

12

Walsh Bay Arts Precinct  
Operational Plan of Management



Create NSW  
Arts, Screen & Culture



**Environmental  
management plan**

**Version control**

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# 1 INTRODUCTION

## Objective of this plan

This **Environmental management plan** was prepared by LCI Consulting and outlines the proposed measures for managing energy efficiency, waste management and performance monitoring for the precinct.

This document sets out operational requirements for the precinct, including the following:

- Benchmarks.
- Monitoring.
- Commissioning and tuning.

## Relationship to other documents

Read this plan in conjunction with:

- Other sections of the Operational Plan of Management (OPM).
- Current building codes, regulations and standards cited in this document.
- Any other document cited in this plan.

## **2 APPENDIX – WBAP SUSTAINABILITY MATRIX**

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence	
1	Energy & Carbon	Greenhouse Gas Emissions	Reduce Greenhouse Gas Emissions through passive design approach, vernacular architecture and energy efficiency of buildings in operation	1.1	Any new opaque façade shall be upgraded to meet Section J Part J1 Building Fabric in all spaces where cooling is delivered.	Y	As built drawings demonstrating opaque fabric performance requirements are met.
				1.2	Any new glazing in spaces where cooling is delivered shall meet Section J Part J2 Glazing i.e. comply with NCC Glazing Calculator OR Meet the requirements nominated as part of a compliant JV3 assessment.	Y	As built drawing / receipt / docket showing glazing performance requirements are met.
				1.3	Where practically possible, within the constraints of the heritage context, sealing of existing facade shall be improved to minimise air leakage / infiltration. This shall occur to any spaces where heating or cooling is delivered. New fabric elements to meet Section J Part J3 Building Sealing requirements.	Y	As built drawing demonstrating sealing treatments to door frames, window frames. Copy of building air infiltration tests carried out for the building showing test specification and results.
2	Energy & Carbon	Efficient HVAC Systems / Passive Design	Provide passive systems wherever possible, and simple, decentralised systems where not	2.1	Overall installed systems will exceed Minimum Energy Performance Standards (MEPS) or NCC Section J target for services. Target 5% exceedance where spatial allow. Refer to Mechanical Specification for nominated systems. Response to CoS: Risks associated with tenants can also be addressed with a Tenant Fitout Guide which nominates expectations in terms of system energy efficiencies.	Y	As built equipment schedules demonstrating minimum performance standards for equipment is nominated and short report including calculations demonstrating exceedance on NCC for all equipment.  Tenant Fitout Guide nominating expectation in terms of tenant system performance, including lighting, equipment, supplementary HVAC and material selections and advice regarding operation and impact on energy / water use.
				2.2	Natural ventilation to be adopted in the following spaces: Pier 2/3 - Public foyer (heating only to be provided) - Function Space (heating only to be provided) Shore Sheds - Public foyer Wharf 4/5 - Studios adjacent to facade (heating only) Opening area of window or the like to be 5% of floor area served.	Y	Mechanical as built drawing showing absence of ventilation systems.  As built drawings (plans and elevations) showing operable window location with openable area indicated for each window / louvre or the like.
					Mixed mode systems to be installed in the following spaces: Wharf 4/5 - all areas below now predominantly operate in AC mode. - Green Room adjacent to façade (now AC)		Mechanical as built drawings mechanical systems to mixed mode areas.

