



Study Requirements for Elizabeth St, Redfern

*Nominated State
Significant Precinct*

January 2018

January 2018

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List of Acronyms

BASIX	Building Sustainability Index
CAD	Computer Aided Design
CPTED	Crime Prevention Through Environmental Design
DCP	Development Control Plan
DECCW	Former Department of Environment Climate Change and Water (now OEH)
EPA	NSW Environmental Protection Agency
ESD	Ecologically Sustainable Development
FACS	NSW Department of Family and Community Services
FSR	Floor Space Ratio
ICOMOS	International Council on Monuments and Sites
LAHC	NSW Land and Housing Corporation
LEP	Local Environmental Plan
OEH	NSW Office of Environment and Heritage
PMF	Probable Maximum Flood
RMS	NSW Roads and Maritime Services
SDCP	Sydney Development Control Plan
SEPP	State Environmental Planning Policy
SLEP	Sydney Local Environmental Plan
SSP	State Significant Precinct
SSA	Social Sustainability Assessment
WSUD	Water Sensitive Urban Design
1% AEP	Statistical flood event occurring once every 100 years

Introduction

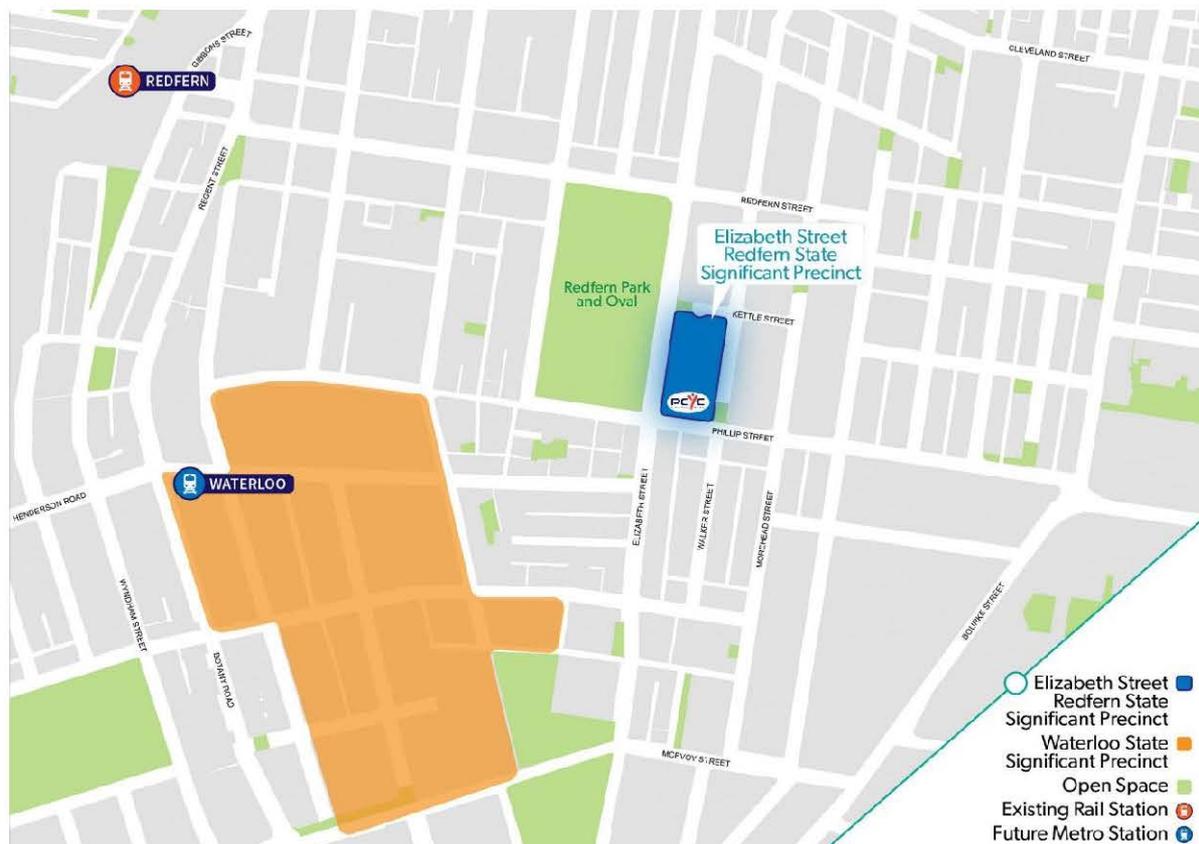
The site at Elizabeth Street, Redfern, bounded by Elizabeth, Phillip, Walker and Kettle streets, has been declared a potential State Significant Precinct (SSP) by the Minister for Planning. It includes government-owned land that is of state importance in achieving key government policies relating to the delivery of new jobs and homes, including the provision of social housing.

The one-hectare government-owned site opposite Redfern Oval includes the Police Citizens Youth Club (PCYC), the South Sydney Aboriginal Corporation Resource Centre and other health and fitness facilities as well as a large area of open space (refer Map 1).

