Green Star - Design & As Built Scorecard V1.3

Project:	PoN	Core Points Available	4 Star GS (45 Points)	5 Star Strategy (60 Points)	6 Star GS (75 points)
Targeted Rating:	5 Star - Australian Excellence	99	54	67	81

NORTHROP

NA	CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	4 Stars	5 Stars	6 Stars	Stage of Project this is Required	Cost ($ Star)	Cost Comment	NORTHROP COMMENTS
	Management				14							
	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.	1.1	Accredited Professional	1	1	1	1	Concept	$ 40,000.00	GSAP fees	Green Star Accredited Professional – Design & As Built (GSAP), Northrop can fulfil this roll.
	Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Performance Targets	-	Complies	Complies	Complies	Concept	$ -	Setting targets for systems and building performance	The Project must set targets for the environmental performance of the project. This can be documented through the production of a design intent report or an owner's project requirements to be prepared by the design team at the design phase stage and outline at least the following items: • Description of the basic functions, operations, and maintenance of the nominated building systems • The targets for the project energy and water consumption and energy and water budgets for all nominated building systems. • Description of how energy, water, and aspects of indoor environment quality are metered and monitored. Including a meter diagram that illustrates how energy and water budgets are confirmed in operation Will need to include energy and water targets within documentation.
			2.1	Services and Maintainability Review	1	1	1	1	Detailed Design	$ 10,000.00	Reporting and input from the design team	A maintainability design review must occur pre tender and preconstruction that seeks input from the design team, the facilities manager and operations staff (if known), and any relevant suppliers and subcontractors (if engaged) for a design review. The review must address the following aspects for all nominated building systems: • Commissionability; • Controllability; • Maintainability; • Operability, including 'Fitness for Purpose'; and • Safety
			2.2	Building Commissioning	1	1	1	1	Completion	$ 30,000.00	Airtightness testing and reporting from all trades	Warehouse and office space electrical, mechnaicla and hydraulic components need to adhere to the CIBSE Commissioning requirements, there is a cost involved with this. The office areas will also need to demonstrate Building Airtightness testing results of <20m3/h/m2 at 25Pa.
			2.3	Building Systems Tuning	1	1	1	1	Post Completion	$ -	Process completed by PoN after completion trades involvement is generally DLP	Formal commitment to a tuning process should be made for the base building nominated building systems. Where the tenants are not known Tuning of tenant installed systems is exempted At a minimum, the commitment must include quarterly adjustments and measurement for the first 12 months after occupation and a review of building system manufacturer warranties. Commitment must include: • O&M manuals • building tuning plan • building tuning team • Owner has engaged parties to tune the system
			2.4	Independent Commissioning Agent	1			1	Concept	$ 35,000.00	ICA fees	ICA to be involved in design, construction, commissioning and tuning process.
	Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	3.1	Implementation of a Climate Adaptation Plan	2	2	2	2	Detailed Design	$ 10,000.00	Reporting and input from the design team	Where a climate change and adaptation risk assessment has been undertaken at a precinct level, the project will only require to prepare a project specific climate change adaptation plan and identify the design features that mitigate the risks already identified at the prescient level. The building design will incorporating adaptions to address high and extreme risks. May required additional capacity in mechanical and electrical system. Need confirmation from CH. This is an additional scope and additional fee as per the NCE proposal will be applicable
	Building Information	To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.	4.1	Building Information	1	1	1	1	Completion	$ 5,000.00	Contractor documentation cost	Demonstrate that comprehensive building operation and maintenance information is available to the facilities management team. O&M manuals and Building Log Book required
