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Northside Clinic Sustainability Strategy

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-	Preliminary issue for information	9/02/2017
A	Minor Updates	14/02/2017
B	SSD Issue	15/02/2017

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1 Introduction

Ramsay Health Care (RHC) have engaged a design and build contractor to construct the Northside Clinic "the Project" a new eight storey, 112 bed Mental health clinic to be located at 2 Frederick St, St Leonards.

RHC have high sustainability aspirations, as demonstrated through their policies, actions, and the awards they have received[1]. The Project is also set to achieve a high sustainability outcome, even with the functional constraints of operating as a mental health facility – something the CEO of Ramsay Health Care, Australia is very proud of:

> *"Ramsay Health Care are proud of our high sustainability aspirations on the new Northside Clinic. We are committed and accountable to our independent customised certification process. The Project has been designed to respond to the very specific health care needs of its occupants. The benefits of natural light, access to ample outdoor space and good indoor air quality including the creation of spaces that promote wellness have been intrinsically designed into the building by specialist health architecture firm Silver Thomas Hanley. We look forward to working with Richard Crookes Constructions and the design consultants towards opening a building that in its as-built condition, meets and hopefully exceeds its designed objectives. We will ensure governance around the implementation of sustainable initiatives, to ensure the design is upheld and delivered for the benefit of our future patients, their careers, our staff and ultimately the environment."*
>
> *Daniel Sims, CEO, RHC Australia*

This report summarises the sustainability initiatives to be implemented, or for further investigation, to achieve a high sustainability outcome through an independent customised certification process.

2 Custom sustainability rating

2.1 Certification

There are very few health care buildings that have followed a formal Green Star certification pathway for their buildings and entered into an agreement with the Green Building Council of Australia (GBCA). Particularly, the certification process can add increased costs to projects that typically are severely budget restrained (money that could be spent on initiatives that improve the wellbeing of the patients within, or in the case of mental health harm minimisation design). Moreover, the buildings that are registered or have achieved a Green Star rating would have followed this pathway from feasibility stage of the design to ensure the initiatives can be designed into the facility from the start.

Due to functionality, mental health facilities have many restrictions that prevent a number of sustainability initiatives being achieved, especially to the strict requirements of credits within the Green Star certification process.

Notwithstanding this, RHC , as an organisation, are committed to sustainability, as demonstrated by the sustainability awards the have received around the world, their policies, commitments and their yearly reporting measures against these policies and frameworks (accessible via their website at http://www.ramsayhealth.com/Sustainability/Environment).

[1] Ramsay Health Care recognised in the 2012 Global 100 Most Sustainable Corporations; winner of the prestigious 'GS1 Healthcare Best Provider Implementation Case Study Award' in the GS1 Healthcare Provider Advisory Council (HPAC) awards (2016)

2.2 The Certification process

With this in mind RHC are intent on demonstrating high levels of sustainability through a custom process for this Project. A process that will incorporate sustainability initiatives and ensure governance is upheld but at a reduced cost of certification to ensure the money is allocated to initiatives rather than the process.

It is the intent for this project to adapt the Green Star framework and to demonstrate compliance (functionality constraints considered) via and independent sustainability professional review process. Verification of the targeted initiatives will be achieved through a two-step process via an independent suitable qualified professional.

The process will incorporate a review of design and sign off that the initiatives are included; followed by a subsequent review of the final documentation at Practical Completion (PC), to ensure the initiatives have been embedded in the project.

2.2.1 Sustainability strategy

A summary of the sustainability strategy can be found in the table below (a full Sustainability strategy can be found in Appendix A):

Category	Targeted Points	Points TBC
Management	8	1
IEQ	8	3
Energy	1	0
Transport	2	0
Water	3	0
Materials	5	1
Land Use & Ecology	2	0
Emissions	2	0
Innovation	2	2
Total	**33**	**7**

Figure 1 – Sustainability Initiatives summary

As can be seen 40 sustainability initiatives are targeted in the current design.

3 Green Star Performance

In relation to the SSD consent condition number *E10 – Green Star Certification – Operational*.

Whilst this tool is a positive direction for environmental benchmarking of buildings to understand their performance, we believe that this not in keeping with NSW Health Infrastructure's own project requirements and is therefore unreasonable to impose on RHC for this project.

The NSW Health Engineering Services Guideline (ESG) 2016 was released on 26 August 2016. This guideline superseded TS11.