There is the opportunity for the staged redevelopment of the site which could enable the Police Citizens Youth Club (PCYC) to continue activities in their existing leased building in the southern end of the site. The redevelopment also has the potential to support the revitalisation of the Waterloo social housing estate over the next 15 to 20 years.

These Study Requirements for the nominated precinct have been prepared with the City of Sydney Council, in consultation with relevant State agencies.

The Department of Family and Community Services, Land and Housing Corporation (FACS) will prepare the necessary studies to satisfy these requirements and support future rezoning and development of the site. This will allow FACS to deliver more social housing in the inner city and further the aims of the Communities Plus program.



Purpose of Study

Investigate preparation of a new planning framework for the site at Elizabeth Street, Redfern, to:

- allow for the development of a mix of new social, affordable, and private housing and other uses;
- facilitate the renewal and expansion of community and recreational facilities onsite, including the Police Citizen Youth Club (PCYC); and
- support the revitalisation of the Waterloo social housing estate over the next 15 to 20 years.



Redfern PCYC – Elizabeth Street, Redfern

Site

The block bounded by Elizabeth, Phillip, Walker and Kettle Streets, Redfern

Applicant

NSW Family and Community Services, Land and Housing Corporation

Date of Issue

17 January 2018

Scope of Study

The following issues will be considered and assessed as part of the study:

- State or regional planning significance of the site;
- Suitability of the site for any proposed land use, and the intensity of any use; taking into consideration the public domain, transport, heritage, arts and culture, environmental, social, health, economic and urban design factors, the principles of ecological sustainable development and any State, regional or local planning strategy, policy or plan;
- Implications of any proposed land use for infrastructure and service delivery;
- Means by which developer contributions should be secured for the site;
- Local and regional economic, social, health and environmental impacts of the proposed development;
- Recommended land uses and development controls for the site; and
- Staging strategy for the Precinct in the context of the local area.

Key Study Requirements

The Study must address the following key requirements:

1 Vision, Strategic Context and Justification

- 1.1 Outline the vision for the proposal.
- 1.2 Outline the strategic planning context for the proposal including an assessment of relevant State planning documents and State Environmental Planning Policies (refer to Appendix 1).
- 1.3 Consideration of local planning and other relevant City of Sydney strategies and reports (refer to Appendix 1).
- 1.4 Provide justification for the proposal in the context of the revised draft Eastern City District Plan, the draft Greater Sydney Region Plan and planning for the broader area.

2 Urban Design

- 2.1 Prepare a detailed site and context analysis.
- 2.2 Prepare opportunities and constraints mapping overlays.
- 2.3 Prepare a set of urban design principles that underpin the proposed development.
- 2.4 Investigate a range development options for the Precinct, including various built form/massing, land use, siting and structure plan scenarios. Assess the benefits and constraints of each option and demonstrate how this has informed the final preferred option.
- 2.5 Prepare a precinct plan that integrates the: public domain plan, infrastructure and community facilities plan, staging plan, building types and massing for the site. The precinct plan must demonstrate how this fits within the surrounding context.
- 2.6 Provide a view and visual assessment, with particular focus on significant view lines to Redfern Park/Oval, as well as analysis of any visual impacts on surrounding areas and mitigation measures. Use eye level views from public parks and street footpaths, compare to existing views and analyse the relative quantity of visible sky. Include analysis of any visual impacts on significant heritage items and surrounding dwellings and identify any mitigation measures. Provide a map identifying all chosen view lines and agree on the view lines and any additional view lines with the Department and the City of Sydney.
- 2.7 Provide a shadow and sun access (at the winter solstice) analysis both within the site, addressing open space and dwellings, and on adjoining land. This analysis must consider new and existing private and public open space, especially to ensure there would be no further overshadowing impacts on Redfern Park/Oval between 9am and 3pm at the winter solstice. Dwellings' communal open space must also be considered against standards in the Apartment Design Guide for apartments and the Sydney Development Control Plan 2012 for open space and residential buildings not subject to the Apartment Design Guide.

- 2.8 Provide an analysis of proposed distribution of gross floor area, development yields, building typologies, building envelopes and heights.
- 2.9 Provide sufficient detail of the building types to demonstrate future compliance with amenity standards including the Apartment Design Guide and to support any calculations that convert building envelopes to gross floor area and development yields.
- 2.10 Provide a 3D massing model in Revit, Sketch Up or similar, a fly through and photomontages of key parts of the proposal from eye level positions in the public domain.
- 2.11 Provide physical and 3D CAD models to fit the City of Sydney's physical and 3D CAD model. Consult with the City of Sydney to confirm technical model requirements.
- 2.12 Outline draft controls with a building by building approach to permissible height and FSR (including residential and non-residential split) with all schedules/calculations provided for the site. This must include controls to ensure appropriate floor plate sizes for each building, preferably 800 square metres and maximum 1,000 square metres for tower components.
- 2.13 Demonstrate how other elements of this study have shaped the building typologies and public domain plan. In particular, how the design of building types responds to ecologically sustainable development, wind, flooding, noise, and pollution issues.