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence
				2.3 <ul style="list-style-type: none"> <li>- Any office / admin adjacent to facade (now AC) Pier 2/3</li> <li>-Green room adjacent to façade(now AC)</li> <li>- Any office / admin adjacent to facade (now AC)</li> <li>- Boardroom adjacent to facade (now AC)</li> <li>- ATYP rehearsal (all rooms except ATYP Performance) (now AC)</li> <li>- Bell rehearsal (all rooms) (now AC)</li> <li>- ACO Green room adjacent to facade (ACO rehearsal &amp; auditorium full AC) (now AC)</li> <li>Shore sheds between piers - all areas below to have capped services with intent that they are to be AC</li> <li>- Rehearsal space</li> <li>- Any office / admin spaces adjacent to façade</li> <li>Any external windows or doors to e.g. green room / boardroom will need reed switch or the like to turn AC off when opened. Recommended min. 2% opening area to floor area served to facilitate natural ventilation mode. To be coordinated with any acoustic requirements.</li> </ul>	Y	Extract from commissioning report showing AC zones correctly switch off when doors or windows are opened.
				2.4	Harbour Heat Rejection to be installed. Minimum system efficiency as per Mechanical Tender Specification.	Y
3	Energy & Carbon	Peak Energy Demand Reduction	Reduce peak demand on energy infrastructure	3.1 <p>Peak load to be reduced by 15-30% through use of passive design, efficient fittings and onsite generation via PV array. New PV array to cover maximum available roof space within heritage visual constraints on roof of Pier 2/3 with minimum size of 100kWp.</p> <p>Response to CoS: Current architectural drawings reflect the work that was completed for sizing - the system maximises available roof space within heritage visual constraints. This is minimum PV array required. Contractor to offer price option for increased array size.</p> <p>Battery storage has been explored to assess the feasibility based on life cycle costs. It has been found that the projected precinct demand for energy is such that the existing PV array on Pier 2/3 and the proposed new array on Wharf 4/5/ is likely to be of optimal size for precinct demand, making storage less feasible.</p>	Y	Mechanical as built equipment schedules nominating system performance for chiller, AHUs, fans, pumps, miscellaneous fans Electrical as built drawing showing PV infrastructure, array size, location. Lighting as built drawing and luminaire schedule showing lighting fixtures, quantities and annotated with lighting power density calculations to show compliance with initiative 4.4 of this framework (reduction of artificial lighting consumption compared to NCC) Extract from commissioning report showing mech & elec system and PV array operating correctly.

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence	
4	Energy & Carbon	Lighting Strategies	Reduce artificial lighting energy consumption	4.1	LED light fixtures to be used throughout where possible, as a minimum in back of house, front of house spaces, external lighting / precinct. May be exceptions where not cost effective in specialised spaces such as theatre performance spaces.	Y	Electrical / lighting as built drawing showing lighting layout. As built lighting schedule showing LEDs are nominated throughout.
				4.2	Dimmable controls to be included for all areas except specialist theatres.	Y	Electrical / lighting as built drawing showing location of dimmers. As built lighting schedule showing fixtures for which dimming is possible.
				4.3	All spaces except where required for safety reasons (workshops) & except specialist theatres to have occupancy sensors. External lighting to have sensors and time clocks to manage operating hours.	Y	Electrical / lighting as built drawing showing location of motion sensors.
				4.4	Reduce max NCC Section J lighting power density by min. of 30- 40% in areas such as office, corridors, back of house. Sydney Theatre Company space named "the walk" (eastern corridor) is in fact a gallery space. Therefore considered "specialist function" and excluded as are specialist theatres.	Y	Electrical / lighting as built drawing and schedule showing number and type of fixtures in each space and lighting power for each fixture & calculations demonstrating that the lighting power density on average is reduced by 40% across the project
5	Energy & Carbon	Energy Sub-Metering	Facilitate ongoing management of energy consumption	5.1	Energy (electricity, gas, thermal) sub-metering to be installed to allow for tracking of the following where installed: - chiller - boiler - AHUs - separate lighting & power, performance power - thermal meters for individual tenancies	Y	Mechanical and hydraulic As Built drawing showing where energy sub-meters have been installed. Electrical as built drawing showing where energy sub-meters have been installed. Commissioning report extract demonstrating the meters have been installed and commissioned in accordance with correct standards.
				5.2	A system is to be installed that it is connected to the energy sub-metering network and is capable of monitoring and displaying the building's energy performance on at least a monthly basis. This could be a BMS or the like, depending on appropriateness for scale and type of building. Each tenant to have access to they system such that they can monitor their consumption. The system must be capable of monitoring in at least 15 minute increments.	Y	Commissioning report extract demonstrating the system installed and connected to the sub-metering network and is capable of monitoring and displaying the building's performance on at least a monthly basis and is operating correctly
				6.1	The following fixtures will be installed to all areas to meet WELS rating requirements: All Toilet flush - 3 L/ half flush, 4.5 L/ full flush All Urinals - 1 L/flush	Y	Hydraulic or architectural as built drawings highlighting location of all fixtures and fittings