The ESG states that for healthcare buildings *"All new facilities will target a Green Star Health Care 4-star equivalency rating, this has been and will continue to be considered as aspirational within the context of project location, scope and budgetary allowances, no documentation or certification is required".*

There is no mention of Green Star Performance tool as a requirement in the ESG.

Furthermore, the following is relevant in relation to the Green star performance tool:

- This tool is still in a relatively early phase of its life. Whilst it is a formal tool in the market place the current version of this tool is v1.1. For example, Green Star Office Design tool arguably, only became sufficiently robust enough to remove the majority of issues in the v3 release.
- The total number of project registrations on the Green Building Council of Australia's (GBCA's) website for any form of Green star performance rating tools is 13. Four of these were under the pilot tool, seven of these under version 1 and only two under version 1.1.
- It appears that none of these registered projects were healthcare buildings, and most of them are commercial office buildings.

Whilst RHC is very keen to implement sustainability initiatives within the project and monitor its performance during operation, due to the points above, a consent condition regarding Green Star Performance is not in keeping with NSW own guidelines for public health projects, and therefore is considered an onerous requirement that may be difficult to achieve due to the complex nature of a Mental Health facility and its functional requirements.

RHC do intend to closely monitor the performance of the building to ensure operational efficiency and minimise resource use formally back to the GBCA, or the Department of Planning and Environment, but will continue to review and report performance under its own framework, as it does now via the annual Ramsay Australia Environment Report, refer the 2016 version of the report on their company website at:

http://www.ramsayhealth.com/Sustainability/Environment.

Appendix A: Sustainability Strategy

Sustainability Strategy

Northside Clinic

		40 Total targeted and TBC	
Rev:	I	Targeted Points	Additional Points TBC
Purpose of Rev:	SSD Response		
Date Issued/Revised:	14-02-17		
Date Modified	14-02-17		
		33	7
		-	
		TBC	
		Complies	

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	COMPLIANCE REQUIREMENTS	Targeted Points	Additional Points TBC
Management						
Green Star Accredited Professional	To recognise the appointment and active involvement of a Green Star Accredited Professional in order to ensure that the rating tool is applied effectively and as intended.	1.0	Accredited Professional	GSAP engaged through all stages of project from schematic design to certification.	1	
		2.1	Services and Maintainability Review	Services and maintainability review at early design stage prior to construction, led by contractor and ICA or owner's rep with input from the design team. Require to produce a 'Service and Maintainability Report' and the action items resulting from this review shall be incorporated in the DIR or OPR.	1	
		2.2	Building Commissioning	Required to: - Include specific commissioning requirements in contracts; - Develop a commissioning plan in accordance with CIBSE, AIRAH, ASHRAE and/or BSRIA guidelines; AND - Demonstrate commissioning was carried out in accordance with the plan and specification requirements. Commissioning system includes but not limited to: MVAC, Building Management and Control System (BMCS), Lighting and associated controls, Electrical System - electrical generation, supply and distribution, security access and alarm system, Hydraulic system - Gas and water supply distribution system, sewage and stormwater distribution, pumps, Fire detection systems, smoke alarm and emergency warning system, Fire protection system - pumps and other equipment, Lifts and other VT devices, Other systems/equipment that have an impact on the energy or water consumption. ***Note: The project team to define equipment/systems required to be commissioned. For details please refer to GS Design and As Built Manual.***	1	
		2.3	Building Systems Tuning	Commitment from the building owner to building systems tuning, 12 months post PC tuning, based on BMS data, also requires: - Building tuning plan to be prepare in accordance with standards; - Building tuning team to be formed; and - Organisations have been engaged to tune nominated systems.		1
		2.4	Independent Commissioning Agent	ICA to be engaged throughout design and construction, can only be claimed if 2.1, 2.2 or 2.3 are also achieved. ***Note: Using current consultants scope of watching brief requirements as an alternative pathway and reporting directly to the client***	1	
		4.2	Building User Information	Building user information to be provided. Must be digital and editable by FM to stay up to date. A Building User Guide to be developed and made available to the building owner and FM. ***Note: GS outlines the typical information that should be presented for the Building user information. For details please refer to GS Design and As Built Manual.***	1	

