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Younghusband Woolstore Redevelopment (Building S3 & S4)

Town Planning ESD Statement
(Stage 2)

Impact Investment Group

Job No: 1018559
Doc Ref: Stage 2 Town Planning ESD Statement
Revision: C
Revision Date: 25 February 2021

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Document Revision History

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—	15 April 2019	Draft Report for Comment
A	29 May 2020	Final ESD Statement
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Document Validation (latest issue)

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Executive Summary

The proposed Stage 2 Youngusband Woolstore Redevelopment has proposed an outcome focused commitment approach for its sustainability commitments rather than adopt the typical “*preliminary design potential*” approach that is taken by other developments within the remit of the City of Melbourne.

In consideration of this it is proposing much stronger environmental commitments which includes:

Environmental Performance

- Attaining formal certified **One Planet Living (OPL)** endorsement for Stage 2 development as part of overall precinct redevelopment, rather than just benchmarking against Green Star.
- In addition to minimising the environmental impact of construction materials and finishes the development has also committed to the use of **Life Cycle Assessment (LCA)** to inform material selections.

Energy Efficiency & Greenhouse Performance

- Commitment to attain a minimum **5-Star Base Building NABERS Energy Office rating** for the Commercial Office areas by entering into a *Commitment Agreement* with the Office of Environment & Heritage (OEH) for this performance outcome, rather than just demonstrating the development potential to achieve this performance as called for by the Melbourne Planning Scheme.

Achieving which will include a range of energy efficiency and low carbon emission strategies including:

- Adoption of the principles of Passivhaus for Building S4 to improve external passive solar control, solar glare control, and internal environmental quality achieved via airtight–thermal bridge free construction.
- Integration of a roof mounted photovoltaic (PV) panels.
- Strong ‘right sizing’ approach to the design of the heating, ventilation and air conditioning (HVAC) systems
- Integration of high efficiency artificial lighting solutions.
- Elimination of natural gas use within the Base Building to facilitate effective carbon emission offsetting.
- Use of electric heat pumps for the generation of domestic hot water (DHW).
- To further boost the development greenhouse performance credentials it has also committed to attain certified carbon neutrality under the **Climate Active** (<https://www.climateactive.org.au/>) program, formerly the *National Carbon Offset Scheme (NCOS)*.

Water Efficiency

- In addition to meeting the water efficiency requirements within the Melbourne Planning Scheme the development commits to attaining potable water neutrality by a combination of minimising water demand, substituting potable water with harvested rainwater and offsetting remaining *Base Building* potable water use through the Odonata Water Offset Program.

Waste Efficiency

- In addition to meeting the waste efficiency requirements of the Melbourne Planning Scheme the development has also committed to
 - Maximising the re-purposing or re-use of demolition material;
 - Providing equal access to storage and chutes for recycling, as well as a suitably sized storage area to support high rates of recycling, and ease of access from floors to waste management facilities; and
 - Providing recycling for specialist streams including phones, batteries and e-waste.
 - Imposing contractual requirements regarding waste on the Main Contractor to address diverting waste from landfill, re-using pallets aspirational re-use requirements for formwork; recycling facilities on site for workers; and Implementing a keep-cup initiative onsite.

In summary the proposed development is committing to a much stronger outcome focused sustainable design solution that goes above and beyond the energy, water and waste efficiency requirements called for under the Melbourne Planning Scheme.

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1.0

Sustainable Design Response

1.0 Sustainable Design Response

The Younghusband Woolstore Redevelopment site comprises multiple buildings, including a 100 year old wool store, and covering almost two inner city blocks in Kensington

In recognition of this heritage quality and the deep commitment to the principles of sustainability, connection, collaboration and belonging of the Impact Investment Group (IIG) a rejuvenation approach was sought for the redevelopment of these buildings within the precinct.

1.1 Sustainability Aspirations

The sustainability aspirations for the overall Younghusband Woolstore redevelopment are as follows:

- Achieve “Real World” industry recognized carbon and water neutrality for the site;
- Provide demonstrable evidence of benefits and ability to sustainably re-purpose existing buildings; and
- Obtain formal independent recognition for the strong community benefits of the redevelopment.

1.2 Sustainability Commitments

As a continuation to the commitments made to Stage 1 of the redevelopment, comprising of Building S1 and Building S2 within the precinct, similar sustainability commitments are to be made for Stage 2 of the redevelopment which comprises of Building S3 and Building S4, which are outlined in the following sections.