3 Public Domain

- 3.1 Consult closely with and obtain endorsement of the City of Sydney, as the ultimate owner and manager of the Public Domain, for all aspects of the planning for Public Domain.
- 3.2 Provide a Public Domain Plan identifying any proposed public spaces, walkways and streets, including an accurate CAD set-out showing the boundaries of any streets walkways and other public spaces and servicing considerations to the public domain.
- 3.3 Given the location of the site adjoining Redfern Park, appropriate provisions of public open space may be implemented elsewhere within the Redfern Housing Estate in the future. Provide a framework for long-term provision of public open space and streets in the Redfern Estate. The framework must demonstrate how the following considerations can be addressed in the future:
 - How accessibility to any new park is maximised by surrounding street interfaces and location in relation to slope;
 - How the flexibility and extent of use is maximised by locating away from busy roads, noise and pollution;
 - How the size is suitable for the expected number and type of users; and
 - How the location in relation to existing parks optimises use for the surrounding community.
- 3.4 Provide a Water Sensitive Urban Design (WSUD) strategy that integrates with the flood study, the public domain and private open spaces, and show any measures on plans and sections.
- 3.5 Demonstrate how the public domain will be designed to be legible, connected and safe for pedestrians and cyclists at all times of the day and night, incorporating Crime Prevention through Environmental Design (CPTED) principles.
- 3.6 Demonstrate how the proposal will provide suitable and sufficient access for residents to recreational facilities in conjunction with accessible facilities in the wider neighbourhood and the region.
- 3.7 Provide an indicative material and furniture palette for any public spaces.

NOTE: In all of the above, demonstrate consideration and application of City of Sydney public domain codes where appropriate, including the Streets Code and Technical Specifications, Legible Sydney Wayfinding Strategy and Design Manual, and any other relevant City of Sydney draft Codes.

4 Land Use and Planning Controls

- 4.1 Outline the proposed zoning and provide justification for the mix and location of proposed land uses.
- 4.2 Provide draft planning controls including zoning, maximum building height, FSR, and car parking for incorporation into Sydney LEP 2012.

- 4.3 Prepare a draft DCP, in a form able to be integrated with Sydney DCP 2012, including appropriate development controls to inform future development of the Precinct, including: public domain, street hierarchy and typologies, connectivity, car parking, accessibility building footprints, detailed building heights, street frontage and podium, setbacks, building typologies, private open space, biodiversity, waste management, sun access, public art, heritage and heritage interpretation.
- 4.4 Justify the proposed development standards and explain the methodology adopted to ensure amenity standards, infrastructure provision objectives, and appropriate transitions to adjoining public spaces, heritage items, and conservation areas are achieved.

5 Heritage

- 5.1 Prepare a heritage and archaeological assessment that investigates the history, physical evidence and significance of the features within and surrounding the study area, based on a site inspection and documentary research, to identify and conserve features of local or greater heritage significance, including existing heritage items and conservation areas, buildings or other features of significance yet to be listed and archaeological relics.
- 5.2 The heritage assessment is to provide management recommendations, including development control provisions, to guide future development or planning of the site to retain the assessed significance of its features, surrounding conservation areas and heritage items, including features to retain and re-use, setbacks and heights for new development to respect the scale and character of and views to surrounding conservation areas and heritage items, and management of archaeological relics.
- 5.3 Provide an interpretation plan, where relevant, having particular regard to the precinct's social significance, including that of the existing PCYC to the local community, and relationship with nearby heritage items in accordance with Interpreting Heritage Places and Items Guidelines.

NOTE: The heritage and archaeological assessment is to be undertaken in accordance with guidelines set out in the NSW Heritage Manual and by the Heritage Council of NSW, the methodology described in "The Conservation Plan" (J S Kerr 1996), and in the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter).

6 Aboriginal Cultural Heritage

- 6.1 Prepare an aboriginal cultural heritage study to identify and describe the Aboriginal cultural heritage values that exist across the precinct. The identification of cultural heritage values should be guided by the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011).
- 6.2 Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the study.
- 6.3 Impacts on Aboriginal cultural heritage values are to be assessed and documented. This must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the study must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

7 Urban Forest

- 7.1 Provide a preliminary arboricultural report that identifies tree location, condition, quality, life expectancy and indicative Tree Protection Zones to enable an urban design approach that minimises impacts to trees as an input to 7.4.
- 7.2 Undertake an arboricultural impact assessment for the proposal outlining trees to be removed or retained and the possible impacts on the trees to be retained including allowing for future construction methodology.
- 7.3 Provide a plan for the retention of existing and provision of new trees that demonstrates consideration of:
 - The capacity of the public domain and urban design approach to protect existing trees and allow for the growth of new trees;