	Commitment to Performance	To recognise practices that encourage building owners, building occupants and facilities management teams to set targets and monitor environmental performance in a collaborative way.	5.1	Environmental Building Performance	1	1	1	1	Detailed Design	$ -	lease agreement element	Monitoring system and reporting need to be put in for the building.
			5.2	End of Life Waste Performance	1	1	1	1	Detailed Design	$ -	lease agreement element	At leased 80% of the projects GFA has a formal commitment in place to reduce demolition waste at the end of life of an interior fitout or base building component. This should take the form of a contractual agreement and can be included as part of the lease clauses. GS Performance another pathway
	Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering	-	Complies	Complies	Complies	Detailed Design		depends if meters are included to separate power and light for each space.	Metering shall be provided to allow for monitoring of the relevant areas or functions of the project. In most cases floor by floor metering will suffice if the entire floor has a single use. Where a load for a single item exceeds 5% of the total energy use for the building, or 100kW, it must be independently metered.
			6.1	Monitoring Systems	1			1	Detailed Design		could be $50k if not included as standard	The monitoring strategy must be developed in accordance with a recognised standard, such as CIBSE TM39 Building Energy Metering. The same principles described in the standard shall be used for developing water metering and monitoring strategies.
	Responsible Construction Practices	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	Complies	Complies	Complies	Detailed Design	$ -	contractor consideration	A project-specific best practice EMP must be developed and implemented, to assist the Principal/Head Contractor and its service providers manage environmental performance, conditions, and impacts arising from excavation, demolition and construction.
			7.1	Environmental Management System	1	1	1	1	Detailed Design	$ -	contractor consideration	Demonstrate that a formalised systematic and methodical approach to planning, implementing and auditing is in place during construction, to ensure compliance with the EMP.
			7.2	High Quality Staff Support	1	1	1	1	Detailed Design	$ -	contractor consideration	Programs and policies must be provided to promote health and wellbeing on-site. The programs must target both physical and mental health outcomes. On-site, off-site or online training must be provided to site workers on project specific sustainable practices and initiatives.
	Operational Waste	A. Performance Pathway	8A	Performance Pathway: Specialist Plan	1		1	1	Detailed Design	$ 5,000.00	waste management plan fees	A commitment to Operational Waste Management Plan (OWMP) by waste professional should be made the Tenant OWMP can be implemented during the operational phase of the building
			8B	Prescriptive Pathway: Facilities	0							A guidance needs to be created for tenants via a Formal Agreement. Waste streams for offices spaces to include paper and cardboard, glass, plastic and one other waste stream. Warehouse/manufacturing areas are required to provide at least four waste streams which respond to the applicable waste streams of the production (where they vary from those in office spaces).
	Total				14	11	12	14				
	Indoor Environment Quality				17							
	Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.1	Ventilation System Attrib	1	1	1	1	Detailed design	$ 5,000.00	cost for access panels and potentially cleaning	Applicable to Warehouse Floor and Office space • The entry of outdoor air pollutants is mitigated - The building services must be designed to comply with ASHRAE Standard 62.1:2013 in regards to minimum separation distances between pollution sources and outdoor air intakes. • The system is designed for ease of maintenance and cleaning; and • The system has been cleaned prior to occupation and use.
			9.2	Provision of Outdoor Air	2	1	1	1	detailed design	$ 20,000.00	if Co2 monitoring and additional OA are not included can be costly.	Outdoor air is provided at a rate 50% (1 Points) or 100% (2 points) greater than the minimum required by AS 1668.2:2012, or CO2 concentrations are maintained below 800ppm.
			9.3	Exhaust or Elimination of	1	1	1	1	detailed design	$ 2,000.00	lease provision or design inclusion	A dedicated exhaust riser must be provided for printing and photocopy equipment Removal of the pollutant is another option
	Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	1		1	1	Detailed Design	$ 2,000.00	testing cost	Applicable to warehouse and office space, - the ambient noise levels, in the nominated area, are no more than 5dB(A) above the "satisfactory" sound levels provided in Table 1 of AS/NZS 2107:2016.
			10.2	Reverberation	1			1	Detailed Design	$ 2,000.00	testing cost	Reverberation time in the Warehouse and Office space must be below the maximum stated in the 'Recommended Reverberation Time' provided in Table 1 of AS/NZ 2107:2016"
			10.3	Acoustic Separation	1	1	1	1	Detailed Design	$ 2,000.00	testing cost	The partition between the office spaces, and any primary or secondary spaces adjacent to warehouse floors should be constructed to achieve a weighted sound reduction index (Rw) of at least 45.
	Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfo	-	Complies	Complies	Complies	Detailed Design	$ -	product selection consideration	Warehouse and office space: Flicker-free lighting refers to luminaires that have either: • A minimum Class A1 & A2 ballast; • High frequency ballasts for all fluorescent lamps, or • Electronic ballasts in High Intensity Discharge (HID) lighting. Colour quality - light sources to have minimum CRI of 80
			11.1 General Illuminance and Glare Reduction	11.1.1 General Illuminan	1	1	1	1	Detailed design	$ -	lighting design consideration	Best practice lighting levels for each task within each space type is defined as lighting with a maintained illuminance that meets the levels recommended in the relevant Standard. For an office this standard is table 3.1 of AS1680.2 All bare light sources must be fitted with baffles, louvers, translucent diffusers, ceiling design, or other means that obscures the direct light source from all viewing angles of occupants, including looking directly upwards.
				11.1.2 Glare Reduction								
			11.2	Surface Illuminance	1			1	Detailed desing	$ -	dMay be a premium for different design	A combination of lighting and surfaces improve uniformity of lighting.
			11.3	Localised Lighting Contr	1		1	1	Detailed design	$ 10,000.00	DALI Lighting system for office and warehouse	Occupants have ability to control lighting in their immediate environment which includes turning the lights on and off and adjusting lighting levels.
	Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	-	Complies	Complies	Complies	Detailed design		Blinds to all windows.	In warehouse - Daylight roof strips can be deemed compliant if they comprise polycarbonate or similar translucent or opaque materials. Where clear or transparent roof strips are used, glare control devices or glare modelling will be required to demonstrate compliance. modelling In Office Glare in the nominated area from sunlight through all viewing façades is reduced through a combination of blinds, screens, fixed devices, or other means.
			12.1	Daylight	2	2	2	2	Detailed design	$ 5,000.00	modelling costs	40% (1 point) or 80% (2 Points) of the nominated area receives high levels of daylight during 80% of the nominated occupied hours. modelling Daylight modelling is already added in scope 3 - Building simulation
			12.2	Views	1		1	1	Detailed design	$ 2,000.00	reporting or manup costs	Only applicable to office space.
	Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1 Paints, Adhesives, Sealants and Carpets	13.1.1 Paints, Adhesives	1			1	Construction		tracking costs for contractor	At least 95% (by volume) of all internal application (regardless of occupied and non occupied) space - paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits', or, where no paints, adhesives, sealants or carpets are used in the building.
				13.1.2 Carpets								
			13.2	Engineered Wood Produ	1	1	1	1	Construction	$ 5,000.00	tracking costs for contractor	At least 95% (by area) of all engineered wood products meet stipulated formaldehyde limits or no new engineered wood products are used in the buildin
	Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	1	1	1	Detailed Design		would be shown in JV3 modelling	Applicable to office space _Thermal comfort modelling would be required. 95% of the nominated area and 98% of the year a high degree of thermal comfort is provided for occupants between PMV +1 to -1. NCC Section J 2019 will satisfy this. Additional simulation and reporting is required for Green Star. Modelling Thermal comfort modelling is alreadyadded in scope 1 - Section J - JV3 Analysis .
			14.2	Advanced Thermal Com	1							Thermal comfort modelling would be required. 95% of the nominated area and 98% of the year a high degree of thermal comfort is provided for occupants between PMV +0.5 to -0.5.
	Total				17	9	12	15				

