

CONSULTANTS ADVICE NOTICE

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Victoria Minter
Construction Assignments Pty Ltd

Dear Victoria,

QT Hotel, 33-37 Fitzroy Street, St Kilda Extension Proposal – ESD Opportunities

SDC have reviewed the plans for the proposed hotel extension on Fitzroy Street, St Kilda, and have identified ESD initiatives that we consider will help to demonstrate and promote environmental sustainability across various stages of development.

ESD OPPORTUNITIES:

Introduction

SDC was instructed by Construction Assignments, on behalf of Erdigroup, to review, and provide advice relating to, Environmentally Sustainable Design (ESD) for the proposed development of 33-37 Fitzroy Street.

Erdigroup are proposing to redevelop the existing Rydges Hotel (at 35—37 Fitzroy Street) and the adjoining site (33 Fitzroy Street) for a new 5-star hotel, consisting of a total of 131 rooms, ground floor restaurant and café, and rooftop bar. The goal of this ESD report is to identify all opportunities that are available, and proposed, to achieve and exceed best practice ESD in the development, given the constraints around the existing building. This includes 2019 NCC Part J requirements, Green Star Design & As Built v1.3 criteria, and The City of Port Phillip's local ESD policy (Clause 22.13 ESD).

The Green Star Design & As-built tool was created by the Green Building Council of Australia (GBCA) to help assess and benchmark new developments against a thorough set of criteria, specifically designed to reward best practice and innovative sustainable design approaches. The City of Port Phillip has a local ESD policy (Clause 22.13 ESD). This policy calls for all new development and refurbishments / extensions to be designed with the aim of providing best practice outcomes in the areas of energy and water efficiency, stormwater management, indoor environment quality, urban ecology, transport and waste management.

The following ESD report outlines SDC's opinion of how the proposed development seeks to address the above policy and demonstrates Erdigroup's strong commitment to addressing ESD principles from the outset, as per the plans prepared by Mostaghim, August 2020.

Energy Efficiency

ESD Opportunity	Description
Solar PV System	111 solar panels are proposed to be installed on the roof for electricity generation. This is typically going to provide at least 27.75kW of solar generation, although with the emergence of high efficiency panels could provide an array up to 44.4kW based on the current market leading 400W panels.

ESD Opportunity	Description
Efficient HVAC	The new portion of the development (and ideally the existing rooms also) to be provided with an efficient and central HVAC system. The use of water source heat pump VRF systems is recommended for excellent efficiency and flexibility.
Light External Colours	<p>The light external colours as shown in the concept renders are excellent in reducing the Urban Heat Island Effect (UHIE), especially if continued onto the roof.</p> <p>UHIE occurs when the hard surfaces in built up areas, such as roads and buildings, absorb the heat of the sun during the day and release this at night. During summer this can lead to significantly higher night-time temperatures, which increases the need to use air conditioners and makes for a generally unpleasant environment in and around darker buildings.</p> <p>The use of light external colours reflects sunlight and reduces this phenomenon.</p>
Insulation	<p>Ample insulation will be installed throughout the development to mitigate heat transfer through the building envelope and reduce heating and cooling requirements. Insulation requirements will be determined via energy modelling once the design has been finalised.</p> <p>We highly recommend that wherever possible the existing development have insulation upgrades applied also to improve on the existing conditions.</p>
Daylight Access and External Views	<p>Glazing to hotel rooms and other primary zones are to be designed to provide daylight access and external views in order to reduce reliance on artificial lighting and improve indoor amenity.</p> <p>A skylight has been shown on plans based on our recommendation that the Ground Floor office space will require natural light to meet best practice guidelines.</p>
Shading	<p>Shading devices help reduce the impact of unwanted solar gains on the thermal comfort of the buildings.</p> <p>For best practice, fixed shading in the form of canopies, sails or overhangs are proposed to the north facing glazing.</p> <p>A retractable awning has been proposed on our advice to help control summer heat gains through the large window / doors that will serve the roof top bar on that level.</p>
Lighting	LEDs are to be employed throughout the development to provide energy efficient lighting. Where possible, recessed light fittings that compromise the effectiveness of overhead insulation should be avoided.

Water Efficiency

ESD Opportunity	Description
Rainwater Collection	<p>Mains water consumption can be reduced through the capture and reuse of rainwater. We recommend capturing rainwater from the Level 6 roof area of the development of a size of 734m².</p> <p>Rainwater tank(s) with capacity of 30,000L (total) have been shown underground of the new extension.</p> <p>Water should be filtered with a high-quality filter and sent back to the common toilets on ground floor and in the rooftop bar. Given the very high usage of toilets in these spaces when occupied this use is considered the most practical for the building and would equate to the use within the new hotel rooms (or more). Furthermore, it minimises the double piping required to send the rainwater to all hotel room toilets, and given most hotel rooms are existing this localised use further reduces replacement of existing piping which is already in place.</p>