- The provision of sufficient soil volumes and quality (including within the private domain) to provide for long term tree health; and
 - Canopy design concepts that improve streetscape amenity such as expanded verges and central verges (through setbacks, reduced carriageway or widened reservation) to increase planting, incorporation of landmark large-scale trees in key locations and street gardens and low plantings.
- 7.4 Coordinate outcomes of the Public Domain Design, Urban Design, Utilities (ensuring overground utilities are undergrounded), Wind (ensuring that trees are not expected to be the wind mitigation device) and transport parts of this study.
- 7.5 Demonstrate how the project can address the City of Sydney Urban Forest Strategy, in particular the following site-specific targets:
- minimum canopy cover of 25% for the site and 60% to streets. If the minimum canopy cover for the site cannot be met, demonstrate how the shortfall is offset by increasing and installing new canopy cover in surrounding streets;
 - species diversity targets of 40% family, 30% genus, and 10% species; and
 - minimum distribution of tree heights of 20% small trees (5-6m), 50% medium trees (6-15m), and 30% large trees (15-25m).
- 7.6 Provide an indicative tree and planting strategy across the site, accounting for biodiversity and habitat considerations including:
- a tree sensitive public domain and that protects existing trees, and allows for the growth of new trees;
 - species selection that maximises solar access during winter; and,
 - sufficient soil volumes and quality are provided for long term tree health.
- 7.7 Demonstrate how the proposal complies with NSW Government and Council policies, strategies, master plans, including SLEP; SDCP; Urban Forest Strategy; Tree Management Policy; Street Tree Master Plan; Urban Ecology Strategic Action Plan and Landscape Code. If any policy/strategy is not complied with, demonstrate the implications of compliance to the project and give sufficient environmental planning grounds why such compliance is unreasonable or unnecessary.

NOTE: This study requires a Project Arborist qualified in arboriculture to Australian Qualifications Framework (AQF) level 5 or above and have at least 5 years demonstrated experience in managing trees within development sites.

8 Public Art

- 8.1 Provide a framework for the preparation of a public art plan at subsequent stages of the project. The framework is to ensure that the public art plan:
- 8.1.1 Is authored by a professional curator with experience and knowledge of the site;
 - 8.1.2 Is developed in consultation with the City of Sydney, the City’s Public Art Advisory Panel, the Arts, Screen and Culture Division of the Department of Planning & Environment, key cultural stakeholders and the community;
 - 8.1.3 Identifies opportunities and an overarching conceptual approach/curatorial rationale for the public art within the site;
 - 8.1.4 Proposes a sound methodology for the selection, commissioning and delivery of public art as part of the future development applications in a way that ensures the strategic intent, vision, artistic integrity and quality of the public art for the site is maintained throughout this process;
 - 8.1.5 Ensures that adequate checks and balances are in place to achieve best practice outcomes;
 - 8.1.6 Outlines a budget for public art that allows for best practice outcomes that will contribute to the future public life in Redfern-Waterloo;
 - 8.1.7 Clarifies the lifespan of the artwork and process for decommissioning as well as ownership, funding and responsibility for ongoing maintenance of the public art; and
 - 8.1.8 Is consistent with:
 - The City of Sydney’s Public Art Strategy,
 - The City of Sydney’s Public Art Policy,

- The City of Sydney’s Interim Guidelines for Public Art in Private Developments,
- The City of Sydney’s Guidelines for Acquisitions and Deaccessions; and
- NSW Arts and Cultural Policy Framework – Create in NSW.