Energy

Category	Pathway	Code	Credit	Points				Stage	$	Cost item	Requirement
Energy				**22**							
Greenhouse Gas Emissions	E. Reference Building Pathway	15E.0	Conditional Requirement: Reference Building Pathway	-	Complies	Complies	Complies	Detailed Design	$ 15,000.00	modeling costs	The Proposed Building greenhouse gas (GHG) emissions are less than those of the equivalent Benchmark Building.
		15E.1	GHG Emissions Reduction: Building Fabric	4	1	1	1	Detailed Design		as above	2% reduction
		15E.2	GHG Emissions Reduction	16	5	5	8	Detailed Design		as above	The more points the more costs associated with energy improvements. % improvement over benchmark targeted. Strategies includes - Solar hot water system - 99kW solar panel system - LED lighting along with light harvesting uptick to 6 star - 100kW of additional solar - circa $150k
		15E.3	Off-Site Renewables	8	5	5	5	prior to completion		100% renewable energy supply	A formal supply contract to procure 100% off-site renewable electricity for a minimum period of 10 years immediately after Practical Completion. For contact procuring less than 100% or less than a 10 years period, points will be pro-rated.
		15E.4	District Services	7							Procure 100% electricity from district services from a minimum period of 10 years.
		15E.5 Additional Prescriptive Measures	15E.5.1 Transition Plan	1		1	1	Detailed Design	$ 2,000.00	plan creation	Reduce fossil fuel use and develop a transition plan to phase them out by 2030.
			15E.5.2 Fuel Switching	2		2	2	Detailed Design		removal of gas	No fossil fuels are burned on site to generate electricity, heating or cooling. Depending on gas usage. Gas is referred to in the brief - no connection should be made for this.
			15E.5.3 On-Site Storage	1							On-site storage for renewable energy.
Peak Electricity Demand Reduction	B. Performance Pathway	16B	Modelled Performance F	2	1	1	2	Detailed Design		as above	The building's peak electricity demand is reduced by 20% when compared to that of the Reference Building. - Additional point in 6 star relates to increased solar array size.
Total				**22**	**12**	**15**	**19**				

Transport

Category	Pathway	Code	Credit	Points				Stage	$	Cost item	Requirement	Note
Transport				**10**								
Sustainable Transport	B. Prescriptive Pathway	17A	Performance Pathway	0							A green travel plan needs to be provided	Green travel plan
		17C.1	Access by Public Transp	1							Based on the percentage of people (5-9.99%) within the Greater Capital City Statistical Area (GCCSA) can access the site by public transport within 45 minutes during peak hour	
		17C.2	Reduced Car Parking Pr	1							Need to demonstrate a reduction of car parking spaces for the proposed building, when compared to the maximum local planning allowance.	
		17C.3	Low Emission Vehicle In	5	1	1	1	detailed design	$ 2,000.00	paint for line markings.	must meet the following benchmarks: 1 point for 15% of parking is for fuel-efficient vehicles (with a maximum of 5% for motorcycle parking); 1 point for 5% of parking is for electric vehicles and charging infrastructure is provided for each space; 1 point for Parking for Car Share Vehicles 1 point for 17C.3D. No parking spaces have been provided 1 point for Low Emission facility transport (such as electrical buggies or share bicycles) is provided for use within an industrial park	
		17C.4	Active Transport Facilitie	2							End of trip facilities are defined as showers, changing amenities with appropriate drying space, and lockers. Showers and bathrooms provided to meet statutory accessibility requirements are not included in the calculation of end of trip facilities. There are no requirements for bicycle storage.	
		17C.5	Walkable Neighbourhoo	2							At least 4 amenities are within 500m of the building, distance is to be measured from the centre of the project's site The provision of high-quality outdoor break out space may also be included as an amenity. The walk score is 28 % and 28% as transit score	
Total				**11**	**1**	**1**	**1**					

Water

Category	Pathway	Code	Credit	Points				Stage	$	Cost item	Requirement	Note
Water				**12**								
Potable Water	A. Performance Pathway	18A	Potable Water - Perform	12	6	6	6	Detailed Design	$ 20,000.00	20kL tank	If modelled pathway is incorporated, additional 2 points or more can be awarded . additional cost for this pathway (Refer to Proposal)	additional cost
		18B.1	Sanitary Fixture Efficien	0							Sanitary fixtures are within 1 Star of the following: *Taps 6 Stars * Urinals 6 Stars * Toilets 5 Stars * Showers 3 Stars (>4.5 but <=6.0) * Clothes Washers 5 Stars * Dishwashers 6 Star	
		18B.2	Rainwater Reuse	0							Depending on the GFA, 10L/m2	
		18B.3	Heat Rejection	0							HVAC system must not use potable water for heat rejection.	
		18B.4	Landscape Irrigation	0							Either drip irrigation with moisture sensor override is installed, or no potable water is used for irrigation.	
		18B.5	Fire Protection System T	0							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 shut-off points for floor-by-floor testing.	
Total				**12**	**6**	**6**	**6**					

