



Oakover and Stokes/Penola, Preston

DPO Ecologically Sustainable Development Strategy

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Project No. 37907

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Revision

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Disclaimer

This is a working document and therefore may be subject to change or modification through the course of the design phase of this project. It is expected that any change or modification will not impact on the overall aim of this document. That is, to provide a strategy for the project which ensures it has the design potential to achieve a 5 Star Green Star formal rating and 7 star NatHERS average for each building.

Contents

1.	EXECUTIVE SUMMARY	1
2.	PROJECT INFORMATION	2
2.1	General Information	2
2.2	Project Overview	2
2.3	Design Documentation	3
3.	SUMMARY OF SUSTAINABILITY TARGETS	4
3.1	ESD Objectives	4
3.2	Sustainability Commitments & Targets	4
3.3	Design Response	5
4.	ESD INITIATIVES	8
4.1	Management	8
4.2	Indoor Environment Quality	8
4.3	Energy	9
4.4	Transport	10
4.5	Water	10
4.6	Materials	10
4.7	Waste	11
4.8	Land Use & Ecology	11
4.9	Emissions	11
4.10	Stormwater	11
4.11	Innovation	12

1. Executive Summary

This report has been prepared at the request of MAB Corporation Pty Ltd and is intended to provide an overview of the Ecologically Sustainable Design (ESD) Strategy in support of the development planning overlay permit application for the proposed developments in Preston at the Stokes/Penola Sub-Precinct and Kenwood Court/Railway Place West Sub-Precinct (Oakover).

This Ecologically Sustainable Development Strategy has been prepared to inform City of Darebin of the proposed developments' response to sustainability, as per Schedule 11 of the Development Plan Overlay of the Darebin Planning scheme. The strategy considers areas of:

- **Energy efficiency**, including reduction of energy demand through the design of an energy efficient building form and building fabric, design of energy efficient HVAC, lighting and domestic hot water systems, and selection of energy efficient appliances.
- **Water efficiency**, including water efficient sanitary fixtures, landscape drip irrigation with moisture sensor override, collection and re-use of rainwater for toilet flushing and irrigation, and re-use of fire protection system test water.
- **Indoor environment quality**, including provision of good access to natural ventilation and views out, appropriate mechanical ventilation and exhaust systems, an internal lighting design to provide uniformity of lighting and appropriate task lighting, an acoustic design to ensure adequate internal noise levels and acoustic separation between units, and selection of low VOC materials and low formaldehyde engineered wood products.
- **Stormwater management**, including a stormwater strategy to ensure that the peak event discharge from the site will not exceed the pre-development peak event discharge and also to ensure that the quality of the stormwater discharged from the site will meet the appropriate pollution reduction targets. A Water Sensitive Urban Design (WSUD) strategy, inclusive of MUSIC modelling, will be developed to meet and exceed the Urban Stormwater Best Practice Environmental Management Guidelines required by the City of Darebin.
- **Transport**, including the implementation of initiatives which will reduce emissions, encourage physical activity, and reduce the reliance on vehicle travel, for example, provision of bicycle parking and electric charging stations for EVs.
- **Waste Management**, including diversion of construction and demolition waste from landfill and an operational waste management strategy which will consider separation of waste streams and implementation of appropriate dedicated & accessible waste storage.
- **Urban ecology**, including implementation of a hazardous materials survey on the site, and landscaping design & building features to reduce the impact of heat island effect, for example roofing materials and shading of roofs & hard scaping by vegetation or solar panels.
- **Innovation**, including ultra low VOC paints and a post occupancy evaluation at twelve months after practical completion.

The project is targeting:

- A certified 5 Star Green Star Design & As Built rating, inclusive of a number of mandatory credits for the public housing portion of the development
- An average NatHERS rating of at least 7 stars for each building with no individual apartment dwelling achieving less than 6 Stars, except for SOHO dwellings which must achieve a minimum of 5.5 Stars. A minimum NatHERS rating of at least 6 Star for each townhouse.

2. Project Information

2.1 General Information

Wood and Grieve Engineers have been engaged by MAB to provide ESD consulting services for the proposed developments in Preston at the Stokes/Penola Sub-Precinct and Kenwood Court/Railway Place West (Oakover) Sub-Precinct.

This report is intended to provide an overview of the ESD Strategy in support of the development planning overlay permit application for the site to achieve ESD outcomes required by the Development Plan Overlay.

2.2 Project Overview

The Village Bell Preston proposal is to be a socially sustainable, community focused development which embraces all that the Preston locality offers.