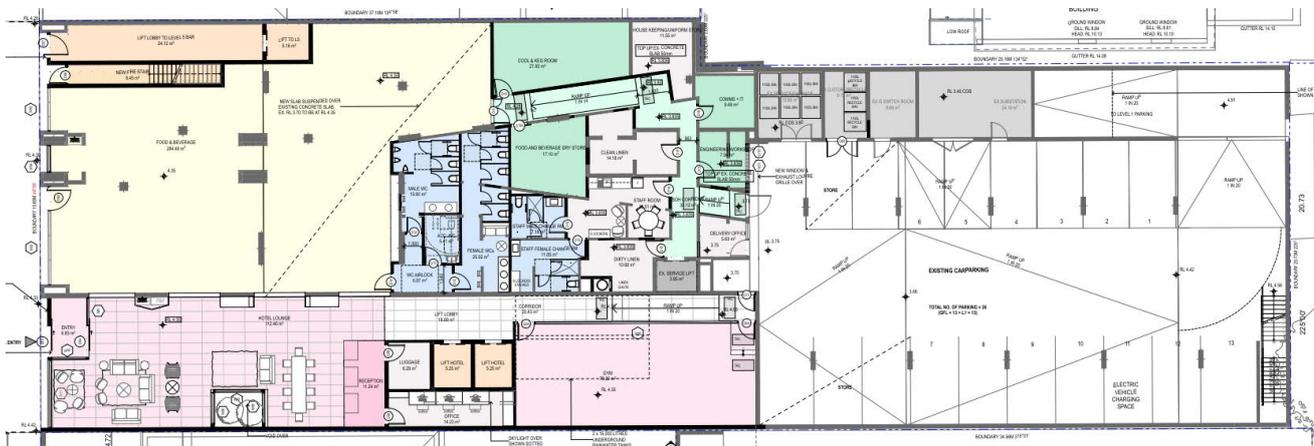


Figure 1: Location of the rainwater tank under ground floor shown above (red dotted boxes below gym).

ESD Opportunity	Description
Stormwater Impact Reduction	<p>With 217m² of trafficable area of the Level 5 Rooftop bar, runoff from this area is expected to be highly contaminated and so must be treated before leaving the site.</p> <p>Runoff is proposed to be directed to a separate rainwater tank of 5,000L capacity which can be reused for irrigation.</p>
Water Fixtures and Fittings	<p>The development is to include efficient fittings and fixtures to reduce the volume of mains water used in the apartments. The following Water Efficiency Labelling Scheme (WELS) star ratings will be specified:</p> <ul style="list-style-type: none"> • Toilets – 4 Star WELS;



ESD Opportunity	Description
	<ul style="list-style-type: none"> • Taps (bathroom and kitchen) – 5 Star WELS; and • Showerheads – 4 Star WELS (>6.0 but ≤7.5L/min).
Fire System Test Water	If a fire water system is required; the fire system should not expel potable water for testing and all fire pump test water should be recirculated and/or stored for reuse instead of being discharged into the stormwater system.

Building Materials and Construction

ESD Opportunity	Description
Construction Waste Management	<p>The builder will develop a waste management plan for the pre-construction and construction phases. This will include the following:</p> <ul style="list-style-type: none"> • Waste generation; • Any waste systems; • Minimisation Strategy; • Performance / Reduction targets; • Bin quantity and size; • Collection frequency; • Waste contractors; • Signage; and <p>Monitoring and reporting including frequency and method.</p>
Non-toxic materials	All materials used internally in the development will be non-toxic. It is proposed that low-VOC paints, sealants, adhesives, floor and wall coverings be installed / applied and that any composite timber boards used are rated E0 Formaldehyde. Materials are also to be durable so as to not require frequent replacement.
Responsible Material Sourcing	<p>When nominating and sourcing the materials such as concrete, steel and PVC should be sourced from responsible manufacturers who make use of energy reducing processes and manufacturing facilities which operate under a certified ISO 14001 Environmental Management System.</p> <p>All timber used in the development is to be sourced from the Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC) certified, or recycled/reused.</p>
Recycled Content in Materials	During the specification of the construction materials opportunities will be identified to ensure that as much recycled content be included as possible. Opportunities exist in materials such as composite timber boards, insulation products, flooring and plasterboard.



Transport

ESD Opportunity	Description
Electric Vehicle Infrastructure	Facilities for the charging of electrical vehicles within the carpark are provided. A minimum of one parking space will be nominated for electrical vehicle charging, with signage and charging infrastructure installed.
Bicycle Parking	The level 1 car parking area is to include a secure bike parking area for visitor bikes and for bike share / hire for guests. Given the exceptional cycling infrastructure nearby for exploring the City of Port Phillip and it's surrounds this is considered an exceptional outcome.



Figure 2: Location of the secure bike storage for guest use (red cloud).

Indoor Environment Quality

ESD Opportunity	Description
Daylight and Solar Control	<p>Even though hotel rooms are typically there for night time occupancy with the primary function sleeping, the proposed development ensures that all bedrooms will be provided with natural light via use of an increased light court system that expands on those which are already in use, and then slightly enlarges some as they enter the new levels proposed to be added.</p> <p>The rooftop bar will receive fantastic natural light through large windows that have solar control through a retractable awning. This in combination with good shading provided via screening and awnings to other north-west facing windows allows occupants to make use of the natural light provided by not requiring them to close curtains to avoid glare from direct sun.</p>