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CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	COMPLIANCE REQUIREMENTS	Targeted Points	Additional Points TBC
		5.2	End of Life Waste Management	Commitment to set demolition waste reduction targets for at least 80% of GFA and monitor at the end of life of an interior fit outs or base building component. Compliance options: 1. Contractual Agreement - Requires commitment between tenant and owner , building owner must commit to extending the life of fitout to at least 10 years; **OR** 2. Certified Operational Performance Rating - commit to achieve credit 23 from GS Performance rating tool. Note: **Ramsay Health to provide commitment letter as a certification pathway**	1	
Construction Environmental Management	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	Develop a comprehensive EMP in place complying with NSW EMS guidelines.	Complies	-
		7.1	Formalised Environmental Management System	EMS (formalised environmental strategy), requires ISO-14001 certificate. ***Note: for Projects Contract Value Less than $10 Million - An auditor report is required, ISO14001 is not required.***	1	
Operational Waste	To recognise projects that implement waste management plans that facilitate the re-use, upcycling, or conversion of waste into energy and stewardship of items to reduce the quantity of outgoing waste	8.0	Waste in Operations	Compliance options: 1. Develop Operational Waste Management Plan (OWMP) by qualified waste auditor/waste professional specialist from team. Plan to be implemented at site and building level and applicable to Green Star project boundary. 2. Prescriptive Method - bins for building occupants to separate waste streams - General, Paper/Cardboard , Glass, Plastic and 1 other. Bins must be provided, evenly distributed throughout the building. AND dedicated waste storage area must be sized for at least one collection cycle. The calculations for waste generation rates must be based on figures outlined within third-party best practice guidelines. ***Note: Ramsay Health requirements are stringent and therefore to be used for compliance pathway***	1	
				Total	**8**	**1**
Indoor Environment Quality						
		9.2	Provision of Outside Air	Mechanically air conditioned areas: - 1 point for 50% greater outdoor air than AS1668.2:2012 OR CO_2 concentrations kept below 800ppm - 2 points for 100% greater outdoor air than AS1668.2:2012 OR CO2 concentrations kept below 700ppm Naturally Ventilated areas: - 2 points where requirements of AS1668.4-2012 are met **Note: Inpatient Units (bedrooms) excluding ensuites to be the nominated area.**	1	

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		9.3	Exhaust or Elimination of Pollutants	Separate exhaust of printing, photocopy and kitchen areas OR low-emission printing/photocopy equipment, kitchen stoves or vehicles.	1	
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	Internal ambient noise levels not more than 5dB above satisfactory levels outlined in AS2107:2000 (10dB for Nat vent buildings). There is no lower limit on sound levels. Noise measurement must account for all internal and external noise sources when the space is unoccupied but ready for occupancy. Noise measurements and documentation required according to AS2107:200. The measurements shall be conducted in at least 10% of the spaces in the nominated area	1	
		10.2	Reverberation	Reverberation time in the nominated area must be below the maximum stated in the 'Recommended Reverberation Time' provided in Table 1 of AS/NZ 2107:2000. Acoustic absorption should be installed in the noise sensitive space. The amount of acoustic absorption must be equivalent to at least 50% of the area in the space. **Note: Exclusions are the dining area and any high acuity areas such as ECT suite which have functional constraints.**	1	
		10.3	Acoustic separation	Acoustic Separation requirements to minimise cross-talk between rooms and between rooms and open areas. Compliance options: 1. Partition walls with a weighted sound reduction index (Rw) of at least 45; **OR** 2. Sound insulation between enclosed spaces complies with Dw + LAeqT > 75 The sounds tests from which Dw is derived must be measured in accordance with ISO 140-4:1998. Measurements must be based on finished rooms, accounting for any carpets and acoustically absorbent ceilings specified.	1	
Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfort	Achieve flicker free lighting design. 1. High frequency ballasts for all fluorescent lamps; **OR** 2. A minimum class A1 & A2 ballast; **OR** 3. Electronic ballasts in HID lighting. All light source have a min. colour rendering index of 80	Complies	Complies
		11.1	General Illuminance and Glare Reduction	Requirements for 1 point: 1. General Illuminance - lighting levels to meet maintained illuminance in AS1680 series (modelling representative areas or measurements, uses area weighted average). **Note: General illuminance part only.** **Introduction of baffles not possible due to it's impact on mental health facility functionality.**	1	