9 Traffic and Transport

- 9.1 Prepare a comprehensive transport impact assessment to understand transport network context, service and network limitations, opportunities for improving customer experience and transport solutions that will accommodate planned growth through integrating land use and transport, and better managing travel demand. The methodology is to be agreed with Transport for NSW (TfNSW), the City of Sydney (CoS), Roads and Maritime Services (RMS) and the Department of Planning and Environment (DPE) prior to commencement of the assessment. The assessment should include, but not be limited to:
- 9.1.1 A broad review of the existing and future land use and transport context within the study precinct, access and connectivity with assessment of the overall precinct and its relationship to the surrounding transport network and land uses;
 - 9.1.2 Consider access to key destinations and infrastructure in the local area, in particular schools, community facilities and other local services;
 - 9.1.3 The safety of all road users, in particular pedestrians and cyclists;
 - 9.1.4 Consider performance of the existing and future cycling, public transport and road network surrounding the precinct, taking account of the study area (study area agreed in consultation with TfNSW, CoS and RMS);
 - 9.1.5 Consider existing trip generation by mode, based on the current land use and transport context, including walking, cycling, public transport, taxi, ride share and private vehicles;
 - 9.1.6 Review the trip generating potential for all modes and purposes associated with the proposal including conducting a trip generation survey of a similar site; survey site and trip generation rates are to be agreed by TfNSW, CoS and Roads and Maritime Services;
 - 9.1.7 Consider cumulative growth of the surrounding area based on committed and planned developments (such as Central to Eveleigh corridor) and proposed infrastructure (such as WestConnex and associated projects);
 - 9.1.8 Consider impact of additional travel demands (across all modes) on the transport network serving the site;
 - 9.1.9 Ensure that the site’s public domain interface (including sign posting, line marking and footpath materials and grade) along Elizabeth, Kettle and Phillip Streets, are in accordance with the requirements for streets categorised as “LGN priority Network (pedestrian+cycle)” under the Liveable Green Network Strategy (2011);
 - 9.1.10 Provide an understanding of the travel behaviours and patterns (across all modes) of future residents, workers and visitors of the proposal through benchmarking, forecast modelling tools (as required) and other sources of evidence;
 - 9.1.11 Develop a traffic model to determine the road network improvements required to support the proposal;
 - 9.1.12 Prepare intersection models (SIDRA Network) to demonstrate the safe operation and functionality of key intersections;
 - 9.1.13 Detail proposed access and egress requirements in accordance with RMS and City of Sydney guidelines and relevant Australian Standards;
 - 9.1.14 Detail any transport infrastructure and servicing improvements, including identification of both land (corridor preservation) and capital components, to support the proposal including costings and funding responsibilities;
 - 9.1.15 Identify travel demand management measures to promote sustainable modes of travel and achieve mode share targets including considering the role of shared vehicles in managing travel demand and provide any recommendations for implementation of shared vehicle solutions;
 - 9.1.16 Prepare the required DCP provisions (including the access strategy and provisions relating to servicing, waste collection, and loading areas); and,
 - 9.1.17 Provide an overview of potential impacts of construction traffic. Identify a strategic construction approach, including identification of potential staging that broadly outlines the construction footprint and construction related traffic access.

10 Ecologically Sustainable Development (ESD)

- 10.1 Provide an Ecologically Sustainable Development Report which details how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design, construction and ongoing operation phases of the development to achieve sustainability best practice initiatives. The Report should clearly indicate measures proposed for inclusion in future building and public domain design and planning controls to ensure measures are implemented. The measures must at least describe how water and energy consumption and can be reduced through efficiency and connection to renewable energy and recycled water systems.
- 10.2 Assess the extent to which potable water consumption could be minimised by connecting to a source of recycled water for all non-potable uses within the development area. Assess the feasibility of installing an on-site recycled water system, or installing provisions to connect to a proposed or future recycled water network along the Central to Eveleigh Corridor, including installation of recycled water piping and storages including dual plumbing within buildings. Provide details of the environmental and economic value of installation of recycled water piping and storages for future connection to a recycled water network as a means of future proofing the development area against drought.
- 10.3 Identify waste management strategies to achieve NSW Government's Waste Avoidance and Resource Recovery Strategy 2007 (WARR) and compliments the NSW Government's Waste Less, Recycle More initiatives and EPA waste and recycling programs. This must include proposed precinct scale measures to ensure effective operational waste management.
- 10.4 The management of waste should be discussed with the City of Sydney Council and the outcome of these discussions documented to ensure the site and proposed yields can be appropriately serviced by Council.
- 10.5 Demonstrate compliance with BASIX and investigate opportunities to deliver beyond-BASIX scores.

NOTE: In developing the above information, the proponent should also ensure the following guidelines are consulted: The Better Practice Guide for Waste Management in Multi-Unit Dwellings (DECC 2008); the Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (EPA, December 2012); and the Better Practice for Public Place Recycling (DEC 2005).

11 Climate Change Mitigation and Adaptation

- 11.1 Undertake a sustainability assessment of the proposal, reflecting the directions outlined in the 'NSW Climate Change Policy Framework', October 2016, and draft Central District Plan "Creating an efficient Central District" to achieve net-zero carbon emissions by 2050. Options for achieving both net zero buildings and a net zero precinct should be considered.
- 11.2 Provide a Climate Change Adaptation Report which details how the proposal will address temperature increases from climate change (see NSW and ACT Regional Climate Modelling: NARCLIM), including the integration of vegetation (existing and future), permeable and reflective surfaces, and Water Sensitive Urban Design features into the design of the development.
- 11.3 Undertake sensitivity analysis to address the impact of climate change due to increased temperatures, extreme heat events and increase of rainfall intensity integrated with the Water Quality, Flooding and Stormwater Study.

12 Health

- 12.1 Assess the likely impacts of the proposal on the health of the future resident population and the neighbouring community. This assessment should:
 - Assess the distribution, severity and likelihood of identified positive and negative health impacts for both future residents and neighbours;
 - Recommend mitigation measures to maximise positive health impacts and minimise negative health impacts; and
 - Document how the proposal will achieve a healthy built environment and active health lifestyles for residents including consideration of the relevant guidelines including *Healthy Urban Development Checklist* and *Building Better Health Guidelines*.

