

MANDATORY ESD CONTROLS	STRETCH GOAL	TARGET SOURCE	CONTROL STAGE	ASSESSMENT AUTHORITY	APPROVAL MECHANISM
Governance - Overarching rating tools requirements to benchmark and drive ESD initiatives over project lifecycle					
5-Star Green Star Design and As Built		TR, DCP	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, provide an ESD Report including initial Green Star Pathway demonstrating a 5-Star rating can be achieved for residential and non-residential areas, with relevant measures included in the design.
5-Star Green Star Design and As Built		TR, DCP	CC	DPIE/PCA	Prior to CC provide Green Star 5 Star Design Review Rating. Evidence that the two mandatory Green Star credits have been achieved, namely 'Adaptation and Resilience' and 'Urban Heat Island Effect'.
5-Star Green Star Design and As Built		TR, DCP	OC	DPIE/PCA	No more than 6 months from OC provide As Built Green Star 5 Star certificate. Including evidence that the two Mandatory Green Star credits have been achieved, namely 'Adaptation and Resilience' and 'Urban Heat Island Effect'.
Management - Integrate sustainability initiatives and considerations through best practice management processes					
ESD Framework established for the precinct development		SEARS, LSPS	Concept Stage	DPIE	ESD Concept Report
Full Green Star points for the 'Adaptation and Resilience' credit		TR	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, provide ESD Report and Green Star Pathway demonstrate that the recommendations in the report, Climate and Community Resilience Hills Showground (AECOM Oct 2018) have been included. Note that this report may require updating to ensure compliance with the credit requirements of the 'Adaptation and Resilience' credit.
Ensure the project does not engage in modern slavery practices		TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Provide proof of membership (free) with the Supply Chain School engagement, and provide details of planned training and engagement for staff.
	Achieve full points in Green Star credit, 'Responsible Construction Practices'	TR	SSDA Detailed Design	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that full credits in 'Responsible Construction Practices' have been targeted. If this is not achievable, justification should be provided in any case.
Energy and Emissions - Reduce energy consumption and procurement of low emission generating energy sources					
Minimum BASIX rating of: 25 for 6 storeys or higher; 35 for 4-5 storeys; 45 for 3 storey units.		SEPP (BASIX)	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, provide an ESD Report including detail on how this will be achieved through design and inclusion of initial BASIX certificates
Minimum BASIX rating of: 25 for 6 storeys or higher; 35 for 4-5 storeys; 45 for 3 storey units.		SEPP (BASIX)	CC	DPIE	Prior to CC provide updated BASIX certificates for the construction design
Minimum BASIX rating of: 25 for 6 storeys or higher; 35 for 4-5 storeys; 45 for 3 storey units.		SEPP (BASIX)	OC	DPIE	Prior to OC verify BASIX certificates for the as built construction drawings
5 Star NatHERS energy rating (residential)		DCP	CC	DPIE	Prior to CC provide updated 5 Star NatHERS results along with updated BASIX certificates
5 Star NatHERS energy rating (residential)		DCP	OC	DPIE	Prior to OC verify 5 Star NatHERS results along with verified BASIX certificates
4.5 Star NABERS Energy (non-residential)		DCP	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, provide an ESD Report including detail on how this will be achieved through design.
4.5 Star NABERS Energy (non-residential)		DCP	CC	DPIE	Prior to CC provide Predictive Energy modelling report and lodge the NABERS Commitment Agreement
4.5 Star NABERS Energy (non-residential)		DCP	OC	DPIE	Prior to OC provide independently reviewed Energy Modelling Report by an approved NABERS reviewer
Allow for separate energy metering for commercial and multi-unit tenancies		DCP	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, provide an ESD Report including details on energy metering to meet this requirement.
Allow for separate energy metering for commercial and multi-unit tenancies		DCP	CC	DPIE	Prior to CC provide detailed electrical design schematics showing how this criteria will be met.
Allow for separate energy metering for commercial and multi-unit tenancies		DCP	OC	DPIE	Prior to OC provide final 'As Constructed' electrical design schematics showing this criteria has been achieved.
	Achieve 3 points in Green Star credit, 'Greenhouse Gas Emissions' with use of BASIX rating tool	TR	Prior to SSDA Detailed Design Lodgement	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that 3 credits in 'Greenhouse Gas Emissions' have been targeted. If this is not achievable, justification should be provided in any case.
	5-star NABERS Energy (Office/commercial, hotel or retail)	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	An Energy Statement demonstrating a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	BASIX Energy rating of 40 (residential)	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	An Energy Statement demonstrating a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	On-site energy generation for at least 5% of total predicted energy demand in operation	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	An Energy Statement demonstrating a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.

