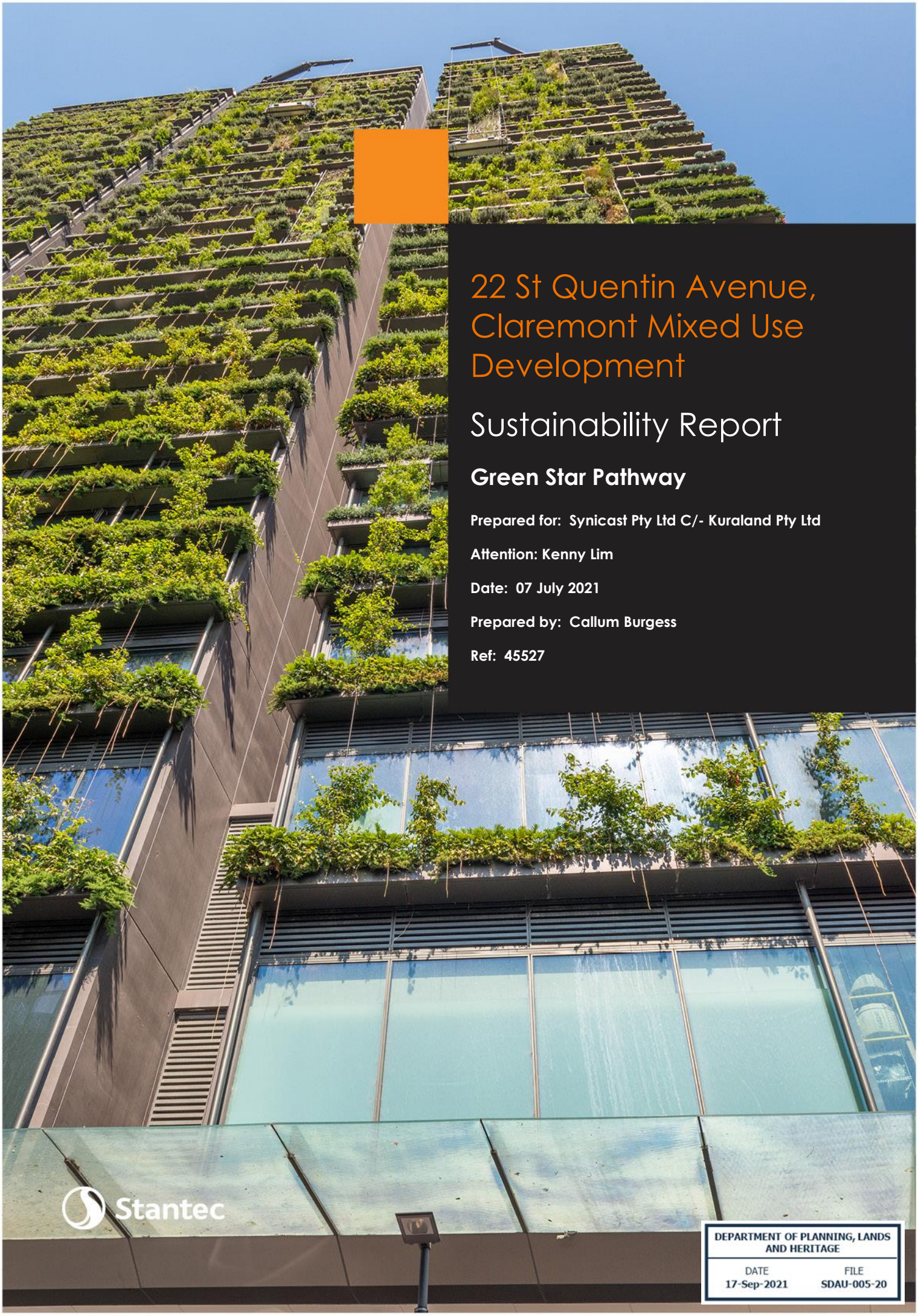

22 St Quentin Avenue, Claremont Mixed Use Development

Sustainability Report

Green Star Pathway

Prepared for: Synicast Pty Ltd C/- Kuraland Pty Ltd

Attention: Kenny Lim

Date: 07 July 2021

Prepared by: Callum Burgess

Ref: 45527

Stantec

Revision

Revision	Date	Comment	Prepared By	Approved By
1	14/01/2020	Scheme Amendment Issue	AL	PDS
2	23/01/2020	Scheme Amendment Issue	AL	PDS
3	27/10/2020	Preliminary Issue with Costing	NS	PDS
4	31/03/2021	Schematic Design	NS	PDS
5	**07/07/2021**	**DA Issue**	**CB**	**PDS**

Disclaimer

This report provides high level guidance about feasibility of sustainability initiatives to be included in the project at design stage. The term Green Star equivalency or informal rating has been used to demonstrate the project's feasibility of achieving the rating. No claim has been made about the achievement of a Green Star rating certification.