Materials

Category	Pathway	Code	Credit	Points				Stage	$	Cost item	Requirement
Materials				**14**							
Life Cycle Impacts	B. Prescriptive Pathway - Life Cycle Impacts	19A.1	Comparative Life Cycle Assessment	0			4			LCA costs	3 points are Life cycle assessment required. Assume 3 points minimum but additional points achievable. Additional cost for Completing this analysis
		19A.2	Additional Reporting	0			2			LCA costs	
		19B.1 Concrete	19C.1.1 Portland Cement Reduction	3						not typically targetted due to increased surface cracking	1 point for 30% reduction in Portland cement, and 3 points for 40% reduction.
			19C.1.2 Water Reduction	0.5	0.5	0.5		Construction	$ -	use of recycled water is fairly typical	At least 50% of the mix water used for all concrete are either captured or reclaimed water.
			19C.1.3 Aggregates Reduction	0.5	0.5	0.5		Construction	$ -	use of manufactured sand if fairly typical.	At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative material. OR At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials.
		19B.2 Steel	A. Reduced Mass of Steel Framing	4	2	4		Detailed Design	$ 2,000.00	reporting costs	Two points are available when there is a reduction in the mass of steel framing use when compared to standard practice Two points are available when there is a reduction in the mass of steel reinforcement used in concrete slabs when compared to standard practice
		19B.3	Building Reuse	2							
				2							
		19B.4	Structural Timber	-	Complies	Complies	Complies				
				3							
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Structural and Reinforcing Steel	-	Complies	Complies	Complies	Construction		Tracking costs	
				1	1	1	1	Construction	$ 5,000.00	Tracking costs	At least 95% of the building's steel is sourced from a Responsible Steel Maker.
		20.2	Timber	1			1	Construction		Tracking costs	At least 95% of all timber used in the building and construction work is either: A) Certified by a forest certification scheme OR B) is from a reused source.
		20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1	1	1	Construction	$ 5,000.00	Tracking costs	At least 90% (by cost) of all permanent formwork, cables, pipes, flooring and blinds in a project is sources from a manufacturer that meet Best Practice Guidelines for PVC production or does not contain PVC (and have an Environmental Product Declaration).
Sustainable Products	To encourage sustainability and transparency in product specification.	21.1	Product Transparency a	3		1	1	Construction	$ 5,000.00	Tracking costs	Install products that meet the initiative of reused products, recycled content products, has EPD, certified to third party certification or has stewardship programs.
Construction and Demolition Waste	B. Percentage Benchmark	22.0	Reporting Accuracy	-	Complies	Complies	Complies	Construction		Tracking costs	
		22B	Percentage Benchmark	1	1	1	1	Construction	$ 5,000.00	tracking costs	90% of the waste generated during construction and demolition has been diverted from landfill. Innovation opportunity
Total				**12**	**6**	**9**	**11**				

Land Use & Ecology

Category	Pathway	Code	Credit	Points				Stage	$	Cost item	Requirement
Land Use & Ecology				**5**							
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened	-	Complies	Complies	Complies				The project must demonstrate that no critically endangered, endangered, or vulnerable species, or ecological communities were present on the site at time of purchase.
		23.1	Ecological Value	3			1				
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	-	Complies	Complies	Complies				At the date of site purchase or date of option contract, the project site did not include old growth forest, prime agricultural land or wetland of 'High National Importance', or did not impact on 'Matters of National Significance'.
		24.1	Reuse of Land	1							75% of the site was Previously Developed Land under the definition of Curtilage
		24.2	Contamination and Haza	0							
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.1	Heat Island Effect Redu	1	1	1	1	Concept	$ 10,000.00	use of colourbond over Zincalume.	At least 75% of the whole site area comprises of one or combination of vegetation; green roofs; light coloured roof SRI >64.