	Project base buildings to be carbon neutral (net zero) in operations	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	An Energy Statement demonstrating a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	All new projects modelled to reduce Greenhouse Gas (GHG) emissions at a precinct scale (transport & stationary) by 50% against 2016 reference case (CCAP Precinx modelling)	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Undertake CCAP Precinx modelling and include results in the Energy Statement demonstrating a technical feasibility assessment has been undertaken to achieve this target. Where cost is identified as a prohibiting achievement of the target details of the viability assessment are to be provided. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
Transport - Reduce dependability on private vehicle use by access to public transport, amenities and facilities to encourage alternative means of transport					
	Include at least 10% of total parking spaces to have Electric Vehicle charging stations	TR	SSDA Detailed Design	DPIE	As part of the SSDA Detailed Design Package, a parking schedule and plans showing the number, location and electrical design, construct and deliver for the electric vehicle charging stations.
	Achieve 5 points in Green Star credit, 'Sustainable Transport'	TR	SSDA Detailed Design	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that 5 points in 'Sustainable Transport' have been targeted. If this is not achievable, justification should be provided in any case.
Water - Reduce consumption of potable water consumption					
	BASIX Water rating of 40	SEPP (BASIX)	SSDA Detailed Design	DPIE	ESD Report including detail on how this will be achieved through design and inclusion of initial BASIX certificates
	BASIX Water rating of 40	SEPP (BASIX)	CC	DPIE	Prior to CC provide updated BASIX certificates for the construction design
	BASIX Water rating of 40	SEPP (BASIX)	OC	DPIE	Prior to OC verify BASIX certificates for the as built construction drawings
	Separate metering of water across commercial and multi-unit tenancies	DCP	SSDA Detailed Design	DPIE	As part of the ESD Report demonstrate this will be achieved.
	Separate metering of water across commercial and multi-unit tenancies	DCP	CC	DPIE	Prior to CC provide detailed design schematics showing how this criteria will be met.
	Separate metering of water across commercial and multi-unit tenancies	DCP	OC	DPIE	Prior to OC provide final 'As Constructed' design schematics showing this criteria has been achieved.
	Implement the Integrated Water Cycle Management (IWCM) Strategy	SEARS	SSDA Detailed Design	DPIE	Demonstrate that the strategies in the IWCM has been integrated in the project designs and how those initiatives have been coordinated with the Concept Plans and Water Sensitive Urban Design strategy required to be lodged as part of future Development Application.
	BASIX Water rating of 60 (residential)	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	Achieve 5 points in Green Star credit 'Potable Water'	TR	Prior to SSDA Detailed Design Lodgement	DPIE	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	5-star NABERS Water (Office/commercial, hotel or retail)	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	Embed best practice Water Sensitive Urban Design (WSUD) principles. Pollutant discharge loads not to exceed Nitrogen 45, Phosphorus 65, Suspended Solids 85, Gross Pollutants 90.	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	Project to model and demonstrate reduction to mains potable water demand by 50% at the precinct scale, against a 2016 reference case (CCAP Precinx modelling)	TR	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
	Consideration should be given to designs that can achieve 'water positive' in operation outcomes i.e. the site recycles more water than it uses.	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	As part of the WSUD Management Plan demonstrate a technical feasibility assessment has been undertaken to achieve this target. Where the assessment determines the target is not achievable in full, justification is to be provided. A viability assessment should be included where cost is considered prohibitive. Where it is determined that performance beyond the minimum, mandatory controls can be achieved this will form a planning condition in the SSDA and further evidence of compliance will be required at both CC and OC.
Materials and Waste - Assess and reduce footprint of major construction materials AND Minimise and/or increase re-use of waste material					
	Achieve 1 point in 'Responsible Building Materials' credit (Green Star) for timber	TR	SSDA Detailed Design	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that 1 credit in 'Responsible Building Materials' have been targeted. If this is not achievable, justification should be provided in any case.
	95% of construction waste diverted from landfill (excluding contaminated materials)	TR	SSDA Detailed Design	DPIE	As part of the CEMP demonstrate the target will be considered. Note that achieving this could contribute 1 point to the Green Star assessment under 'Construction and Demolition Waste' so it is recommended that these items are considered in coordination.
	Consider how the proposal can minimise organic waste and reduce all waste as far as possible towards zero waste in operation (i.e. zero waste to landfill)	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Prepare a detailed Waste Management Plan demonstrating how operational waste arising from the development can be reduced as far as possible towards zero waste to landfill
	Undertake a Life Cycle Assessment to advance business approach to sustainable materials, and to inform an approach to zero carbon in embodied energy of projects	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Within the ESD Strategy and as part of the overall review and consideration of materials, undertake a preliminary LCA according to the methodology provided in the 'Life Cycle Impacts' credit in Green Star.
	100% timber sourced for construction (by cost weight) is Forest Stewardship Council Certified or agreed equivalent (i.e. Australian Forestry Standards)	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Within the ESD Strategy provide a commitment to achieving this requirement. Note that achieving this could contribute 1 point within the 'Responsible Building Materials' credit in Green Star so it is recommended that this credit is considered in the pathway.
	Assessment and reporting of materials used against International Living Future Institute's 'Red List'	LSPS	Prior to SSDA Detailed Design Lodgement	Contractual arrangement	Within the ESD Strategy and as part of the overall review and consideration of materials, provide details on how the Red List has been used to inform materials selection. https://www.go-gba.org/resources/green-building-methods/materials-red-list/
Land Use and Ecology - Minimise projects footprint on local land and ecology					