If a project is not registered with Green Building Council of Australia (GBCA) or has not achieved a formal certification for a Green Star rating it cannot make any statements referring to Green Star or use the Green Star trademark.

No guarantee or warrantee of building performance and operational savings in practice can be based on this preliminary advice.

We recommend that the Quantity Surveyor review the recommendations made throughout this report to confirm that they remain consistent with the budget limitations of the project.

Contents

1. Executive Summary

A preliminary assessment of the project's potential to achieve a minimum of a 5-star Green Star standard has been undertaken on the proposed mixed-use project located at 22 St Quentin Avenue, Claremont. A credit pathway has been determined that details "Australian Excellence" requirements for this project and has been based on best value for money credits.

2. Introduction

This document has been prepared for Synicast Pty Ltd C/- Kuraland Pty Ltd to identify the sustainability initiatives that are being considered for inclusion in the proposed mixed-use development as part of the Scheme Amendment strategy.

A preliminary assessment of the project's potential to achieve a 5-star Green star rating has been undertaken. Points that are easily achieved or present best value for money have been selected according to previous experience with similar projects, these will be coordinated with other design team members. This points strategy will be revised as design progresses, additional feedback and details become available.

2.1 Overview of Target

Based on our involvement in the project to date, we understand that the client's sustainability targets for the site are:

- 5 Star "formal", Green Star Design and As Built v1.3

It is expected that the Client will review the comments made throughout this report and confirm in writing which of the proposed initiatives are to be incorporated into the project by the relevant members of the design team.

3. Green Star Process

3.1 Green Star Overview

The Green Star set of ratings tools have been compiled by the Green Building Council of Australia to assess the level of environmentally sustainable design that may be incorporated into a building. This project will be assessed using the Design and As Built rating tool which can be used to rate any new building or collection of buildings.

Under the Design and As Built tool, the following ratings can be achieved:

- 45-59 points = 4 Star rating (“Australian Best Practice”)
- **60-74 points = 5 Star rating (“Australian Excellence”)**
- Above 75 points = 6 Star rating (“World Leader”)

It is recommended that a buffer of 10% above the minimum points is maintained until construction to cover any points that may be lost during construction.

4. Green Star Plan

4.1 Summary

A Green Star feasibility study was carried out for the Project. The objective of the feasibility study was to investigate the estimated additional cost to achieve a 5 Star Green Star rating and to create a plan for the most cost-effective points to target.

The information provided in this section of the report is based on industry rates and discussions with design team members.

The Green Star set of ratings tools have been compiled by the Green Building Council of Australia (GBCA) to assess the level of environmentally sustainable design that may be incorporated into a building. This project is eligible to achieve a rating using the Green Star Design and As Built tool.

The total number of points available for each of the categories in the Green Star Design and As Built tool is:

Table 1: Green Star Category Points

Category	Available Points	Targeted Points 5 stars
Management	14	13
Indoor Environment Quality	17	9
Energy	22	9
Transport	10	6
Water	12	3
Materials	14	10
Land Use and Ecology	6	3
Emissions	5	3
Innovation	10	9
Total	**110**	**65**

Under the current set of Green Star tools, a 4 Star rating ("Best Practice") is obtained when a certified score of 45-59 points are achieved. **A 5 Star rating ("Australian Excellence") is obtained when a certified score of 60-74 points is achieved.** A 6 Star rating ("World Leader") is obtained when a certified score above 75 points is achieved.

4.2 Green Star Performance Categories

The Green Star Design and As Built V1.3 Submission Guidelines outlines the following categories for Performance measurement:

- Construction/building management
- Indoor environmental quality
- Energy efficiency
- Transport
- Water efficiency
- Building materials
- Emissions management
- Land use and ecology
- Innovation

The targeted strategies align with the Green Star pathway for a 5-star rating and has been broadly summarized in the following sections.

4.2.1 Construction and Building Management

Objectives

- To encourage a holistic and integrated design and construction process and ongoing high performance.
- To ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development.

Proposed Design Response

The construction management team are committed to achieving a 6-star Green Star Design and As Built rating for the project. The project is targeting 13 points out of a total available 14 points. The strategies currently included in this category include the following:

- Definition of environmental building performance targets.
- Commissioning and tuning of building systems, to ensure the building optimises the investment into energy efficiency that has occurred.
- Service and maintainability review to assist handover processes.
- Climate adaptation plan
- Building information to be provided to all relevant stakeholders.
- Metering and monitoring system
- Environmental management system for construction.
- Staff support will be provided via training and programs outlining sustainable practices and the importance of physical and mental health.
- A site specific operational waste management plan to be developed.