1.2.1 Carbon Neutrality

The following commitments are being made to achieve this objective:

- Attain a minimum **5-Star Base Building NABERS Energy Office rating** for the Commercial Office areas by entering into a *Commitment Agreement* with the Office of Environment & Heritage (OEH) for this performance outcome.
- Attain certified carbon neutrality under the **Climate Active** (<https://www.climateactive.org.au/>) program certification for the *Base Building* performance, formerly the *National Carbon Offset Scheme (NCOS)*.

1.2.2 Water Neutrality

- Attain potable water neutrality by a combination of minimising water demand, substituting potable water with harvested rainwater and offsetting remaining *Base Building* potable water use through Odonata Water Offset Program.

1.2.3 Heritage & Community Sustainability Recognition

- Continue to support attaining **One Planet Living (OPL)** endorsement for the entire precinct redevelopment, i.e. Building S1 to Building S5 that are being delivered in multiple stages.
- Use **Life Cycle Assessment (LCA)** to demonstrate the environmental benefit of re-purposing the existing Younghusband Woolstore over the complete redevelopment of the site.

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ESD Strategies

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2.0 ESD Strategies

The following provides a summary overview of the strategies and initiatives that are being proposed for Stage 2 to deliver on the strong sustainability objective and commitments being made for the overall Younghusband Woolstore redevelopment

2.1 Carbon Neutrality

As the term “carbon neutral” can mean many different things to different people, organisations and projects, the Younghusband Woolstore redevelopment has sought to find an industry recognised and independently accredited scheme to verify the developments achievement of carbon neutrality.

For these reasons it has chosen to use the National Carbon Offset Standard (NCOS). The scheme then require a building to meet a minimum efficiency outcome under either the NABERS Energy or Green Star Performance rating tools, and then adds the additional emissions which are outside the scope of those schemes (i.e. Scope 3 emission) to determine the total Carbon Account for the building. Any shortfall in carbon emissions are then offset from eligible Carbon Offsets.

To achieve the commitment to attain **National Carbon Offset Scheme (NCOS) certification** and minimum **5-Star Base Building NABERS Energy Office rating** for the *Commercial Office* areas the proposed strategies that are to be taken will include:

- Building S4 will adopt the principles of Passivhaus having an emphasis on external passive solar, glare control, and internal environmental quality achieved via airtight–thermal bridge free construction.
- Maximising the extent of roof mounted photovoltaic (PV) panels, with most of roof of Building S4 to be covered in roof top solar PV.
- Adoption of a strong ‘right sizing’ approach to the design of the heating, ventilation and air conditioning (HVAC) systems within the buildings so that they are designed for optimum operational efficiency.
- Integration of high efficiency artificial lighting solutions, with a target minimum 30% reduction adopted for lighting in the allowable lighting power densities under Part J6 Lighting of Section J Energy Efficiency of the National Construction Code (NCC) / Building Code of Australia (BCA) 2016.
- Elimination of natural gas use within the Base Building to facilitate effective carbon emission offsetting by the proposed roof mounted PV array and NCOS recognised off-site renewable technologies.
- Use of electric heat pumps for the generation of domestic hot water (DHW) and limiting its provision to just the End of Trip (EOT) facilities and cleaners’ sinks, with no DHW to be provided to the amenities within the building.

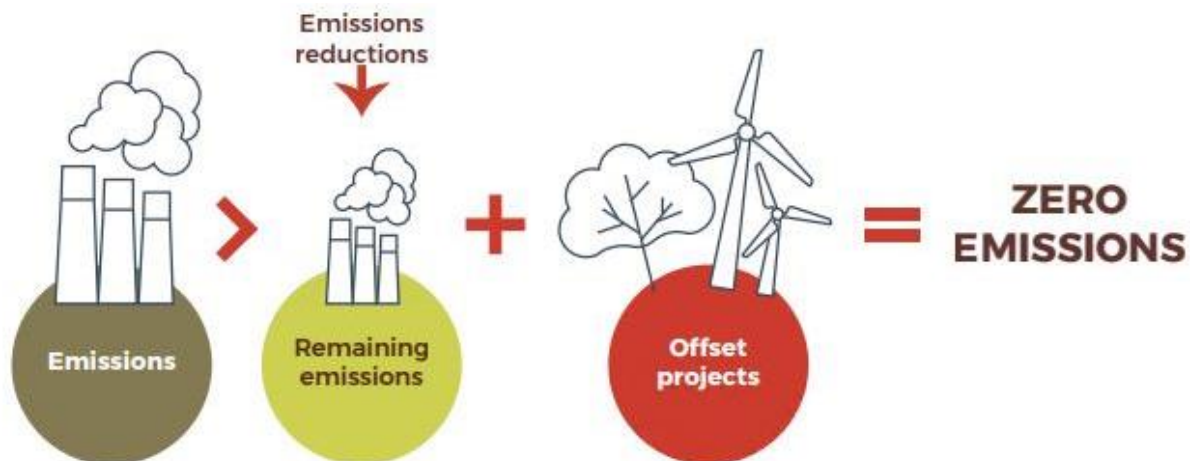


Figure 2.1 – National Carbon Offset Scheme (NCOS)

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2.2 Water Neutrality

To achieve a water neutral outcome for the development the following approaches are to be adopted within Stage 2 of the overall redevelopment of the Younghusband Woolstore Redevelopment.