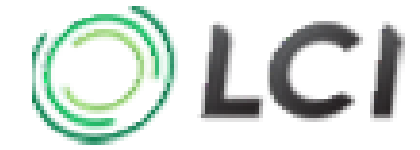
Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence	
6	Water	Potable Water Efficiency	To reduce potable water consumption by building occupants	All Indoor taps - 4.5 L/min All Showerheads- 7.5 L/min		Architectural as built fixtures / fittings schedule nominating the products that have been installed	
				6.2	Harbour Heat Rejection to be installed.	Y	Mechanical as built drawings nominating harbour heat rejection system and equipment schedule detailing performance criteria of system.
7	Water	Water Metering	To monitor and manage water consumption	<p>Water sub-metering to be installed for the following:</p> <ul style="list-style-type: none"> <li>- Bathrooms</li> <li>- Showers (where separate from bathrooms)</li> <li>- Evaporative rejection system (if installed)</li> <li>- Rainwater tank (if installed)</li> </ul> <p>Response to CoS: The water conservation strategy reduces potable water consumption via efficient appliances and the innovative application of using the harbour water as a source of heat rejection. Wharf 4/5 has an existing rainwater storage system that was installed as part of the Greening of the Wharf project. A non-potable water tap is to be installed on the side of Wharf 4/5 to draw from this existing tank for e.g. watering of any landscaped areas or washdowns. One of the main typical large water uses in a building are cooling towers which have been replaced with a harbour heat rejection system therefore eliminating water make up and cooling towers.</p>	Y	Hydraulic as built drawings showing where water sub-meters have been installed and showing external hose tap connected to Wharf 4/5 rainwater tank for use in irrigating or wash downs in public areas.	
				7.2	<p>A system is to be installed that it is connected to the water sub-metering network and is capable of monitoring and displaying the building's water performance on at least a monthly basis. This could be a BMS or the like, depending on appropriateness for scale and type of building. Each tenant to have access to they system such that they can monitor their consumption. The system must be capable of monitoring in at least 15 minute increments.</p>	Y	Commissioning report extract demonstrating the system installed and connected to the sub-metering network and is capable of monitoring and displaying the building's performance on at least a monthly basis and is operating correctly.
8	Water	Stormwater and Landscape Irrigation	Improve quality of site stormwater runoff and reduce potable water consumed by landscape irrigation	8.1	Currently not targeted. Contractor to explore if landscaping increases in size:-Explore potential for edge swales or the like (e.g. planting) to treat water runoff from site before it enters the harbour. Subject to any installation of landscape areas.	N	As built site drawings showing the landscaping that has been incorporated to treat water before runoff.
					Currently not targeted. Contractor to explore if landscaping		As built planting schedule showing the planting selection around site

# Walsh Bay Arts and Cultural Precinct Sustainability Framework



Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence
				8.2 increases in size:-Landscaping, if present on site, to be xeriscape (drought tolerant plant species that do not require irrigation to survive).	N	Hydraulic as built drawing showing no irrigation is provided
9	Water	Domestic Hot Water	Reduce carbon and energy associated with the heating of water for domestic uses	9.1 Provide solar thermal array on roof if hot water heating demand is great enough. Response to CoS: The project will include solar hot water with gas boost for the domestic hot water services. The solar hot water panels will be coordinated next to the PV panels. Refer to Hydraulic Specification.	Y	Hydraulic as built drawings showing size and location of the solar thermal array
						Extract from commissioning report showing solar thermal array operating correctly.
10	Sustainable Materials	Internal Materials	Reduce health impacts associated with material finishes and assemblies across the precinct	10.1 For all paints applied as internal finishes, VOC limits shall be in accordance with the Good Environmental Choice Australia (GECA) standard GECA-23-2005	Y	Product certificates that demonstrate certification under the correct scheme / standard. Certificates must be in date.
				10.2 For all adhesives and sealants used in the project, VOC limits shall be in accordance with the limits adopted by the South Coast Air Quality Management District (California, USA) Rule 1168.		Product certificates that nominate emissions levels or Material Safety Data Sheets demonstrating compliant emission levels. Certificates / Data Sheets must be in date.
				10.3 All carpets installed in the project shall have VOC limits in accordance with the Good Environmental Choice Australia (GECA) standard GECA-50-2010 v2 for Carpets. Other floor coverings shall be in accordance with GECA 25-2010 v2 for Floor Coverings.		Product certificates that demonstrate certification under the correct scheme / standard. Certificates must be in date.
				10.4 All Fitout items VOC levels shall be in accordance with the Good Environmental Choice Australia (GECA) standard GECA-28-2010 v2 for Furniture & Fittings		Product certificates that demonstrate certification under the correct scheme / standard. Certificates must be in date.
				10.5 All specified internal engineered wood products shall be in accordance with the Green Star Design & As Built v1.1 limits for Formaldehyde		Product certificates that demonstrate certification under the correct scheme / standard. Certificates must be in date. Confirmation that 100% by cost of internally applied paints, adhesives, sealants, carpets, floor coverings, fitout items and engineered wood products comply with requirements. Invoices / proof of purchase or dockets for all applicable products demonstrating that the nominated products have been procured and delivered to site.