75% of the development plan area to be covered with green canopy, vegetation or landscaping/building elements that reduce the impact of heat island effect		DCP	SSDA Detailed Design	DPIE	Urban Design and Landscape Plan to provide details of this target being met or exceeded. Refer to the UDG.
As a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of either 15% of the site area or at a ratio of 1:500 of GFA, whichever is larger. Vertical or horizontal landscapes are acceptable. Indigenous species are to be used, this should be local / endemic indigenous species.		UDG	SSDA Detailed Design	DPIE	Landscape Plan to provide details of the required ratio being achieved, along with details of plant species.
As a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of either 15% of the site area or at a ratio of 1:500 of GFA, whichever is larger. Vertical or horizontal landscapes are acceptable. Indigenous species are to be used, this should be local / endemic indigenous species.		UDG	CC	DPIE	Prior to CC provide final 'As Designed' Landscape Plan showing this criteria has been achieved.
As a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of either 15% of the site area or at a ratio of 1:500 of GFA, whichever is larger. Vertical or horizontal landscapes are acceptable. Indigenous species are to be used, this should be local / endemic indigenous species.		UDG	OC	DPIE	Prior to OC provide final 'As Constructed' Landscape Plan showing this criteria has been achieved.
Full points for the 'Heat Island Effect' credit		TR	SSDA Detailed Design	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that full credits in 'Heat Island Effect' have been targeted.
	Achieve 1 point in Green Star credit, 'Ecological Value'	TR	SSDA Detailed Design	DPIE	As part of the ESD Report and Green Star Pathway demonstrate that 1 credit in 'Ecological Value' have been targeted. If this is not achievable, justification should be provided in any case.
Innovation					
Innovation	Affordable housing component to be included as part of the residential development	TR	OC	Contractual arrangement	Provide a minimum of 5% affordable housing of the final number of dwellings throughout the precinct. Ensure that affordable housing is integrated into the overall development and there is no discernible lessening of quality between market housing. Affordable housing stock is to be managed by a Community Housing provider for a minimum of 10 years from the date of final occupation certificate.
Innovation	20% Silver performance level Liveable Housing	TR		Contractual arrangement	It is encouraged that a mix of bedroom numbers is provided to meet the expected future needs of the area as part of the requirement to deliver and certify, through an LHA accredited assessor, the silver performance level Liveable Housing Australia principles in all new housing, have regard to adaptability and build-in good design as a fundamental element.

ABBREVIATIONS			
SSDA	State Significant Development Application	TR	Tender Requirements
DCP	Showground Station Precinct (DCP)	CC	Construction Certificate
SEPP	State Environmental Planning Policies	OC	Occupancy Certificate
LSPS	Landcom Sustainable Places Strategy	PCA	Principal Certifying Authority



ESD Process Timeline