- Selection and use of high water efficiency and low water demand fixtures and fittings including:
 - Very low flow showerheads (i.e. 6.0 L/min with flow restrictors); and
 - 6-Star WELS rated taps in hand basins.
- On-site collection and re-use of rainwater for re-use within the buildings for:
 - Toilet flushing; and
 - Landscape irrigation.

Adequacy of rainwater harvesting and re-use system to be demonstrated by meeting and / or exceeding the 100% STORM score required by the Melbourne Planning Scheme, refer Section 3.0 for further details.

- Air cooled heat rejection for the air conditioning systems.
- Purchasing of environmental water offsets from an accredited Odonata Water Offset Program for the remaining *Base Building* potable water use.

2.3 One Planet Living (OPL)

One Planet Living (OPL) is a sustainability framework that was developed by UK-based charity Bioregional.

It provides guidance for communities, local government and companies to develop their own action plans to help them live within the resources of our one planet.

The action plans are flexible and can be tailored to suit a project or organisation.

The action plans developed in accordance with the ten One Planet Living principles outlined below, with Ecological Footprint and Carbon Footprint acting as the key indicators for sustainable living.



Figure 2.2 - One Planet Living Principles

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Although the One Planet Living (OPL) recognition is being sought for the overall Younghusband Woolstore precinct the attributes being embedded and adopted within Stage 2 of the redevelopment covering Building S3 and Building S4 covered by this town planning application are summarised as follows:

▪ **Health and Happiness**



- Commitment to the use of low total VOC paints, sealants and flooring systems both in construction and as part of the requirements under the Tenant Fitout Guide.
- The Main Contractor will be contractually required to:
 - Promote healthy eating options for staff;
 - Hosting "R U OK" BBQ(s) onsite during construction; and
 - Having an "Assure" Package for all staff - provision of nutrition consultations, debt counselling, legal advice, health insurance etc.

▪ **Equity and Local Economy**



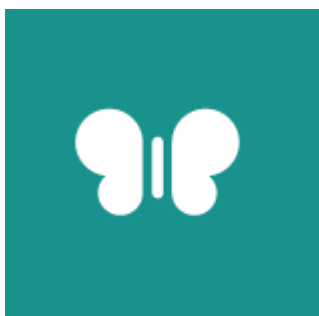
- The Main Contractor will be contractually required to:
 - Report on number of apprentices employed both by them and by all subcontractors;
 - Commit to having a *CADET* program member employed on project.
 - Promote the Younghusband Woolstore redevelopment and One Planet Living (OPL) via their involvement in "Explore Careers"; and
 - Be a member of the *Workplace Gender Equality Agency (WGEA)*.

▪ **Culture and Community**



- Impact Investment Group (IIG) has and will continue to undertake extensive community and tenant engagement to promote and inform the design response for the redevelopment.
This engagement will continue through the design development phases and be expanded to include the promotion of the One Planet Living (OPL) accreditation process.
- During construction the Main Contractor will hold community BBQ to introduce team and project.

▪ **Land and Nature**



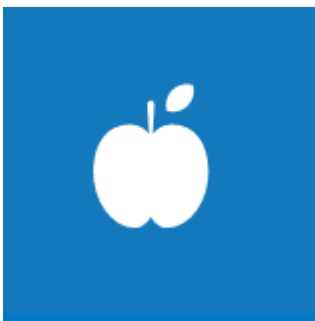
- Wherever practical and possible native and climatically suitable landscaping will be provided along the development boundary and within the redevelopment itself.
- The Main Contractor will be contractually required to:
 - Be ISO14001 certified and prepare a site-specific Environmental Management Plan (EMP); and
 - Develop a flora and fauna protection plan.

▪ **Sustainable Water**



- Selection and use of high water efficiency and low water demand fixtures and fittings, very low flow showerheads and high WELS rated taps in hand basins;
- On-site collection and re-use of rainwater within a 62.5KL tank for re-use within the buildings for toilet flushing and landscape irrigation;
- Air cooled heat rejection for the air conditioning systems and
- Purchasing of environmental water offsets from the Odonata Water Offset Program for the remaining *Base Building* potable water use.

