

# WATERLOO STATE SIGNIFICANT PRECINCT SUMMARY OF STUDIES

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Technical studies will be undertaken to inform the master planning process for the Waterloo precinct to develop a Precinct Proposal to redevelop the area.

This document provides a summary of each of the studies that will be undertaken to meet the Study set by the [Minister for Planning](#).

Each study will provide, as relevant:

- An accurate understanding of the **Existing Conditions** of the Precinct and the surrounding area, identified through site inspection, review of relevant documents and consultation with stakeholders.
- A **Strategy** that identifies how the vision for Waterloo and project objectives apply to the particular study.
- An **Implementation Plan** that includes specific proposals to implement the Precinct Proposal.
- An **Assessment** of potential environmental effects of the proposed Implementation Plan.
- **Development Controls** recommended to ensuring implementation of the Strategy and Implementation Plan.
- **Responses to Submissions** made during formal exhibition of the Precinct Proposal.

Study	Scope
Geotechnical and Contamination	<ul style="list-style-type: none"> <li>• Confirm that ground conditions can support the Precinct Proposal without impacting development feasibility.</li> <li>• Confirm that there is no unacceptable risk of harming the environment, people or property from erosion, salinity, acid sulfate soils or ground instability.</li> <li>• Identify measures to manage groundwater.</li> <li>• Identify any potentially polluted land, and options to safely clean it up.</li> <li>• Ensure that urban design options do not negatively affect underground infrastructure, including rail lines.</li> </ul>
Flooding and Storm Water	<p>The Flooding and Storm Water Study will identify existing drainage flows within and around the Precinct and map areas that are at risk of flooding. It will:</p> <ul style="list-style-type: none"> <li>• Identify a range of options to address drainage and flooding issues.</li> <li>• Ensure an acceptable level of personal and property safety from flooding.</li> </ul>

Study	Scope
	<ul style="list-style-type: none"> <li>• Ensure that flood reduction measures are consistent with high quality urban design.</li> <li>• Include principles to guide future earthworks and land filling and manage flooding risk.</li> <li>• Include an emergency response plan for various flood levels.</li> <li>• Ensure water quality objectives are achieved in nearby rivers and creeks.</li> <li>• Ensure that flooding and storm water does not affect the Metro station.</li> <li>• Consider potential impacts of sea level rise and changes in rain fall due to climate change.</li> <li>• Model future food behavior (i.e. water levels/speeds and duration of flooding), including effects on upstream and downstream areas, above and below ground water flows and both the amount and the quality of water.</li> </ul>
Heritage	<p>The Heritage Study will include a heritage assessment of the Precinct in accordance with the <i>NSW Heritage Manual</i>, ‘<i>The Conservation Plan</i>’ and the <i>Australia ICOMOS Charter for the Conservation of Places of Cultural Significance</i> (the Burra Charter).</p> <p>The assessment will review, but will not be limited to, buildings, garden areas, monuments and public art, infrastructure (including street patterns and storm water drains), potential archaeological relics and social significance. It will include:</p> <ul style="list-style-type: none"> <li>• Researched history – including review of property records, maps and images, and any relevant conservation management plans.</li> <li>• Physical inspection of the Precinct.</li> <li>• Review of existing images – including current and historic photos, maps and surveys.</li> <li>• Comparisons to similar social housing developments within metropolitan Sydney.</li> <li>• Assessment of significance of identified features.</li> <li>• Listing, mapping and management recommendations.</li> </ul> <p>The Heritage Study will include assessment of the significance of the Precinct to the Aboriginal community, including non-physical cultural heritage, stories and other associations with Waterloo as a place.</p>
Aeronautical	<p>The Aeronautical Study will:</p> <ul style="list-style-type: none"> <li>• Review the Sydney Airport Master Plan 2033 to determine the maximum height for buildings and temporary structures</li> </ul>