The proposed design response regenerates and revitalises previously under-utilised public housing site into vibrant, attractive, energised, and interesting precinct. The Penola/Stokes site spans the southern ends of Stokes St and Penola St and the Kenwood Court/Railway Place site is located on Oakover St, both of which provides significant amenity to the offering.

The proposed development will generate a potential dwelling yield ranging from 450 to 650 dwellings and consist of private housing, public housing and community housing. The target bedroom mix is provided in the table below and is subject to change. This table has been extracted from the Housing Diversity Report by ASR Research Community Planning.

Tenure	Potential Dwelling Yield Range*	Potential Dwelling Yield Range %*	Approximate Dwelling Sizes (m2)
Private Housing	350 to 570		
<u>Private Apartments</u>	-	-	-
1 Bedroom		25% to 45%	45 to 65
2 Bedrooms		35% to 55%	60 to 95
3 Bedrooms		0% to 10%	85 to 110
<u>Private Townhouses</u>	-	-	-
3 -4 Bedrooms		15% to 25%	85 to 190
Public Housing – DHHS	30 to 70		
1 Bedroom		30% to 60%	45 to 65
2+ Bedrooms		40% to 70%	60 to 95
3 Bedrooms**		0% to 15%	100 to 140
4 Bedrooms**		0% to 15%	120 to 140
Community Housing – HousingFirst	50 to 80		
1 Bedroom		40% to 60%	45 to 65
2+ Bedrooms		40% to 60%	60 to 95
Total Dwellings*	450 to 650		

* May change due to flexible housing and planning to accommodate different family sizes, meet changing demands of the Victorian Housing Register, and potentially pursue opportunities to deliver increased social housing dwellings for the community.

** 3- and 4-Bedroom Public Housing dwellings are subject to adaptable dwellings detailed in section 3.3.



Figure 1: Development Plan Overlay

2.3 Design Documentation

The project and ESD requirements for the development has been based on the following document:

- 3449-3699-1499-v1 - PHRP - Package 2 - Development Agreement - Schedule 3 - Project Requirements - Preston - Execution Version.pdf
- ABCB National Construction Code (NCC) 2016
- Housing Diversity Report by ASR Research Community Planning.

For further development summary information, please refer to the relevant design drawings as nominated below:

- PHRP pre-PDA set Revision 2 – Hayball – 19/09/2018

3. Summary of Sustainability Targets

3.1 ESD Objectives

Ecologically Sustainable Design principles shall be employed when considering planning and urban design approaches for the Development. As outlined in Schedule 3 of the Development Agreement, the ESD objectives for the Development are:

E01 Human Health & Wellbeing

Protect the health of residents, particularly vulnerable Victorians, through a focus on safe indoor temperatures, limiting stress stemming from utility costs, and climate change adapted urban design strategies.

E02 Resource Consumption & Environmental Impacts

Prioritise passive solar orientation, care for the natural environment and contribute towards the achievement of Victoria's net zero greenhouse gas emissions by 2050 strategies.

E03 Future Readiness

Design to incorporate future ready and resilient infrastructure and features (for example, in climate aspects of climate risk, energy security and management, water, waste, landscape and transport systems).

E04 Target, Evaluate & Learn

Model likely performance outcomes at design phase, validate the level to which outcomes have been delivered using post occupancy assessment tools and techniques, and incorporate learnings into future housing/urban development.

3.2 Sustainability Commitments & Targets

Schedule 3 of the Development Agreement further outlines the following Ecologically Sustainable Design requirements:

- (1) the Development must achieve a minimum Nationwide House Energy Rating Scheme (NatHERS) rating of at least 6 Stars for each townhouse across the Site;
- (2) the Development must achieve a minimum NatHERS average rating for:
 - (a) each Public Housing apartment building; and
 - (b) the Community Housing and Private buildings in a Stage,
 of at least 7 stars, with no individual apartment dwelling achieving less than 6 Stars, except for SOHO dwellings which must achieve a minimum of 5.5 Stars;
- (3) the Development must achieve 5 Star ratings Green Star Design and As-built Certification:
 - (a) for each Public Housing apartment building (including a minimum of 60 points on the Green Star scorecard);
 - (b) for the Community Housing and Private Housing buildings, on each Stage or the Site basis (as determined by the Developer) (including a minimum of 60 points on the Green Star scorecard).

This requirement applies to all building elements within the scope of the package that are eligible to be rated under the tool. This includes public and private residential buildings and any other community or commercial components.