15H PRESCRIPTIVE PATHWAY

15H.0 CO	No. of poin	Deemed-to-Satisfy performance requirements stipulated within Part J1 of the NCC have been exceeded by at least 5%
15H.1 Building Envelope	1	For roofs, have an upper surface solar absorptance of at least 0.05 less than the maximum allowable For roof lights, achieve a total system U-value of less than or
Wall-Glazing Constructi	1	at least 10% less than the maximum allowable total system U-value for wall-glazing construction
15H.3 Lighting	3	The average installed aggregate illumination power is not more than 80% of the maximum illumination power based on the maximum allowable Automated lighting control systems, such as occupant detection and daylight adjustment, are provided to 95% of the gross lettable warehouse are
External Li	1	All lighting to external loading docks with awnings must be a maximum 4W/m2 illumination power density.
Ventilation and Air Conditioni	1	☐ Each installed pump must achieve a pump motor input power per unit of flow rate 10% lower than the reference pump motor input power per unit flow rate calculated from the deemed-to-satisfy requirements of Part J5.7 (b), (c) and (d); and ☐ The thermal efficiency of all installed gas water heaters is at least 4 percentage points more than the minimum value required by Part J5.9(d); and ☐ The minimum energy efficiency ratio (EER) (cooling) for all unitary air conditioning equipment is at least 5% higher than the required minimum EER (cooling) as per Part J5.11; and
15H.6 Transition Plan	1	A transition plan has been developed showing how the building will transition away from the use of fossil fuels by 2030;
15H.7 Fuel Switching	1	15% of energy required by the building annually is generated by on site renewable solutions; or
15H.8 On-site Storage	2	A renewable energy storage procurement and use strategy has been developed and demonstrates that the storage is sized to match the requirements of the building and that value will be provided to the project; ☐ The stored renewable energy is used to reduce the peak electricity demand; and ☐ A project installs and uses electricity storage such that on-site or off-site renewable energy not instantaneously used by the building is able to be stored and used by the building at a later time
Provision of structure	1	
Off-site Renewables	1	
Total	14	

Total				**5**	**1**	**1**	**2**				

Emissions				**5**							
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Stormwater Peak Dischr	1	1	1	1	Concept	$ -	required by Council	The post-development peak event discharge from the site does not exceed the pre-development event discharge using the local Council ARI requirements
		26.2	Stormwater Pollution Tar	1	1	1	1	Concept	$ -	required by Council	The Stormwater discharge from the site meets the required pollution targets within the Green Star Technical Manual.
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbr	-	Complies	Complies	Complies	Detailed design	$ 3,000.00	modelling	Demonstrate that all outdoor lighting on the project complies with AS 4282:1997.
		27.1	Light Pollution to Night S	1	1	1	1	Detailed design	$ -	in above modelling	Demonstrated that one of the following specified reductions in light pollution has been achieved; The direct illuminance from external luminaires on the project produces a maximum initial point illuminance value no greater than : • 0.5 lux to the site boundary and • 0.1 lux to 4.5 metres beyond the site into the night sky, when modelled using a calculation plane set at the highest point of the building. Calculations should be in accordance with AS 4282:1997
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28	Legionella Impacts from	1	1	1	1	Completion	$ -	no water/assed heat rejection	Demonstrate the building cooling heat rejection systems do not use or contain water.
Refrigerant Impacts	To encourage operational practices that minimise the environmental impacts of refrigeration equipment.	29.1	Refrigerants Impacts	1							
Total				**5**	**4**	**4**	**4**				

Innovation				**10**							
Innovative Technology or Process	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	30A	Innovative Technology or Process			2	2	Detailed design	$ 75,000.00	large solar array	30% on site renewable energy
Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in	30B	Market Transformation				1	Construction	$ 10,000.00	commissioning agent fees	Demonstrating the initiative has led to market transformation or to increased adoption of the solution. The building is designed, built, commissioned, and tuned by a adopting a "Soft Landings" approach.
Improving 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.	30C	Improving on Green Star Benchmarks	10	2	2	2	construction	$ -	included in costs for main credits.	Exceeding Green Star Benchmarks – Stormwater Pollution Targets (2 points) For Naturally Ventilated Spaces - the internal temperatures are within 80% of Acceptability Limit 1 of ASHRAE Standard 55-2013 Ultra Low VOCs
Innovation Challenge	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	30D	Innovation Challenge		1	2	3	completion	$ -	tracking for contractor	Financial Transparency, Social return on investment, Universal standard
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	30E	Global Sustainability								
Total				**10**	**3**	**6**	**8**		**$ 349,000.00**		

AVAILABLE	TARGETED	TARGETED	TARGETED
99	**50.0**	**60.0**	**72.0**
	50.5	**60.6**	**72.7**
10	**3.0**	**6.0**	**8.0**
	53.5	**66.6**	**80.7**