13 Utilities

- 13.1 Provide a utilities and infrastructure servicing report identifying existing capacity, required capacity and augmentation needed for the proposal, sustainability measures (e.g. Water Sensitive Urban Design (WSUD) and staging. The water utilities component should be prepared by a suitably qualified hydraulic consultant. Required capacity should detail the future potable and non-potable water demand of the precinct. The power utility requirements should be prepared by a suitably qualified (ASP) consultant.
- 13.2 The utilities and infrastructure servicing report should outline the proposed development yield and staging and should include an assessment of the capacity of:
 - Ausgrid electrical network to service the development and outline the likely impacts on the broader Ausgrid electrical network. This will include direct engagement with Ausgrid on the impacts to ensure early understanding and visibility of any network augmentation required; and
 - Sydney Water’s network to service the development and the proposed servicing options considered for the development. The report should also outline any integrated water cycle management and / or sustainability initiatives proposed for the development, including any proposed alternative water supply, proposed end uses of drinking and non-drinking water and proposed water conservation measures.

14 Community Services and Local Infrastructure

- 14.1 Outline the community profile in social and cultural groups, age groups and time series format of the surrounding community.
- 14.2 Outline the services currently provided by the PCYC and how these will be accommodated.
- 14.3 Provide an infrastructure needs analysis that outlines the proposed local infrastructure, including recreation, open space (active and passive), community and educational facilities required to meet the characteristics and likely needs of the current and future population, including the estimated costs and timing of the works.
- 14.4 Assess and investigate improvement and expansion of community and recreation facilities onsite, including the PCYC, and recognise their role in the local area. This should include options for upgrades/expansion, ongoing management, and/or replacement of these facilities in the short to long term.
- 14.5 Identify alternative facilities and/or staging of development to ensure that existing services can be provided for community use without interruption.
- 14.6 Outline how the proposed local infrastructure including open space/connections, community and educational facilities will meet the needs of the future population, including demonstrating how specific needs of different population groups and locational, functionality and design, servicing, and accessibility requirements will be met.
- 14.7 Provide recommendations for opportunities to maximise positive social outcomes for neighbouring and likely future communities through the project. This should include measurable targets to demonstrate how the project will address the needs of neighbouring and future communities and include measures that are tangible, timely and effective, and within the ability of the applicant (alone or in partnership) to deliver.
- 14.8 Promote social and cultural inclusion by ensuring that the historical connections and importance of the precinct to our First Nations people are reflected in the design of the project, local services provided onsite, and employment opportunities (if any).
- 14.9 Outline the proposed ongoing responsibilities and maintenance of any proposed open space/connections, drainage reserves, and community facilities.
- 14.10 Outline details of any arrangements with Council for public use of community facilities.
- 14.11 Outline the scope and mechanism/s for development contributions to meet the needs of the future population having regard to existing contributions plans.

15 State and Regional Infrastructure

- 15.1 Outline the impact of the proposal on State and regional infrastructure, including public transport, roads, hospitals and schools. Identify additional infrastructure required to meet the characteristics and

- likely needs of the future population established in the community profile, including the estimated costs (inclusive of land and capital) and timing of the works.
- 15.2 Outline the framework for State and regional infrastructure contributions including scope and delivery mechanism/s for development contributions between the Proponent and infrastructure agencies, such as transport, education and health, having regard to the City of Sydney Council's existing contributions plans.

16 Economic feasibility

- 16.1 Provide an analysis of the market demand for the proposal.
- 16.2 Provide an assessment of the development feasibility of the proposal.
- 16.3 Provide an economic assessment of the proposal, including the likely wider economic benefits in relation to employment, commercial and retail impacts.
- 16.4 Undertake a feasibility analysis of future development to contribute towards local, State and regional infrastructure.

17 Geotechnical and Contamination

- 17.1 Provide an assessment of the local soil, outlining its suitability for the proposed uses with respect to erosion, salinity and acid sulphate soils.
- 17.2 Provide an assessment of the proposed land uses in accordance with State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55).

NOTE: In cases where land is potentially contaminated, the investigation and any remediation and validation work is to be carried out in accordance with guidelines made or approved by the EPA under Section 105 of the Contaminated Land Management Act 1997 and be in accordance with the requirements and procedures in the Contaminated Land Management Act 1997, Contaminated Land Management Regulation 2013 and SEPP 55 – Remediation of Land.