Study	Scope
	<p>(e.g. cranes) in terms of the operational and safety requirements of Kingsford Smith Airport.</p> <ul style="list-style-type: none"> <li>• Identify other measures necessary to ensure the Precinct Proposal does not interfere with the operations of the airport (e.g. lighting, reflective surfaces, etc).</li> <li>• Confirm all aeronautical approval requirements.</li> </ul>
Wind	<p>The Wind Study will identify existing wind characteristics within the Precinct, considering typical wind patterns and the effect of local features such as landform and the existing tower buildings that modify this wind environment.</p> <p>The Wind Strategy will identify measures to reduce wind speeds through the layout and arrangement of buildings, open spaces and landscaping. It will also ensure that wind speeds in public parks, outdoor dining areas, footpaths, public plazas, balconies, decks and communal open spaces comply with relevant design criteria for such spaces.</p>
Noise, Vibration, Pollution and Lighting	<p>The Noise, Vibration, Pollution and Lighting Study will identify existing noise, vibration, pollution and lighting characteristics within the Precinct.</p> <p>It will identify and map existing and proposed land uses that are more sensitive to pollution (e.g. residential uses, schools, child care centres, community facilities) and potential pollution sources likely to affect the Precinct. Such sources include the new Metro station, traffic on Botany Road and McEvoy Street and aircraft noise.</p> <p>The Strategy will prepare 3D models to show possible future noise, vibration, pollution and lighting scenarios and will recommend appropriate protection measures.</p>
Flora and Fauna	<p>The Flora and Fauna Study will involve an ecological survey of the Precinct to identify any locally significant or threatened animal or plant species or communities. It will include an assessment of impacts on existing trees and wildlife, and measures to compensate for any unavoidable impacts.</p> <p>The Flora and Fauna Strategy will aim to protect and enhance the natural values of the Precinct while recognising its role as an inner urban, mixed use, transit oriented community.</p>
Urban Forest	<p>The Urban Forest Study will identify the location, condition, quality and life expectancy of Trees within the Precinct and identify protection zones to minimise impacts on significant trees.</p> <p>The Urban Forest Strategy and Plan will aim to protect the</p>

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	<p>urban forest values of the Precinct while recognising its role as an inner urban, mixed use, transit oriented community.</p> <p>The Strategy and Plan will aim to achieve targets for minimum canopy cover, minimum species diversity and tree height ranges.</p> <p>Key outcomes will include:</p> <ul style="list-style-type: none"> <li>• tree sensitive design.</li> <li>• trees that maximise winter sunlight.</li> <li>• sufficient soil depth for tree health.</li> <li>• undergrounding of power lines.</li> </ul> <p>The Study will explore opportunities:</p> <ul style="list-style-type: none"> <li>• to expand footpaths and reduce roadways.</li> <li>• for central street planting on east-west streets.</li> <li>• to incorporate landmark trees in key locations.</li> <li>• to consolidate deep soil zones in street setbacks.</li> <li>• to incorporate street gardens.</li> </ul>
Population and Employment	<p>The Population and Employment Study will identify key population and employment data and trends affecting the Precinct and surrounding communities. It will also provide comparisons to similar, walkable, higher density inner city Sydney communities, such as Kings Cross/Potts Point, Pyrmont, Rhodes and Waterloo Crown Square.</p> <p>Data that is to be identified includes:</p> <ul style="list-style-type: none"> <li>• dwelling types</li> <li>• jobs</li> <li>• age profile</li> <li>• ethnicity</li> <li>• education</li> <li>• employment</li> <li>• income</li> <li>• household types</li> <li>• housing tenure</li> <li>• car ownership</li> <li>• trip to work travel mode</li> <li>• comparison with the remainder of the City of Sydney local government area and Greater Sydney.</li> </ul> <p>The Study will forecast future population and employment (at</p>