▪ **Local and Sustainable Food**



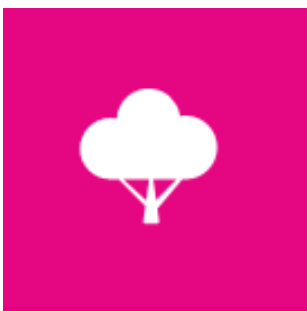
- The Main Contractor will be contractually required to:
 - Promote use of local caterers for on-site provision and on-site promotion for personal use; and
 - Promote healthy food on-site.

▪ **Travel and Transport**



- The development commits to having:
 - To further promote sustainable transport options for building users and visitors 172 bike parks have been provided for staff and 10 bike parks have been provided.
 - Provide for charging of electric bikes; and
 - Provision of interactive Travel Information Points.
- The Main Contractor will be contractually required to:
 - Provide construction staff with secure bicycle storage and end of trip facilities.

▪ **Materials and Products**



- The development commits to having:
 - Life Cycle Assessment (LCA) to be undertaken to assist with material selections;
 - A target of 30% less Portland cement by mass of concrete used;
 - All timber Forest Steward Certified (FSC) certified, or Australian Forest Standard (AFS) / Programme for the Endorsement of Forest Certification (PEFC) certified if FSC unavailable;
 - Piping, blinds & flooring will meet the GBCA's *Best Practice Guidelines for PVC*;
 - Partitions, flooring and furniture, Good Environmental Choice Australia (GECA), GreenTag or similarly certified; and
 - Target for 95% of steel used to be sourced from a Responsible Steel Maker.

▪ **Zero Waste**



– The development commits to:

- Maximising the re-purposing or re-use of demolition material;
- Providing equal access to storage and chutes for recycling, as well as a suitably sized storage area to support high rates of recycling, and ease of access from floors to waste management facilities; and
- Providing recycling for specialist streams including phones, batteries and e-waste.

– The Main Contractor will be contractually required to:

- Achieve a target 90% total construction recycling target;
- Have re-usable pallets mandated in subcontractor tenders;
- Include aspirational requirements for formwork to be reused in subcontractor tenders;
- Provide recycling facilities on site for workers; and
- Implement a keep-cup initiative onsite.

▪ **Zero Carbon Energy**



– The development commits to:

- Building S4 will adopt the principles of Passivhaus having an emphasis on external passive solar, glare control, and internal environmental quality achieved via airtight–thermal bridge free construction.
- Maximising the extent of roof mounted solar PV on Building S4;
- Maximising the energy and greenhouse gas emission efficiency of engineering services through a combination of a strong ‘right sizing’ design approach and no gas use within the *Base Building*;
- Exceeding the Part J1 Building Fabric thermal insulative performance characteristics of the facades, with a commitment to a minimum 20% improvement;
- Attain certified carbon neutrality under the **Climate Active** (<https://www.climateactive.org.au/>) program for the *Base Building* performance, formerly the *National Carbon Offset Scheme (NCOS)*; and
- Entering into a *Commitment Agreement* for a minimum *5-Star Base Building NABERS Energy Office rating* for *Commercial Office* areas.

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STORM Assessment

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3.0 STORM Assessment

The Water Sensitive Urban Design (WSUD) response proposed for this development has been assessed using the industry accepted measurement tool *Stormwater Treatment Objective – Relative Measure (STORM) Calculator* developed by Melbourne Water.

The STORM Calculator (<https://storm.melbournewater.com.au/>) helps define the treatment type and size that is required to meet the nominated Best Practice targets, using the following potential WSUD treatment measures:

- Rainwater tanks
- Wetlands
- Infiltration systems
- Swales
- Ponds
- Rain gardens
- Buffers

Proposed Stormwater Treatment

The proposed treatment achieves **100%** in the STORM calculator, thus achieving the objectives of the Clause 22.23 Stormwater management (Water sensitive Urban Design) of the Melbourne Planning Scheme.

Notes:

1. The proposed rainwater tank(s) will be connected to toilet flushing for all Base Building amenities.
2. The rainwater catchment area will include the roofs of both Building S3 and Building S4.
3. The total rainwater tank capacity in the development will be at 62.5kL, with the rainwater tanks to be located in the basement of Building S4.