18 Water Quality Flooding and Stormwater

- 18.1 Provide an assessment of any potential impacts of the proposal on the hydrology and hydrogeology of the precinct and adjoining areas, with particular focus on water quality, the extent to which proposed development protects, maintains or restores water health and the community's environmental values and use of waterways for Sydney Harbour (also known as the NSW WQO). Consider how the planning framework will address water quality targets in Sydney DCP 2012:
- Reduce the baseline annual pollutant load for litter and vegetation larger than 5mm by 90%,
 - Reduce the baseline annual pollutant load for total suspended solids by 85%,
 - Reduce the baseline annual pollutant load for total phosphorus by 65%,
 - Reduce the baseline annual pollutant load for total nitrogen by 45%.
- Reference should be made to NSW Environment Protection Authority's Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions.
- 18.2 Provide a concept Stormwater Management Plan outlining the general stormwater management measures for the proposal, with particular emphasis on possible WSUD options.
- 18.3 Provide a flood risk assessment developed in consultation with City of Sydney identifying the full extent of flooding behaviours for existing and developed scenarios as well as flood impacts on surrounding environments in post-development scenarios in order to outline the suitability of the land for proposed uses.
- 18.4 Consider the future cumulative flood risk impact across the catchment area and adjoining land areas.
- 18.5 Provide recommendations for appropriate flood planning level/s for proposed development in accordance with the section 5 – Flood Planning Level of the City's Interim Flood Policy and, where applicable, the most appropriate emergency response strategy to manage risk to life.

- 18.6 Provide concept level details of the drainage associated with the proposal, including stormwater drainage infrastructure and address the impact of stormwater flows on the site from other catchments in accordance with the Sydney DCP 2012 and Sydney Streets Technical Specifications.

19 Housing Diversity and Affordability

- 19.1 Justify the amount of social, affordable, and market housing to be provided in the short to long term in the context of the actions in Future Directions for Social Housing in NSW and the renewal of Waterloo Estate. This should include consideration of mixed tenure options and lessons from recent social housing renewal projects.
- 19.2 Demonstrate how the proposal is consistent with NSW Government's commitment to delivering more Affordable Housing in 'A Plan for Growing Sydney' and the affordable rental housing target of 5% to 10% of new floorspace highlighted in the revised draft Eastern City District Plan particularly for government led urban renewal projects.
- 19.3 Assess the feasibility of the proposal to contribute to Affordable Housing and the preferred mechanisms for delivery.

20 Noise, Vibration and Pollution

- 20.1 Provide a noise and vibration impact assessment for the proposal. The assessment will address the relevant policies and guidelines in relation to noise including State Environmental Planning Policy (Infrastructure) 2007 and the Development Near Rail Corridors and Busy Roads – Interim Guideline. The vibration assessment should be undertaken in accordance with Assessing Vibration: A Technical Guideline (DEC, 2006) available at <http://www.epa.nsw.gov.au/resources/noise/vibrationguide0643.pdf>
- 20.2 Provide an air quality assessment for the proposal. The assessment will address the relevant policies and guidelines in relation to air quality including State Environmental Planning Policy (Infrastructure) 2007 and the Development Near Rail Corridors and Busy Roads – Interim Guideline.
- 20.3 Identify and map proposed future sensitive receptors (e.g. residential uses, schools, child care centres).
- 20.4 Model the likely future noise, vibration and pollution scenario based on 3D block envelope diagrams prepared by the urban designer. This is to include road noise.
- 20.5 Recommend appropriate noise and vibration measures. The consultant is expected to work with the urban designer, and suggested measures are to be provided for the protection of future residents of buildings through the careful siting and layout of buildings maintaining natural ventilation through open windows.

21 Wind

- 21.1 Provide a complete understanding of the existing wind characteristics of the precinct including areas surrounding the precinct that may be wind affected as a result of the proposal. Consider the wind climate of Sydney, local characteristics such as topography that modify this wind climate for the precinct and the impact of existing buildings, in particular the tower and slab blocks, on wind conditions.
- 21.2 Identify significant locations for wind sensitivity within the public domain for the purpose of modelling wind impacts of the proposed development.
- 21.3 Consider and address potential wind impacts and amelioration approaches through the layout and arrangement of the public domain and the built form.
- 21.4 Outline measures to ensure the suitability of areas for their intended use with regard to the impact of wind on comfort and safety. In particular, this is to focus on the public space areas intended to be used for seating (i.e. outdoor dining areas on footpaths and public plazas) and standing (i.e. building entries); and, also for outdoor private recreation areas to be suitable for sitting (e.g. outdoor communal private open space). Outline the placement, orientation, shape and external design of buildings, and relevant wind mitigation devices.
- 21.5 Include areas surrounding the precinct that may be wind affected as a result of the proposal.
- 21.6 Demonstrate that subject to any recommended measures, wind will not have an unacceptable impact on the proposal, and the proposal will not generate unacceptable wind impacts.
- 21.7 Undertake wind tunnel testing and outline the results.

NOTE: Landscaping of public space must accord with the City of Sydney's Public Design Manual and the Public Domain design. In general, landscaping can only be used for wind mitigation if it is already in place.

22 Aeronautical

- 22.1 Review relevant background information, including the "Sydney Airport Master Plan 2033" to understand the current and proposed future operations of Sydney Airport, as relevant to the precinct.
- 22.2 Identify and clearly map the OLS, PANS OPS and any other relevant Sydney Airport height limitation layers, including consideration of Navigation Aid Surfaces.
- 22.3 Translate these layers into a maximum height for permanent (e.g. buildings) and temporary (e.g. cranes) structures include a building methodology specialist to translate this information into maximum building envelope height planes.
- 22.4 Advise on other measures, if necessary, to ensure the precinct does not have an adverse impact on the operations of Sydney airport, e.g. lighting, reflective surfaces etc).
- 22.5 Certify that subject to any recommended measures, the precinct proposal will not have an adverse impact on the operations of Sydney Airport.