Study	Scope
	<p>five year intervals) to 2036 for the Precinct and surrounding community, based on projections with and without the Precinct Proposal.</p>
<p>Housing Diversity and Affordability</p>	<p>The Housing Diversity and Affordability Study will consider existing housing diversity and affordability within the Precinct and identify future housing needs. It will consider the appropriate mix of dwelling types, ownership, size and price-points necessary to support a diverse, inclusive, healthy, socially connected, livable and sustainable community.</p> <p>The Housing Diversity and Affordability Strategy will consider the needs of social housing residents, renters, investors, owner occupiers and the Communities Plus process measures, noting the Government target of 5% - 10% of private dwellings to be Affordable Housing for low to moderate income households.</p> <p>The Study will include an assessment of the Strategy in terms of the needs of the future community, and consistency with <i>State Environmental Planning Policy (Affordable Rental Housing) 2009</i>, the draft Central District Plan and <i>Future Directions for Social Housing in NSW</i>.</p>
<p>Social Sustainability</p>	<p>The Social Sustainability Study will include a review of existing policies, and the community services needs of the existing and likely future communities at five year intervals to 2036. It will include consideration of the needs of Aboriginal and Torres Strait Islander People, different age groups; key resident language groups, key providers of community services and relevant government agencies.</p> <p>The Study will assess the services needs of the future community, including lower income households, higher density private residents and people without a car. It will identify the type, role, size, condition and usage of all existing community facilities, and assess the adequacy of these facilities to service existing and future communities. The Strategy will consider potential innovations and emerging best practice in the delivery of community services.</p> <p>The Strategy will identify measures to support high quality of life, social connections, safety, employment and education opportunities, health and culture, including measures to provide for the needs of minority groups, different age, income and cultural groups and future generations.</p> <p>It will consider all aspects of community and social services, including health, education and emergency services and programs available to assist social housing tenants.</p>
<p>Open Space</p>	<p>The Open Space Study will review the City of Sydney Open Space, Sports and Recreation Needs Study and supplement it with an audit of open space facilities serving the Precinct. This</p>

Study	Scope
	<p>will provide an accurate understanding of existing open space, considering the type (e.g. regional, local), role (e.g. passive recreation, playing fields), size, condition and usage patterns of each facility.</p> <p>Population and employment projections will be used to identify the open space needs of the existing and future communities. The Study will consider the particular needs of lower income households, higher density residents and people who do not have a car.</p>
<p>Economic Development, Local Retail and Services</p>	<p>The Economic Study will supplement existing studies to provide an understanding of the existing economic characteristics of the Precinct and surrounding areas, including:</p> <ul style="list-style-type: none"> <li>• The type, amount, location and condition of existing employment floor space.</li> <li>• The local retail and service needs of the Precinct.</li> <li>• The relationship of the Precinct to other retail and employment centres.</li> <li>• Broader economic factors affecting the Precinct.</li> <li>• The economic development needs of and opportunities for local Aboriginal communities.</li> <li>• Market demand for floor space in the area.</li> <li>• The retail and servicing needs of the Metro station</li> </ul> <p>The Economic Study will include a Strategy to deliver the economic development, local retail and service provision needs for the Precinct and the surrounding area, including:</p> <ul style="list-style-type: none"> <li>• A future economic profile for the Precinct to 2036.</li> <li>• The role of the Precinct relative to surrounding centres.</li> <li>• An outline of the key economic costs and benefits of the Precinct Proposal.</li> <li>• Recommendations on the type and location of jobs, shops and services.</li> <li>• Locations suitable for active retail frontage.</li> <li>• Recommendations regarding apartment sizes and types.</li> </ul> <p>The Study will also assess the Precinct's ability to generate sufficient contributions to fund proposed infrastructure and meet the needs for local retail and service provision.</p>
<p>Visual Impact</p>	<p>The Visual Impact Study will identify the existing visual characteristics of the Precinct, including its relationship to the surrounding area. It will identify key viewpoints, including parks and main streets in Redfern, Redfern East, Alexandria and</p>