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		11.3	Localised control	Occupants have the ability to control the lighting levels & turn on/off in their immediate environment. In an open-plan office the immediate environment is the light shone on the workstation. One light can be controlled by one or more individuals, however, the project team must justify why and how, this is conducive to localised control..	1	
		12.1	Daylight	40% or 60% area has 2% DF for 80% nominated hours at FFL under either CIS overcast sky or CIE uniform sky. (you may demonstrate compliance by Manual calculation **OR** Daylight Autonomy). **Note: Nominated areas to be Inpatient suites (Bedrooms) excluding ensuite. Compliance to be achieved via letter from architect based on area review and proximity to windows.**		1
		12.2	Views	60% of nominated area has access to high quality internal or external views (within 8m direct line of sight). **Note: Nominated areas to be Inpatient suites (Bedrooms) excluding ensuite. Compliance to be achieved via letter from architect based on area review and proximity to windows.**		1
		13.2	Engineered wood products	95% of engineered wood to be low Formaldehyde, or no new engineered wood is installed.	1	
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	80% occupants satisfied - ASHRAE 55 80% acceptability rate, +- 1 PMV **Note: Inpatient Units (bedrooms) excluding ensuites to be the nominated area.**		1
				Total	**8**	**3**
Energy						
Greenhouse Gas Emissions	Prescriptive pathway	15-A.0	Conditional requirement	**Demonstrate that the minimum DTS performance requirements** stipulated within parts J1 and J2 of the NCC have been exceeded by at least 5%.	Complies	Complies
		15-A.1.5		**Domestic hot water systems** are powered by one of the following heat sources: □ Renewable Energy; □ Natural Gas; □ Electric heat pump (minimum COP 3.5 under design conditions); or □ Waste heat or heat recovered from another process.	1	
				Total	**1**	**0**

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Transport						
Sustainable Transport		17-B.3	Prescriptive Pathway: Low Emission Vehicle Infrastructure	Provide 15% small car parking spaces. Parking spaces must be clearly designated, highly visible and easily accessible.	1	
		17-B.4	Prescriptive Pathway: Active Transport Facilities	Provide secure bicycle parking for 7.5% of building occupants with associated end-of-trip facilities (showers, lockers and change rooms) **AND** Bicycle racks for 5% of peak building visitors.	1	
		17-B.5	Prescriptive Pathway: Walkable Neighbourhood	Achieve a 'walk score' of greater than 80% or provide at least 8 amenities within 400m of the development.		
				Total	**2**	**0**
Water						
Potable water	To encourage building design that minimises potable water consumption in operations.	18B.3		**Heat Rejection** No water is used for heat rejection. To comply, the project must be either naturally ventilated (allowing for the use of ceiling fans or similar) or the HVAC system must not use water for heat rejection.	2	
		18B.5		**Fire System Test Water - Either:** **-** The fire protection system does not expel water for testing; or - The fire protection system includes 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 must be fitted with isolation valves or shutoff points for floor-by-floor testing.	1	
				Total	**3**	**0**
Materials						
		19B1.1		**Portland cement content reduction** : in all concrete used in the project has been reduced by replacing it with supplementary cementitious materials. 1 point is available where the Portland cement content is reduced by 30%, measured by mass across all concrete used in the project compared to the reference case; **OR** 2 points are available where the Portland cement content is reduced by 40%, measured by mass across all concrete used in the project compared to the reference case	1	

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Life Cycle Impacts	Life Cycle Assessment - Prescriptive - Only 5 points available	19B1.2	Concrete	**Mix water reduction** for all concrete used in the project contains at least 50% captured or reclaimed water (measured across all concrete mixes in the project).	0.5	
		19B1.3		**Aggregate reduction** At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete; OR At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete	0.5	
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Responsible Steel Maker and Fabricator	95% of steel (by mass) is sourced from a responsible steel maker **AND** A- For steel framed building, at least 60% of the fabricated structural steelwork is supplied by a steel fabricator/steel contractor accredited to the Environmental Sustainability Charter of the ASI; **OR** B- For concrete building, at least 60% of all reinforcing bar and mesh is produced using energy-reducing processes in its manufacture (measured by average mass by steel maker annually)	1	
		20.3	Cables, pipes, floors and blinds	90% (by cost) of all cables, pipes, flooring and blinds meet best practice PVC guidelines OR do not contain PVC and have EPDs.	1	
Sustainable Products	To encourage sustainability and transparency in product specification.	21.1	Sustainable Products	Up to 3 points available for 3%, 6% or 9% of products by cost being sourced as reused or having recycled content, EPDs, third-party certifications or product stewardship programs.	1	
Construction and Demolition Waste	To reward projects that reduce construction waste going to landfill by reusing or recycling building materials	22	22B % BENCHMARK : Reduction of Construction and Demolition Waste	80% of the waste generated during construction and demolition has been diverted from landfill. Waste shall be reported in kg/m² of GFA, as well as in percentage.		1
				Total	**5**	**1**
Land Use & Ecology						
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable Species	Conditional - Demonstrate that no species or ecological communities were present on site which have the status: critically endangered, endangered or vulnerable.	Complies	Complies