23 Staging

- 23.1 Outline the indicative staging of the Precinct, particularly in relation to the operations of the Police Citizen Youth Club (PCYC) and the overall Redfern Estate and Waterloo Estate Redevelopment project.

24 Consultation

- 24.1 Outline the proposed community consultation strategy to undertake an appropriate and justified level of consultation with the public, the City of Sydney, other relevant State and Federal government agencies, non-government service providers including the PCYC and community stakeholders, noting and addressing that Council should have a high level of involvement throughout the process.
- 24.2 Provide evidence of consultation (including letters, minutes of meetings, charrette/drop in event summaries and formal advice) and provide a summary of and outline the general outcomes of early consultation and how the outcomes have been incorporated into the proposal.
- 24.3 Consultation is to address key aspects of the proposal including spatial arrangement of development, staging, open space, amenity, transport, and community facilities.
- 24.4 Incorporate ongoing consultation with the local Aboriginal community, including Elders and organisations, into the community consultation strategy.

Appendix 1 – State and Local Planning References

New South Wales Government References

- A Plan for Growing Sydney (December 2014) and Towards our Greater Sydney 2056 – a draft amendment to update *A Plan for Growing Sydney* (November 2016)
- NSW Long Term Transport Masterplan (December 2012) and subsequent annual updates
- Draft Strategy - Future Transport 2056 (October 2017)
- Draft Eastern City District Plan (October 2017)
- Draft Greener Places – establishing an urban green infrastructure policy for NSW (October 2017)
- Better Placed – an integrated design policy for the built environment of NSW (2017)
- Draft Climate Change Fund Strategic Plan and A Plan to Save NSW Energy and Money
- NSW Climate Change Policy Framework
- NSW Arts and Cultural Policy Framework – *Create in NSW* (2015)
- Sydney Local Health District – A Picture of Health – Health Profile (2015)
- Future Directions for Social Housing in NSW (2015)
- NSW Health’s Building Better Health Guidelines
- NSW Department of Education’s Planning New Schools, School Safety and Urban Planning Advisory Guidelines (2014)
- NSW Department of Environment and Climate Change’s Better Practice Guide for Waste Management in Multi-unit Dwellings (2008)
- NSW Department of Environment and Conservation’s Better Practice Guide for Public Place Recycling (2005)
- NSW Environment Protection Authority’s Better Practice Guide for Waste Management and Recycling in Commercial and Industrial Facilities (2012)
- NSW Environment Protection Authority’s Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions (2017)

State Environmental Planning Policies

- State Environmental Planning Policy (State Significant Precincts) 2005
- State Environmental Planning Policy (Urban Renewal) 2010
- State Environmental Planning Policy No 65 (Design Quality of Residential Apartment Development) 2015
- State Environmental Planning Policy (Affordable Rental Housing) 2009
- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

Local Planning Strategies and References

- Sustainable Sydney 2030 Community Strategic Plan (2014)
- Sydney Local Environmental Plan 2012
- Sydney Development Control Plan 2012
- South Sydney Local Environmental Plan 1998
- South Sydney DCP 1997
- Environmental Action 2016 – 2021 Strategy and Action Plan
- Connecting Our City – Transport Strategies and Actions – Summary Report 2012
- Adapting for Climate Change (2015)
- A City for All - Social Sustainability Policy and Towards a Socially Just and Resilient Sydney Discussion Paper (2016)
- Open Space, Sports and Recreational Needs Study (2016)
- Competitive Design Policy
- Housing Issues Paper, April 2015
- Public Domain Manual
- Sydney Streets Code (2013)
- Sydney Lights Design Code
- Cycle Strategy and Action Plan 2007-2017
- Walking Strategy and Action Plan
- Eora Journey Economic Development Plan (2016)
- Innovate Reconciliation Action Plan 2015-2017

- The Alexandra Canal Floodplain Risk Management Plan, Risk Management Study and Flood Study (2014)
- Interim Floodplain Management Policy (2014)
- Access Policy 2004
- Public Art Policy and Guidelines for Public Art in Private Developments
- Landscape Code (2016)
- Greening Sydney Plan (2012)
- Urban Forestry Strategy (2013)
- Tree Management Policy (2013)
- Urban Ecology Strategic Action Plan (2014)
- Street Tree Master Plan (2015)
- Liveable Green Network Strategy (2011)
- Legible Sydney Wayfinding Strategy 2012
- Legible Sydney Design Manual 2013
- Draft Waste Strategy and Action Plan 2017-2030
- Decentralised Water Masterplan 2012