- (4) The Development must achieve the Green Star Minimum Mandated Credits for Public Housing as listed in section 9 of Schedule 3.
- (5) the Development must implement a WELL V2 ready pathway
- (6) the Development must comply with the Better Apartment Guidelines (BADs), December 2016, Department of Environment Land Water and Planning.
- (7) the common areas of the Development must comply with NCC Section J.
- (8) Schedule 11 of the Development Plan Overlay of the Darebin Planning Scheme outlines the following ESD requirements:
 - Demonstrates the incorporation of leading technologies to achieve the highest environmental standards.

- Demonstrates how compliance with all relevant statutory obligations in environmental sustainability is achieved.
 - Identifies and nominates the level of sustainability performance standards to be adopted.
 - Assesses options by which the agreed level of sustainable performance standards will be achieved.
- (9) Clause 58.03-1, Standard D6 of the Darebin Planning Scheme requires that apartments have cooling loads no higher than 30 MJ/m²/yr maximum NatHERS annual cooling load.

3.3 Design Response

3.3.1 Green Star

Green Star is an environmental rating tool developed by the Green Building Council of Australia (GBCA) with the specific purpose of assisting industry in enabling a consistent and measured approach to the environmental rating of buildings. Buildings are ranked between 1 and 6 Stars with only those rating 4 or above can be submitted for a formal certification by the GBCA.

The Green Star rating tool is made up of 8 categories which represent a holistic review of the development of a building. A 9th category is available for sustainable strategies which are either innovative or cannot be currently measured by the tool.

- | | |
|--------------------------------|------------------------|
| • Management | • Materials |
| • Indoor Environmental Quality | • Land Use and Ecology |
| • Energy | • Emissions |
| • Transport | • Innovation |
| • Water | |

Each category is made up of a number of Credits with varying levels of points available to each Credit. These Credits focus on specific aspects of a development within the Category they are assigned to. A minimum of 60 points are required for a 5 Star Green Star Rating. As the project is seeking formal certification, it is recommended that a 10% buffer is allowed, as some points are likely to change during the design and construction phase of the building due to unforeseen circumstances. The Development will be assessed against the current version of the rating tool which is Green Star – Design & As Built v1.2, along with any other amendments or rule clarifications as issued by the GBCA.

This project is targeting a 5 Star certified rating under the Green Star Design & As Built v1.2 for all buildings. A minimum of 60 points is required to achieve 5 Stars. In addition to the 5 Star rating, the following mandated credits will be incorporated for the Public Housing.

Mandatory Green Star Credit	Credit Criteria
MANAGEMENT	
Commissioning and Tuning	Building commissioning
	Building systems tuning
	Services and maintainability review
Adaptation and Resilience	Implementation of a Climate Adaptation Plan
Building Information	Building User Information
Metering and Monitoring	Metering
Responsible Building Practices	Environmental Management Plan
	Formalised Environmental Management System
INDOOR ENVIRONMENT QUALITY	
Indoor Air Quality	Ventilation System Attributes
	Provision of outdoor air
Acoustic Comfort	Acoustic separation
Indoor Pollutants	Paints, Adhesives, Sealants and Carpets
	Engineered Wood Products
Thermal Comfort	Thermal Comfort (7 Star NatHERS)
ENERGY	
Greenhouse Gas Emissions (NatHERS Pathway)	Thermal performance (7 Star NatHERS average)
	Lighting
	Ventilation and air-conditioning
	Appliances and equipment
TRANSPORT	
Sustainable Transport	Active Transport Facilities
WATER	
Potable Water Use	6 points (Performance Pathway) OR 5 points (Prescriptive Pathway)
EMISSIONS	
Stormwater	Reduced Peak Discharge
Light Pollution	Light Pollution to Neighbouring Bodies
	Light Pollution to Night Sky
Microbial Control	Legionella Impacts from Cooling Systems

3.3.2 Nationwide House Energy Rating Scheme (NatHERS)

In order to achieve compliance with BCA Section J requirements related to energy efficiency, each of these Class 1/Class 2 dwellings, excluding the SOHOs, will target a minimum of 6 Stars and an average rating of at least 7 Stars under the Nationwide House Energy Rating Scheme, as rated using the latest version of FirstRate5 software. SOHOs will target a minimum of 5.5 Stars. The software uses information such as building façade materials, bulk insulation, glazing thermal performance, and orientation in order to estimate the annual heating and cooling loads for the dwelling. This target exceeds the minimum requirements of the BCA which are a minimum of 5 Stars and an average rating of at least 6 Stars.