STORM Rating Report

TransactionID: 962808
 Municipality: MELBOURNE
 Rainfall Station: MELBOURNE
 Address: Youngusband Woolstore
 Kensington
 VIC 3031
 Assessor: Caimin McCabe
 Development Type: Commercial/Retail
 Allotment Site (m2): 3,931.40
 STORM Rating %: 100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Building S4 Roof	1,756.40	Rainwater Tank	45,000.00	100	161.60	82.00
Link Bridge Roof	101.30	Rainwater Tank	3,000.00	100	165.80	82.00
S3 Roof	575.30	Rainwater Tank	14,500.00	100	160.80	82.00
Building S3 Terrace	251.40	None	0.00	0	0.00	0.00
Podium & Terraces	1,247.00	None	0.00	0	0.00	0.00

Figure 1 – STORM Assessment Results

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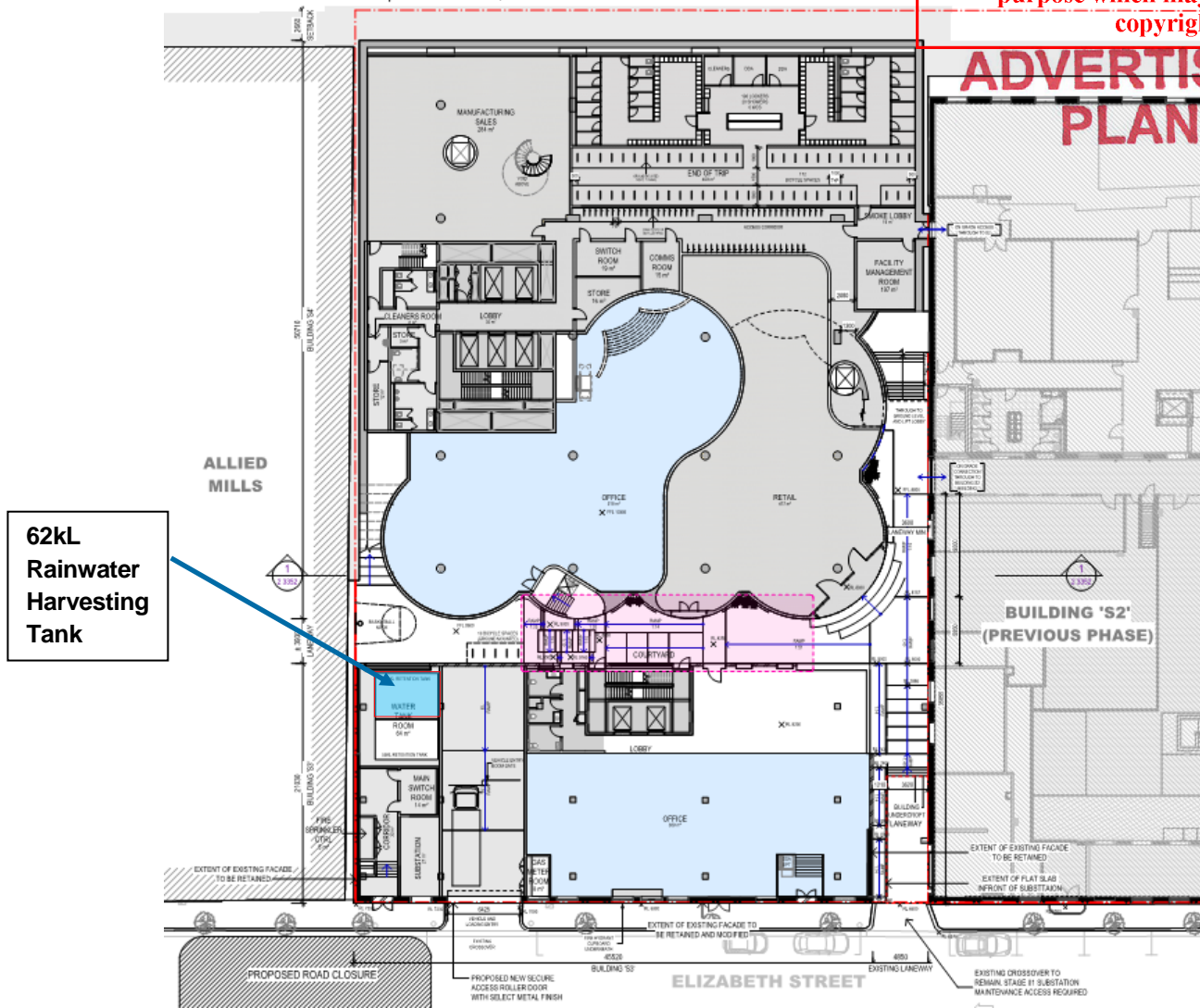


Figure 2 – Lower Ground Floor Plan

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