# Walsh Bay Arts and Cultural Precinct Sustainability Framework



Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence
						Short report that references all products, their certificates and cost such that it can readily demonstrated that the requirements have been met for all items 10.1 through to 10.5.
11	Sustainable Materials	Resource Efficiency	Reduce embodied energy and resource depletion associated with the project	11.1 A site wide strategy for resource efficiency is to be implemented. - Any existing timber will be reused where possible onsite. - Timber piles to be salvaged where possible. - Precinct wide services strategy to be implemented which shares main plant between Wharf 4/5 and Pier 2/3. - Tenant Fitout Guide to be used to outline and encourage tenants to reduce, reuse, recycle their existing furniture / appliances etc.	Y	Short report outlining approach to resource efficiency adopted for the project, highlighting building elements that have been dematerialised, serve multiple purposes, are reused or recycled. Contractor to include details on reuse and recycle rate which should be monitored throughout demolition and construction. Tenant Fitout Guide extract to be issued as part of this short report demonstrating how tenants have been encourage to adopt resource efficient policies.
12	Sustainable Materials	Recycled Material Content	Prolong the useful life of existing products and materials and encourage the uptake of products with recycled content	12.1 Site wide, the project shall target: - 5% by cost of fitout items within the base building scope (e.g. furniture within reception areas) to have at least 20% recycled content or are reused. e.g. re-use timber piles for reception desk.	Y	Short report by Quantity Surveyor with summary table demonstrating compliance with requirements. All fitout items that have been procured must be included with those that are reused or contain >20% recycled content highlighted. Cost of reused items can be estimated by selecting equivalent product as new.
						Material data sheets for any items used to claim >20% recycled content must be submitted where percentage of recycled content is clearly nominated. Alternatively a letter from the supplier confirming the recycled content can be submitted.
13	Sustainable Materials	Local Material Sourcing	To reduce embodied energy associated with transportation of materials	13.1 20% by cost of all construction materials, including fitout items, within base building scope to be sourced from the local area (within 1500Km of site, if feasible). For example, new piles to be NSW turpentine timber.	Y	Short report by Quantity Surveyor with summary table demonstrating compliance with requirements. All construction materials and fitout items that have been procured must be included with their site of origin nominated. Cost of any reused items sourced locally can be estimated by selecting equivalent product as new.
						Letter from the supplier confirming the site of origin of product to be submitted

