	-	
<b>Culture, Heritage and Identity</b>	To encourage and recognise projects that celebrate and incorporate the heritage, culture and historical context of the project site, supporting communities and places with the development of a sense of place and identity.	12.1	Understanding Culture, Heritage and Identity	1	1
		12.2	Enhancing Community Culture, Heritage and Identity	2	2
<b>Walkable Access to Amenities</b>	To encourage and recognise projects that have walkable access to a diverse number of amenities that reflect the predicted demographic of the project's community.	13.1	Walkable Access to Amenities	2	2
<b>Access to Fresh Food</b>	To encourage and recognise projects that have access to fresh food locally.	14.1	Access to Fresh Food	1	1
		14.2	Local Food Production	1	1
<b>Safe Places</b>	To recognise projects in which the activity of planning and detailed design for land use, development and redevelopment takes into consideration designing out crime principles.	15.0	Minimum Requirement - Visibility	-	
		15.1	Design for Safety	2	2
<b>Total</b>				<b>22</b>	<b>0.0</b>

<i>Economic Prosperity</i>					21
<b>Community Investment</b>	To encourage and recognise projects investing in infrastructure within the development for community benefit.	16 .1	Community Infrastructure Investment	4	2
<b>Affordability</b>	Non - Residential Affordability Strategies	17 .1	Residential Affordability Strategies	-	
		17 .2	Non- Residential Affordability Strategies	4	4
<b>Employment and Economic Resilience</b>	To encourage and recognise projects with local and diverse employment opportunities.	18 .1	Net Percentage Increase of Local Jobs	1	1
	NCC Class mix – Prescriptive Pathway	18 .2 A	Diverse Local Employment – Performance Pathway	-	
		18 .2 B	Proximity to Major City – Prescriptive Pathway	-	
		18 .2 C	NCC Class mix – Prescriptive Pathway	1	1
<b>Education and Skills Development</b>	To encourage and recognise projects that have access to further education and/or provide a skills and industry capacity development opportunities.	19 .1	Higher Education Facilities	1	
		19 .2	Skills Development Programs	1	
		19 .3	Industry Capacity Development	1	
<b>Return on Investment</b>	To encourage and recognise holistic methods to assess the return on investment in response to the sustainability goals for the project.	20 .1	Analysis of Direct Costs and Benefits	1	1
		20 .2	Analysis of Indirect Costs and Benefits	1	1
<b>Incentive Programs</b>	Residential Incentives	21 .1	Residential Incentives	2	2

		21 .2	Non-residential Incentives	-	
Digital Infrastructure	To encourage and recognise projects that use digital infrastructure to create greater efficiencies in the connection of individuals with other people, goods, services, and information.	22 .1	High-speed Broadband	1	1
		22 .2	Wireless Local Area Network	1	1
Peak Electricity Demand	On-site Generation – Prescriptive Pathway	23 A	Reduced Peak Electricity Demand - Performance Pathway	-	
		23 B.i	On-site Generation – Prescriptive Pathway	2	2
		23 B.i i	Energy Storage – Prescriptive Pathway	-	
Total				21	0.0

<b>Environment</b>				<b>29</b>	
<b>Integrated Water Cycle</b>	Water Sensitive Urban Design – Performance Pathway	24 A. 1	Stormwater – Performance Pathway	2	2
		24 A	Water Sensitive Urban Design – Performance Pathway	5	5
		24 B. 1	Alternative Water Sources - Public Open Spaces	-	
		24 B. 2	Alternative Water Sources - Buildings	-	
		24 B. 3	Stormwater Peak Discharge	-	

		24 B. 4	Stormwater Quality	-	
<b>Greenhouse Gas Strategy</b>	Greenhouse Gas Strategy – Performance Pathway	25 A	Greenhouse Gas Strategy – Performance Pathway	6	6
		25 B. 1	Energy Efficiency - Infrastructure Lighting	-	
		25 B. 2	Energy Efficiency - Existing Buildings	-	
		25 B. 3	Renewable Energy Production	-	
		25 B. 4	District Heating and Cooling	-	
<b>Materials</b>	Life Cycle Assessment (LCA) – Performance Pathway	26 A	Life Cycle Assessment (LCA) – Performance Pathway	5	5
		26 B	Life Cycle Impacts – Prescriptive Pathway	-	
<b>Sustainable Transport and Movement</b>	Sustainable Transport and Movement: Performance Pathway	27 A	Sustainable Transport and Movement: Performance Pathway	3	3
		27 B	Sustainable Transport and Movement: Prescriptive Pathway	-	
<b>Sustainable Sites</b>	To encourage projects that avoid or minimise impacts on environmentally sensitive sites while recognising projects that reuse previously developed land and reclaim contaminated land using best practice remediation.	28	Conditional Requirement	-	
		28 .1	Previously Developed Land	1	
		28 .2	Best Practice Site Decontamination	1	
<b>Ecological Value</b>	To encourage and recognise projects that enhance the	29 .1	Change of Ecological Value	1	1



	ecological value of the project site.	29.2	Biodiversity Enhancement	1	1
<b>Waste Management</b>	To encourage and recognise projects that reduce the environmental impact of waste.	30.1	Construction, and Demolition Waste	1	1
		30.2	Operational Waste	1	1
<b>Heat Island Effect</b>	To encourage and recognise projects that implement measures to reduce heat island effect.	31.1	Heat Island Effect	1	1
<b>Light Pollution</b>	To encourage and recognise projects that minimise the adverse impact of light emissions.	32.1	Light Pollution	1	1
<b>Total</b>				<b>29</b>	<b>0.0</b>

<b>Innovation</b>				<b>10</b>	
<b>Innovative Technology or Process</b>	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	33 A	Innovative Technology or Process	10	
<b>Market Transformation</b>	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia or in the world.	33 B	Market Transformation		
<b>Improving on Green Star Benchmarks</b>	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	33 C	Improving on Green Star Benchmarks		
<b>Innovation Challenge</b>	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	33 D	Innovation Challenge		

<b>Global Sustainability</b>	Project teams may adopt an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star rating tools.	33 E	Global Sustainability
<b>Total</b>		10	0

TOTALS	AVAILABLE	TARGETED
CORE POINTS	100	0.0
CATEGORY PERCENTAGE SCORE		0.0
INNOVATION POINTS	10	0.0
TOTAL SCORE TARGETED		0.0
RATING ACHIEVED	96 points may be achievable which would be 6 star leading practice.	