3.3.3 BADS

To comply with the Better Apartment Design Guidelines and Clause 58.03-1, Standard D6 of the Darebin Planning Scheme, the apartments in the development will have cooling loads no higher than 30 MJ/m²/yr maximum NatHERS annual cooling load.

3.3.4 NCC 2016 Section J1-3 for Common Areas and Non-Residential Areas

The National Construction Code (NCC) requires a building to meet minimum energy efficient requirements and prove compliance via a Deemed-to-Satisfy (DtS) or Performance Solution. It is anticipated this project will achieve compliance via the DtS method of the common areas and non-residential areas and will exceed the performance requirements in NCC Sections J1 and J2 by at least 5%.

3.3.5 WELL Design Pathway

The project aims to implement a WELL V2 ready pathway incorporating the design precondition features of the International WELL Building Institute. This WELL Building Standard seeks to implement, validate and measure features that support and advance human health and wellness.

The WELL Building Standard was developed by integrating scientific and medical research and literature on environmental health, behavioural factors, health outcomes and demographic risk factors that affect health with leading practices in building design, construction and management. The WELL Building Standard is made up of 10 concepts which are comprised of features with distinct health intents. Features are either preconditions or optimizations. Features are either design-oriented, operation-orientated or a combination.

- | | |
|---------------|-------------------|
| • Air | • Thermal Comfort |
| • Water | • Sound |
| • Nourishment | • Materials |
| • Light | • Mind |
| • Movement | • Community |

The incorporation for design preconditions of this standard into the project ensures the key features of the standard are addressed and the health and wellbeing of the residents is given priority.

4. ESD initiatives

4.1 Management

- Inclusion of a qualified ESD consultant on the design team. Wood & Grieve Engineers fulfils this requirement.

COMMISSIONING AND TUNING

- Building Services are to be commissioned to the ASHRAE / CIBSE standards and each building services trade will provide As-Built Drawings, Operations & Maintenance Manual, Building Log Book, Commissioning Reports and Training of Building Management Staff. An air permeability test will be carried out over a minimum area of the building and will not exceed maximum air permeability rate.
- A services and maintainability review will be conducted by the head contractor or the owner's representative or ICA during design stage and prior to construction. This review will facilitate input from the design team, the facilities manager and operations staff and any relevant suppliers and subcontractors.
- An Independent Commissioning Agent (ICA) will be appointed to advise, monitor and verify the commissioning and tuning of the nominated building systems throughout all stages of the project.

CLIMATE CHANGE ADAPTATION

- A climate adaptation plan to assess climate change scenarios and impacts on the project, including the identification of potential risks to people will be undertaken by a qualified third party. This will be undertaken for the public housing at a minimum.

BUILDING INFORMATION

- A simple easy-to-use Building Users guide is to be developed and made available to the Building Owner, Building Users & Occupants.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

- The head contractor will be required to prepare a site specific Environmental Management Plan (EMP). The head contractor will have ISO 14001 Environmental Management System (EMS) accreditation.

METERING & MONITORING

- Water and energy metering will be provided for different areas and uses of the project, for example, floor-by-floor metering when entire floor has a single use, and separate sub-meters for spaces with different uses. Energy loads >100kW and water uses with >10% of project's water use will be metered independently.
- Sub-metering of the body corporate energy and water consumption to allow for ongoing building tuning works by the Facility Manager.
- The metering network (including sub-meters) will be validated according to NABERS protocol or NMI standards, and will be commissioned and calibrated at the time of completion. Metering network will be capable of being monitored to detect and produce alerts if any inaccuracies are found.

4.2 Indoor Environment Quality

INDOOR AIR QUALITY

- The **ventilation system** will comply with ASHRAE Standard 62.1 in regards to minimum separation distances between pollution sources & outdoor air intakes.
- Naturally ventilated spaces will have good access to outdoor air and will meet the requirements of AS 1668.4:2012.
- All kitchens will be ventilated in accordance with AS 1668.2-2012. A separate exhaust system will be provided for the kitchen exhaust.

- All **pollutants from vehicles** in an enclosed space will be exhausted to a dedicated exhaust riser or directly to the outside, in accordance with Section 4 of AS 1668.2-2012. This exhaust system will not recycle air to other enclosures.