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Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement	Site at purchase must not contain: - Old growth forest; - Prime agricultural land; - Wetland of high importance (unless wetland protection measures in place); - Matters of national significance as per Environmental Protection and Biodiversity Conservation Act (1999).	Complies	Complies
		24.1	Reuse of Land	Over 75% of site previously developed.	1	
		24.2	Best Practice Site Remediation	Significant contamination exists at time of purchase and is remediated in accordance with a best practice remediation strategy.	1	
				Total	**2**	**0**
Emissions						
Storm water	To reward projects that minimise peak storm water flows and reduce pollutants entering public sewer infrastructure.	26.1	Peak Discharge To stormwater drain	Post development peak discharge not to exceed pre-development peak discharge based on the Average Recurrence Interval.	1	
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Properties	All outdoor lighting on the project complies with AS 4282:1997. The conditions shall be applied to all inhabited boundaries, apart from boundaries with roads. ***Note: External emergency lighting that is integrated into the general external lighting scheme must comply with the requirements of the credit.***	Complies	Complies
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28.0	Microbial Control	Compliance options: 1. Building is naturally ventilated; 2. Heat rejection is waterless; OR 3. Heat rejection is water based but includes measures for Legionella control (System meets AS/NSZ 3666.1:2011, no water stagnation, water never between 20 and 50degC while still, no aerosol spray)	1	
				Total	**2**	**0**
Innovation						
Exceeding on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	34.C -1	Improving on Green Star Benchmarks	**Ultra low VOC paints** for The Contractor must ensure at least 50% of paints (by cost) specified in the building have a maximum TVOC content of 5g/L. This must be verified by one of the approved paint test methods given in the GBCA Green Star Design and As Built v1.1 Submission Guidelines.		1

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		34.D -6		**Contractor education** Deliver training on the core concepts of global warming, climate change and the health impacts of minimum building practices. □ Deliver site-specific training that highlights the sustainable solutions of your project. □ Ensure that the training provides information on any certification that is being achieved by the project, and why the concept of certification is important, as well as the role they play in achieving it. □ Ensure that at least 80% of all contractors and subcontractors that were present for at least three days on site have received the training. □ Demonstrate that head personnel hold, or have received at some point during the design, construction or operational phase of the project, a qualification related to holistic sustainable practices.	1	
		34.D -7		**Occupant engagement** - **Occupant survey - 1 point** Demonstrate that a pre-occupancy survey on staff or occupants (where known) has been performed. Where the building is speculative, the pre-occupancy survey does not need to be performed until a tenant has been signed up, provided such tenant is occupying another space; and - Complete a post-occupancy survey on a significant proportion of occupants (including tenanted spaces) no earlier than 6 months and no later than 12 months after from practical completion. The Applicant must also commit to providing the results upon completion with the GBCA, for information purposes only. This can be provided at a date later than the project's Green Star submission. **Connection to Nature - 1 point** incorporate connections from your built environment project to the natural environment. These connections can include internal or external views to nature, water or landscaping, green walls, atriums, indoor plants and water features, roof gardens and other natural features (including e-media such as images of wildlife and landscapes). These connections provide an opportunity for projects to further their environmental credentials via elements of the natural world, potentially making their occupants more aware of life forms other than their own, their dependency on them for free ecological services	1	
Global Sustainability	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. Project complies with a credit from a different rating tool (LEED, BREAM etc.)	34.E -1	Global Sustainability	**Design for robustness** • Areas of the building have been identified (both internal and external) where vehicular, trolley and pedestrian movement occur. • The design incorporates suitable durability and protection measures or design features/solutions to prevent damage to the vulnerable parts of the building. This must include, but is not necessarily limited to: o Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). o Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. o Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas. http://www.breeam.com/BREEAM2011SchemeDocument/Content/09_material/mat05.htm Amongst a building's many components, its technical systems are subject to the most rapid change, and yet they exert a major influence over its proper functioning. The adaptability of technical systems thus holds a key to buildings' sustainability. Highly adaptable technical systems (e.g. responding to changing framework conditions) can make a decisive	1	
					2	**2**