Study	Scope
	<p>Waterloo. It will also include views from more distant location, including Sydney Park (the hill off Sydney Park Road) and Queens Park (eastern end at Carrington Road).</p> <p>Photos from the viewpoints will be used to create 'before' and 'after' 3D images of each of design options, so their visual impacts can be compared against the existing situation.</p>
Utilities and Servicing	<p>The Utilities and Servicing Study will identify a range of utility and service infrastructure including electricity, gas, water, sewer, telecommunications and waste to service the Precinct.</p> <p>The Strategy will be prepared in close consultation with the Sustainability Study, to explore opportunities for sustainable infrastructure.</p> <p>A number of options will be developed, and the Study will consider the relative strengths and weaknesses of each option.</p> <p>The Implementation Plan will identify the most cost effective way to implement the Strategy.</p>
Sustainability	<p>The Sustainability Study will address the UrbanGrowth NSW Sustainability Strategy, which contains project based targets for carbon reduction, drinking water management, energy reduction and onsite generation, biodiversity enhancement, response to climate change, waste reduction, responsible and renewable materials and building and precinct based performance rating systems.</p> <p>The Sustainability Study will identify broader precinct and local area sustainability opportunities, as well as identifying how the baseline data, UrbanGrowth NSW targets and City of Sydney sustainability policies will be addressed and delivered within the Precinct.</p>
Traffic and Transport	<p>The Traffic and Transport Study will initially produce a baseline model of existing land use, transport systems and travel patterns. This baseline will be used to review the capacity of the surrounding road network.</p> <p>Predictions will be made of the future demand between the different transport modes (e.g. car, taxi, Uber, bus, train, Metro, bicycle, walking) for subsequent transport modelling.</p> <p>The trips predicted by this model will then be used to estimate the demand for additional vehicles on the surrounding road network. Key road intersections in the locality will be modelled to predict the impact of this additional traffic demand.</p> <p>The Study will develop a parking policy and travel demand management system that incorporates measures such as incentives, emerging technologies, workplace travel plans, behaviour change programs, public transport marketing</p>

Study	Scope
	<p>campaigns and innovative options to ensure that the transport accessibility of existing and future residents is enhanced, without unreasonably effecting the surrounding road network.</p>
Arts and Culture	<p>The Arts and Culture Study will review existing cultural assets, history, and features within the Precinct, based on a site inspection, documentary research and reference to existing cultural and creative studies for the area.</p> <p>The Study will review existing arts and culture events and programs in the area and identify the future location and type of public art to be installed.</p> <p>The Study will follow the City of Sydney’s Public Art Strategy, Public Art Policy, Guidelines for Public Art in Private Developments and other relevant guidelines.</p>
Planning	<p>The Planning Study will consolidate all of the various studies into a State Significant Precinct Study report that addresses the Study Requirements for the Precinct issued by the Minister for Planning, including the rationale for investigating the renewal of the Precinct and analysis of opportunities, constraints and planning issues arising through each of the various specialist studies.</p> <p>The Planning Study will include the vision, strategic context and justification for the proposed redevelopment of the Precinct, taking into account all of the planning documents identified in the Study Requirements, under the following categories:</p> <ul style="list-style-type: none"> <li>• State planning documents,</li> <li>• State Environmental Planning Policies,</li> <li>• Transport for NSW strategies and reports,</li> <li>• City of Sydney planning documents, strategies and policies,</li> <li>• Other relevant strategies, reports, policies and guidelines</li> <li>• The Greater Sydney Commission’s draft Central District Plan</li> <li>• The Sydney Metro project.</li> </ul>
Urban Design	<p>The Urban Design Study will consolidate the findings of all the other technical studies into a single document describing the physical constraints, as well as all environmental, economic, social and cultural factors likely to influence design and planning. It will include separate maps and 3D physical and computer models describing the opportunities and constraints of the Precinct, grouped into logical themes and issues.</p>

Study	Scope
	The Study will also document best practice case studies of similar projects, and identify relevant urban design principles applicable to the Precinct and preliminary land use and building massing options.

**Place Making** is an additional study that will be undertaken and is not a prerequisite as part of the Study Requirements for the SSP plan.

The Place Making Study will consider the social, economic, environmental and cultural elements of the local area in the context of all the other technical studies to guide the delivery of unique, safe, inclusive, attractive and authentic places for the community.

The Place Making Strategy will aim to guide future development so it helps create a strong sense of place that supports a culturally rich thriving community.

It will involve review of relevant state and local planning policies, local and international trends and best practice in place making and a comparative analysis of several local and international examples of similar type and scale of development, including urban renewal of socially integrated housing development with new transport infrastructure.