ACOUSTIC COMFORT

- **Internal ambient noise levels** will be not no more than 10dB for naturally ventilated spaces and 5dB for mechanically ventilated spaces above satisfactory sounds levels in Table 1 of AS/NZS 2107:2000. This includes all sound generated by the building systems and any external noise ingress.
- All enclosed spaces (residential units) will be **acoustically separated** to minimise crosstalk between rooms and adjacent areas. The partitions between these spaces should be constructed to achieve a weighted sound reduction index (R_w) of at least 45. Note: the partitions within the residential units are not required to achieve this target, only the neighbouring walls between units. Walls between apartments and public corridors should be constructed to achieve $R_w > 55$.

LIGHTING COMFORT

- **Flicker free lighting** will be provided and all light sources will have a Colour Rendering Index (CRI) of 80.
- Measures to improve the uniformity of lighting will be provided throughout the development. For the non-residential spaces, light colour ceilings and fittings with 30% upward lighting ratio will be provided.
- Apartment lighting design to ensure that **task lighting** on kitchen benches and bathrooms will provided. Including sufficient power outlets for future task lighting/lamps around the predicted furniture layouts. For all the other spaces, the occupants will have the ability to control the lighting in their immediate environment.

VISUAL COMFORT

- Blinds will be provided to the living rooms and bedrooms of the residential spaces. These will be controlled by the occupants within each individual space and have a visual light transmittance (VLT) of $\leq 10\%$.
- 60% of living rooms will have a clear line of sight to internal or external views. All floor areas within 8m from a compliant high quality view meet these requirements.

INDOOR POLLUTANTS

- Low Volatile Organic Compounds (VOC) internally applied paints, carpets, adhesives and sealants will be selected for the project.
- Low Formaldehyde engineered wood products (particleboard, plywood, MDF) will be selected for the project.

THERMAL COMFORT

- Residential spaces in the project will achieve an average NatHERS rating of 7 Stars to demonstrate a high degree of thermal comfort is provided.

4.3 Energy

For the residential components of the development, the following initiatives will be implemented to **reduce the energy intensity** of the dwellings.

RESIDENTIAL COMPONENT

- **BUILDING FABRIC** – A 7 star whole development average with no individual apartment dwelling achieving less than 6 Stars will be achieved, except for SOHO dwellings which will achieve a minimum of 5.5 Stars.
- **DOMESTIC HOT WATER** – The primary heating source for domestic hot water will be either natural gas or an electric heat pump with COP of at least 3.5.
- **HVAC** – The following requirements will be met:
 - (A) The minimum energy star rating for the air conditioning equipment is at least 3-star (as per AS 3823.2-2011); and
 - (B) The rated capacity of the air conditioning equipment does not exceed the design heating capacity by more than 20% and the design cooling capacity by more than 10%.

The apartments and common spaces will be conditioned (heated and cooled) and mechanically ventilated.

- **LIGHTING** - The lighting power density will be reduced by at least 10% below the maximum lighting power density allowable in Table J6.2a. Independent light switching will be provided to each functional room (ex, living room, kitchens). Communal areas with automated lighting control system(s), such as occupant detection will also be provided. Energy efficient LED and fluorescent lighting will be installed throughout.
- **APPLIANCES & EQUIPMENT** – All installed (supplied only) appliances will have a minimum Energy Rating of 1-star below the maximum Energy Rating available for that appliance type and capacity. This includes: Refrigerators/freezers; Dish washers; Clothes washers; and Clothes dryers.

NON-RESIDENTAL COMPONENT

For the retail and common areas, the minimum Deemed-to-Satisfy performance requirements stipulated within parts J1 and J2 of the NCC will be exceeded by at least 5%.

4.4 Transport

- A Transport Plan to be developed with proposed transport initiatives applicable to the project and compared to a reference building with respect to:
 - emissions reduction,
 - active mode encouragement,
 - vehicle km travelled reduction and,
 - walkable location.
- The development will provide **bicycle spaces** for the building occupants and visitors.

4.5 Water

- **Sanitary fixtures** across all the development will be within one star of the WELS rating below:
 - Taps – 6 Star
 - Toilets – 5 Star
 - Showers 3 Star (>4.5 but ≤6.0 L/min)
 - Dishwashers – 6 Star (where/if supplied)
 - Clothes washing machines – 5 Star (where/if supplied)
- A **fire protection system** will be designed to include temporary storage for 80% of the routine fire protection system test water and maintenance drain-downs for reuse on-site. If sprinkler systems are installed, each floor will be fitted with isolation valves or shut-off points for floor-by-floor testing.
- **Drip irrigation** with moisture sensor override will be installed. The landscaping and associated systems will be designed to reduce the consumption of potable water required for irrigation through the installation of subsoil drip irrigation and moisture sensor controls. Alternatively, the project might look into the viability of using no potable water for irrigation, depending on how much rainwater can be collected from the roof of the building – this will be investigated further as the project progresses.
- **Rainwater tanks** will be installed to collect and re-use rainwater for toilet flushing and irrigation.
- Air cooled systems which do not use water for **heat rejection** will be installed to serve the building.