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence
14	Sustainable Materials	Timber	To encourage the use of reused timber and timber sourced from forests whose conservation values are not degraded	<p>14.1</p> <p>95% (by cost) of all timber used shall be from a reused source or is certified by a scheme accredited by FSC International or PEFC and has a full Chain of Custody (CoC) Timber pile replacements to be FSC certified if possible - heritage requirements may prevent this.</p> <p>Response to CoS: The matrix within the framework provided in the ESD report from the EIS states "95% by cost to be FSC with CoC". 100% is not nominated given that there is a concern over meeting the heritage requirements for replacement structural timber piles. Recommended timber pile replacements to be FSC certified if possible - heritage requirements may prevent this.</p>	Y	<p>Short report by Quantity Surveyor with summary table demonstrating compliance with requirements. All timber items that have been procured must be included with those that are reused or certified highlighted. Cost of reused items can be estimated by selecting equivalent product as new.</p> <p>Timber Certificates</p> <p>Invoices confirming types of timber product and quoting chain of custody code.</p>
15	Sustainable Materials	PVC	Reduce the environmental and health impacts of PVC by encouraging the use of PVC that adheres to Best Practice Guidelines	<p>15.1</p> <p>90% (by cost) of PVC products &amp; PVC containing products that meet the Best Practice Guidelines for PVC in the Built Environment, Products include: permanent formwork, pipes, flooring, blinds and cables.</p>	Y	<p>Short report by Quantity Surveyor with summary table demonstrating compliance with requirements. All PVC items that have been procured must be included with those that meet Best Practice highlighted. Costs shall be the entire cost of the product (excluding installation costs), irrelevant of the percentage of PVC in the product.</p> <p>PVC certificates</p> <p>Invoices confirming types of PVC products.</p>
16	Sustainable Materials	Zero Ozone Depletion Potential	To encourage practices that minimise the environmental impacts of refrigeration equipment	<p>16.1</p> <p>All refrigerants will have an ozone-depleting potential of zero</p>	Y	<p>Short report by mechanical contractor describing all mechanical systems within the building, nominating those that contain refrigerant and the type of refrigerant used in each piece of equipment. The report is to include the ODP and volume of each refrigerant demonstrating all have ODP of zero. Any existing systems that are not refurbished or replaced can be excluded.</p>
17	Sustainable	Hazardous	Reuse previously developed land and	<p>17.1</p> <p>A comprehensive hazardous materials survey is to be carried out in accordance with the relevant Environmental and Occupational Health and Safety (OH&amp;S) legislation. Any identified asbestos, lead or PCBs are to be</p>	Y	<p>Copy of HazMat report by qualified professional that demonstrates the survey was conducted in accordance with recognised standards and guidelines.</p>

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence	
	Materials	Material Survey	remediate contaminated land / buildings	<p>any identified asbestos, lead or PCBs are to be stabilized, or removed and disposed of in accordance with best practice guidelines.</p>		Confirmation that HazMat survey was conducted and any remediation works completed before construction began.	
18	User Comfort & Wellbeing	External Views and Visual Comfort	To provide occupants with a visual connection to the external environment	<p>18.1 Glazed elements are being introducing in a few areas where previously opaque. E.g. Doorways to East, West elevations shall be replaced with glazing. Note - glass selection to encourage natural light but constrained to within heritage and Section J requirements. Where no thermal requirements for glazing, introduce higher VLT glass.</p>	Y	As built drawings highlighted to show areas of new glazing that have been introduced and any supporting receipts / dockets showing glazing VLT.	
19	User Comfort & Wellbeing	Environmental Conditions (Wider Temperature Range)	To provide a range of spaces with a mix of environmental conditions to maintain thermal comfort with reduced energy consumption	<p>19.1 The spaces are controlled to meet the user needs as follows: - Naturally ventilated spaces - as per outdoor air temperatures. Where heating only provided, heating to &gt;16 deg C. - Mixed mode rehearsal / office spaces - 21-24 degrees C when A/C operating, outdoor air temp in NV mode. - Performance spaces (ATYP, ACO auditorium) - fully AC to 21-24 deg C. Instrumental areas to have humidity control.</p>	Y	Extract from commissioning clause nominating the setpoints each space type has been set to.	
20	User Comfort & Wellbeing	Daylight (Internal)	To maximise daylight penetration into the floor plate, improving indoor visual quality and reducing tenant lighting energy consumption.	<p>20.1 Spaces below lanterns shall receive 2.5% daylight factor at floor level OR A significant improvement in daylight to be shown compared to existing conditions through e.g. replacement of opaque skylight elements with new glazed elements.</p>	Y	<p>Short report nominating the daylight factor at floor level within the space below lanterns or describing the new glazing that has been introduced, its size and orientation and the improvement compared to existing conditions.</p> <p>As built drawings highlighted to show areas of new glazing that have been introduced and any supporting receipts / dockets showing glazing VLT.</p>	
21	Sustainable Transport	Public Transport	To encourage responsible and carbon-minimal forms of transport for users to the site	21.1	Signs shall be provided indicating connection to Sydney bike routes - Wayfinding plan to address this.	Y	As built drawings showing location and size of signposts to Sydney CBD cycle route. If digital, supporting report to be submitted from contractor that confirms the signs will indicate bike routes.
				21.2	No car parking will be provided	Y	As built drawings showing absence of car parking.
						Short report highlighting requirements of Green Travel Plan and demonstrating the precinct provides facilities as required by the plan, including numbers of showers, lockers and bike spaces (staff and visitors) that are provided.	