4.2.2 Indoor Environment Quality (IEQ)

Objectives

- To achieve a healthy indoor environment quality for the wellbeing of building occupants.
- To provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Proposed Design Response

The project is targeting 9 points out of a total available 17 points. The strategies currently included in this category include the following:

- Provision of sufficient outside air for commercial areas and natural ventilation for residential areas.
- Indoor air quality exhaust or elimination of pollutants
- Acoustic comfort internal noise levels
- Minimum lighting comfort
- General illuminance and glare reduction
- Localised lighting control
- Provision of blinds
- High levels of daylight
- High quality views
- Low VOC paints, adhesives, sealants, carpets and engineered wood products
- Thermal comfort (7.0 NatHERS average rating)

4.2.3 Energy Efficiency

Objectives

- To ensure the efficient use of energy.
- To reduce total operating greenhouse emissions. To reduce energy peak demand.
- To reduce associated energy costs.

Proposed Design Response

The project is targeting 9 points out of a total available 22 points. This includes an overall carbon footprint reduction of 43% against a BCA compliant project. The strategies currently included in this category include the following:

- High efficiency façade design
- High performance glazing
- High efficiency LED lighting throughout
- High efficiency HVAC systems
- Gas or Electric heat pump (COP>3.5)
- NatHERS average rating of 7.0 stars
- Energy sub metering with future capacities for monitoring
- Embedded network
- 30kW PV System

4.2.4 Transport

Objectives

- To minimise car dependency.
- To ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Proposed Design Response

The project is targeting 6 points out of a total available 10 points. The strategies currently included in this category include the following:

- Access by Public Transport
- End of Trip facilities for commercial areas
- Low emission vehicle infrastructure

4.2.5 Water Efficiency

Objectives

- To ensure the efficient use of water.
- To reduce total operating potable water use.
- To encourage the collection and reuse of stormwater.

- To encourage the appropriate use of alternative water sources (e.g. grey water). To minimize associated water costs.

Proposed Design Response

The project is targeting 3 points out of a total available 12 points. The strategies currently included in this category include the following:

- High efficiency fittings and fixtures
- Low water use landscape design
- Waterless heat rejection
- Fire System test water reuse for commercial spaces if applicable

4.2.6 Building Materials

Objectives

- To minimise the environmental impacts of materials used by encouraging the use of materials with a favourable lifecycle assessment based on the following factors:
  - Fate of material
  - Recycling/Reuse
  - Embodied energy
  - Impact on Biodiversity
  - Human health
  - Environmental toxicity including carbon emissions
  - Environmental responsibility.
- To ensure waste avoidance, reuse and recycling during the design and construction stages of development.

Proposed Design Response

The project is targeting 10 points out of a total available 14 points. The strategies currently included in this category include the following:

- Minimising Life Cycle Impacts
  - Maximising green concrete
  - Structural and Reinforcing Steel is sourced from a responsible steel maker
  - Sustainable products
- Use of permanent formwork, pipes, flooring, blinds and cables which do not contain PVC and/or meet Best Practice Guidelines for PVC
- 90% of Construction and Demolition Waste gets diverted from landfill.

4.2.7 Land Use and Ecology

Objectives

- To protect and enhance biodiversity.
- To provide sustainable landscaping such as low water use, low fertiliser requirements and local native plant species selection.
- To protect and manage all remnant indigenous plant communities. To encourage the planting of indigenous vegetation.

Proposed Design Response

The project is targeting 3 points out of a total available 6 points. The strategies currently included in this category include the following:

- Increased Ecological Value
- Sustainable Sites Conditional Requirements
- Reuse of Land to 75%
- Heat Island effect reduction

4.2.8 Emissions Management

Objectives

- The reduction of impacts to wildlife from light pollution.
- The best practice application of microbial controls within air conditioning systems.

Proposed Design Response

It is proposed to target the reduced peak discharge initiative with the Green Star tool. The project is targeting 3 points out of a total available 5 points for the Green Star Emissions category. The strategies currently included in this category include the following:

- Reduction peak discharge and pollution to stormwater system
- Reduction of Light Pollution to neighbouring bodies
- Reduction of Light Pollution to Night Sky
- Microbial Control

4.2.9 Innovation

Objectives

- To encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

Proposed Design Response

The project is targeting 9 points out of a total available 10 points. The strategies currently included in this category include the following:

- Onsite renewable energy
- Supplementary or tenancy fit-out systems review
- Building air tightness
- Financial transparency
- Local procurement
- Occupant engagement
- High performance site offices

4.2.10 Assessment method for Compliance

All initiatives have been tested via a whole of life assessment to determine the optimum configuration. Through this method it was possible to determine the ideal environmental, financial and social return on the system design.

The above-mentioned strategies are indicative as this stage. These need to be coordinated with the design team and integrated in the design. A project sustainability design specification will be produced on a later stage and will be included as part of the contract documents to integrate the above deliverables.

The above-mentioned contractual requirements do allow for minor modifications to the specific strategies but maintain the overall scheme amendment sustainability performance objectives

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Design with
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