4.6 Materials

- The **building's steel (structural & reinforcing)** will be sourced from a **Responsible Steel Maker**. This means that the steel making facilities are ISO 14001 certified, and the steel maker is member of the World Steel Association's (WSA) Climate Action Programme (CAP).

- Assuming a concrete framed building, at least 60% by mass of all reinforcing steel bar and mesh is produced using energy-reducing processes in their manufacture. Reinforcing steel sourced from a steel maker using Polymer Injection Technology is an example of a compliant product.
- **Timber selections** for the project will be sourced from sustainable locations (for example FSC or PEFC accreditation) or will be re-used timber. Timber uses include formwork, structural and non-structural timber, external and internal cladding, finishes, joinery, furniture items
- Selections for permanent formwork, pipes, flooring, blinds and cables will be either PVC free products or meet **PVC Best Practice Guidelines**.

4.7 Waste

- The head contractor will commit to divert 90% of the waste generated during **construction and demolition** from landfill. All waste contractors and waste processing facilities will hold a 'Compliance Verification Summary' issued by a Suitable Qualified Auditor confirming compliance with Green Star reporting criteria.
- A qualified waste auditor, or other waste professional specialist from the project team will prepare an **Operational Waste Management Plan (OWMP)** for the project in accordance with best practice approaches. The requirements or recommendations made in the operational waste management plan will be reflected in the design of the building's facilities. This will consider encouraging the separation of waste streams (landfill, recycling, etc) and implementation of appropriate dedicated storage areas and access to waste storage.

4.8 Land Use & Ecology

- The site is a **brownfield site** development (reusing an existing site), thus minimising the environmental impact of a greenfield development.
- **No critically endangered or vulnerable species** were present on site at time of purchase. At the time being no improvement in the ecological value of the site is anticipated.
- A comprehensive **hazardous materials survey** will be carried out on the site. Any asbestos, lead or PCBs found on site will be stabilised or removed.
- At least 75% of the total project site area comprises of building or landscaping that **reduce the impact of heat island effect** (for example, vegetation, roofing materials with a three year SRI>64, hard scaping elements shaded by vegetation or roof structures like PVs or hot water panels).

4.9 Emissions

- **External lighting design** will be designed to comply with AS 4282:1997 Control of Obtrusive Effects of Outdoor Lighting to minimise any light pollution to night sky. In addition, no external luminaire on the project will have an ULOR that exceeds 5%, relative to its actual mounted orientation.

4.10 Stormwater

- Post development peak event discharge from the site will not exceed the pre-development peak event discharge. All **stormwater discharged** from site will meet the following Pollution Reduction Targets.

Total Suspended Solids (TSS)	80%
Gross Pollutants	90%
Total Nitrogen (TN)	45%
Total Phosphorus (TP)	60%
Total Petroleum Hydrocarbons	90%
Free Oils	90%

The project acknowledges that the City of Darebin requires that the development achieves the Urban stormwater best practice environmental management guidelines (BPEM). To this end the project team will develop a Water Sensitive Urban Design (WSUD) strategy, inclusive of the MUSIC modelling, to exceed the BPEM Guidelines and meet the above Green Star Pollution Reduction Targets.

WSUD is a framework for managing urban stormwater both as a resource, and in a way that protects receiving aquatic ecosystems (CSIRO, 2005). The main objectives of WSUD include; protecting existing natural features and ecological processes; maintaining the natural hydrologic behaviour of catchments; protecting water quality of surface and ground waters; minimising demand on the reticulated water supply system; minimising sewage discharges to the natural environment; and integrating water into the landscape to enhance visual, social, cultural and ecological values (eWater, 2010).

4.11 Innovation

- At least 50% of the paints (by cost) specified in the buildings will be **ultra low VOC paints**, that is, have a maximum TVOC content of 5g/L.
- **Post occupancy evaluation** will be undertaken 12 months after practical completion. This will involve both quantitative data (for example metering data) and qualitative data (interviews and/or surveys).