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements	Targeting	Required Evidence
22	Sustainable Transport	Cyclist Facilities	To facilitate the use of bicycles by occupants and visitors	22.1 Bike parking spaces to be in line with Green Travel Plan recommendations. Adequate showers, change facilities and locker storage to be provided.	Y	As drawings highlighted to show location of facilities, including: showers, change facilities, bike storage and lockers.  Extract from Green Travel Plan where bike facilities and end of trip facilities requirements are nominated.
23	Operation	Recycling Waste Storage	To provide facilities that encourage and facilitate the recycling of waste	23.1 A waste storage area shall be provided that is readily accessible for council waste collection. The area shall have a separate, designated space for the separation and collection of recyclables including: - paper & cardboard - glass - plastic - organics - cooking oil (for retail tenancy use) Refer to waste consultant report / Waste Management Plan for required area for accommodating separate waste streams and location.	Y	As built drawings showing location and size of waste storage facilities where separation of waste streams is demonstrated  Copy of the Waste Management Plan
				23.2 Separate bins for recycling and general waste shall be provided in each separate tenancy. Bins shall accommodate these waste streams as a minimum: - landfill - paper & cardboard - glass - plastic - organics - any other specific waste stream as required by tenant In addition, refer to Waste Management Plan for recommended external bin allowance based on footfall. Refer to separate Event Management Plan for waste requirements related to precinct wide events.	Y	As drawings showing location of bins for the precinct and within tenancies where known.
				24.1 Both Demolition and Main Works Tender to include requirement that the Contractor develops and complies with WMP and retains quarterly reports for demonstrating that the targets are being met.	Y	Tender Phase - Copy of tender documentation nominating the requirements the Contractor must meet.



Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements		Targeting	Required Evidence
24	Operation	Construction Waste Management	Minimise the amount of construction waste going to disposal	24.2	A WMP shall be developed that addresses: -Construction waste management -Outlines how to achieve recycling rate for demolition / construction waste as nominated within the Tender WMP (refer to Arup WMP).	Y	Construction Phase - Copy of the Waste Management Plan addressing the criteria.
							Construction Phase - quarterly waste reports demonstrating the project is on track to meet the nominated targets.
25	Operation	Environmental Management Plan	Minimise environmental impacts of all sources during construction stage.	25.1	Tender to include requirement that the Contractor develops and complies with EMP requirements and issues reports for demonstrating that the EMP is being successfully implemented.	Y	Tender Phase - Copy of tender documentation nominating the requirements the Contractor must meet.
				25.2	An EMP shall be developed by the Contractor that complies with Section 3 of the NSW Environmental Management System guidelines 2009. In addition, the plan is to address erosion / sedimentation of construction works to avoid polluting the surrounds.	Y	Construction Phase - Copy of the Environmental Management Plan and short report outlining how the EMP has been addressed during construction including a compliance matrix of how the criteria is fulfilled.
26	Operation	Commissioning and Building Tuning Plan	Ensure all building services operate to optimal design potential	26.1	Contractor to fully commission the project within one year of operation. A Commissioning Plan should be in place that outlines pre-commissioning and commissioning activities to be performed based on approved standards and guidelines (refer to GBCA Green Star Design & As Built v1.1 Credit 2.2 Building Commissioning. The requirements of this credit must be met in full.)	Y	Contractor to provide record of commissioning that takes place for all systems within the project within one year of operation. This includes extracts from the commissioning report demonstrating that comprehensive pre-commissioning and commissioning activities have been performed in accordance with the Green Star Credit 2.2.
				26.2	There is to be a Building Tuning Commitment in place with the Contractor, including a commitment to perform quarterly adjustments and measurement for the first 12 months after occupation. (Refer to GBCA Green Star Design & As Built v1.1 Credit 2.3 Building Tuning. The requirements of this credit must be met in full.)	Y	Copy of Building Tuning Commitment demonstrating building tuning will take place in accordance with Green Star Credit 2.3.  Contractor to provide record of building tuning that takes place for all systems within the project within one year of operation. This includes extracts from the quarterly building tuning reports demonstrating that comprehensive measurements and adjustments have been performed.

Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements		Targeting	Required Evidence
27	Operation	Efficient Equipment Selection	Ensure any new equipment to be installed is energy efficient	27.1	Any installed fridges, freezers, washers, dryers, microwaves within base building scope are to be within 1 star of the highest available on the market under the Energy Rating Labelling Scheme (refer to energyrating.gov.au). Tenant Fitout Guide to recommend tenancies install the same.	Y	Short report nominating all appliances procured as part of base build scope. The report is to reference Energy Rating Label certificates.
							As built schedule or docket showing appliances that have been procured.
							Contract documentation or Tenant Fitout Guide showing tenants must install appliances within 1 star of the highest available on the market.
28	Operation	Building Services Procurement	Ensure services are procured based on considering the life cycle cost and environmental impact associated with operation, replacement and maintenance	28.1	Select systems based on LCC analysis looking at the NPV (Net Present Value) over a maximum 3 year period. Consideration to include capital, operational, maintenance, churn and replacement over the systems period assessed. Mechanical Engineers report (Precinct Cooling Options Study) issued during detailed design addressed this requirement, with Tender Mechanical design reflecting outcome. Refer to Mechanical Tender documentation for recommended cooling design.	Y	Evidence that the systems installed are as per those recommended in the Arup Precinct Cooling Options Study. Alternatively, issue a summary report and calculations demonstrating an LCC has been performed and how the outcome informed the specification of equipment for the project.
29	Operation	Green Orientation and Ongoing Education	Encourage transfer of information to new and ongoing users to optimise the sustainable performance of the precinct	29.1	Issue a Building Users Guide to inform all new users of the building commitment to sustainability. Guide is to highlight the sustainability aspects of the project and nominates initiatives relevant to the user e.g. bike facilities, recycling bins, mixed mode and/or natural ventilation operation etc. (Refer to GBCA Green Star Design & As Built v1.1 Credit 4.2 Building User Information. The requirements of this credit must be met in full.) It should include how the Guide will be made accessible to tenants and suited to the target audience. Digital Building Users Guide is acceptable.	Y	Copy of the Building Users Guide
							Confirmation from the Building Owner that it has been made available to occupants by project completion.
30	Social and Community	Public Performance Feedback System / Informatics	Monitor and communicate resources use	30.1	Install display screen in public areas that shows monthly / annual water & energy consumption. An example location is Visitor Portal space. Waste recycling rates to be considered for display here too.	Y	As built drawings showing location of display screens.
							Commissioning extract demonstrating the screens are operating correctly.
							Confirmation from the Building Owner that the screens display water and energy consumption (and waste recycling rates as an option).



Credit #	Category	Initiative	Intention	Design Response / Contractor Requirements		Targeting	Required Evidence
31	Social and Community	Out of Hours Use	Maximise building use and provide additional facility to local community	31.1	The buildings shall accommodate public festivals (Vivid, Writers Festival) during non-typical working hours, in which the facilities & amenities will be operational.	Y	Operational profiles / leasing profiles or the like demonstrating the accessibility of the facilities during out of hours.
32	Social and Community	Community Space	Contribute to community wellbeing	32.1	10% of the waterside precinct NLA shall be dedicated to the community for e.g. public art installation, public events. Fishing access at aprons is an example of contributing area.	Y	As built drawing highlighted to show location and size of community space.
33	Benchmarks and targets	Sustainability Framework	Facilitate ongoing management and monitoring of sustainability drivers	33.1	An energy, water and waste target for the precinct shall be developed	Y	A Benchmarking & Target Plan is to be developed. Within this Plan, the strategy for establishing the environmental targets is to be outlined e.g. the baseline should be set using first 6 months operation (or after full commissioning and tuning has taken place). The roles and responsibilities of parties involved in tracking the environmental performance is to be outlined in the Plan. The Plan is to include recommendations on remedial actions that should be implemented when targets are not being met. The Plan should include monitoring and reporting requirements including frequency & stakeholders to be informed.
				33.2	Quarterly reports by the Facilities Management team during operation shall be issued to determine if the building is operating in line with the targets	Y	A letter of commitment from the Building Owner that the Facilities Management Team is following the Benchmarking & Target Plan, is responsible for issuing quarterly reports that note the waste, energy and water consumption of the building, how it compares to the targets and remediation actions that should be taken.