



Study Requirements for Cherrybrook Station Government Land

State Significant Precinct

April 2020

DRAFT



Figure 1 - Cherrybrook Station – eastern entrance

April 2020

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Introduction

Sydney Metro Northwest

Sydney Metro is Australia's largest public transport infrastructure project. In May 2019, Northwest Metro was opened, including eight new stations and supporting precinct infrastructure between Epping Station and Tallawong Station, and the conversion of the Epping to Chatswood rail link to metro services.

In September 2013, the Department finalised the Northwest Rail Link Corridor Strategy for lands surrounding each proposed station on the rail link. The strategy set a framework to create new vibrant, mixed use centres within walking distance of the metro stations with an estimated 28,000 new dwellings. The Corridor Strategy has informed more detailed precinct planning for each station.

Transport for New South Wales (TfNSW) has formally entered into a Program Development Agreement with Landcom to facilitate the staged development and disposal of the 65 hectares of TfNSW owned land around the SMNW stations, which includes the government land at the Cherrybrook Station.

Cherrybrook Station

Cherrybrook Station was opened in May 2019 as part of the opening of the Sydney Metro Northwest. It features the following transport interchange facilities: bicycle parking for 45 bikes; new bus stops on Bradfield Parade; 14 new kiss and ride space; four new taxi ranks and a 400-space commuter car park.

Cherrybrook Station State Significant Precinct General Process

The government land site at Cherrybrook Station (**Figure 2**) was nominated as a State Significant Precinct (SSP) by the Minister for Planning and Public Spaces on 21 December 2019. This provides a State led approach to the rezoning, with Landcom as the applicant to undertake the planning investigations on behalf of the landowner Sydney Metro and the determination of the subsequent zoning controls to be made by the Minister.

One of the initial steps (which is the subject of this document) in the SSP process is for the anticipated study requirements to be drafted and for Council and other relevant agencies to provide comment before these are finalised and issued to Landcom to guide the scopes of the required technical studies.

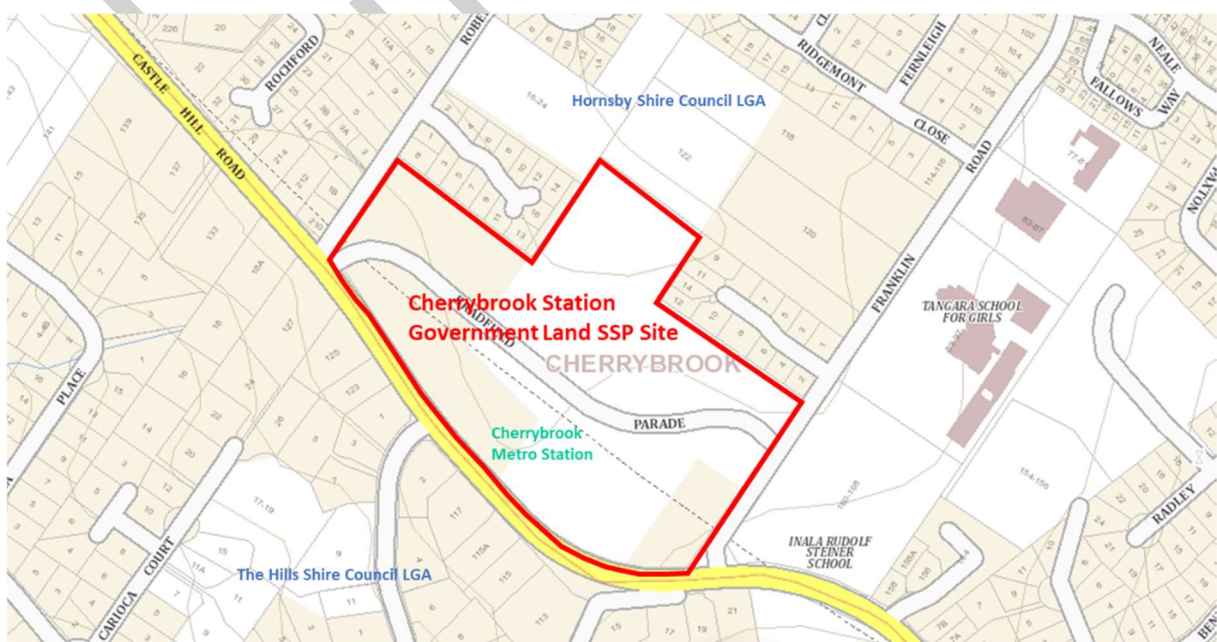


Figure 2 – Map of Cherrybrook Station Government Land SSP Site (outlined in red)

State Significant Precinct (SSP) Site

The SSP site is 7.7 hectares in area (**Figure 3**) and includes Cherrybrook Metro Station, commuter carpark and new station access road (Bradfield Parade) and vacant land to the east of the station, used during construction of the station. The site is bound by Castle Hill Road (south), Franklin Road (south east) and Robert Road (north west). The vacant land in the eastern section of the site (Figure 3), referred to as the Developable Government Land (DGL).



Figure 3 – Cherrybrook Station Government Land SSP Site (Source: Landcom)

Purpose of State Significant Precinct Study

To undertake planning investigations for the proposed rezoning of the government land at the Cherrybrook Station, to:

- Facilitate a mixed-use local centre at Cherrybrook Station that supports the function of the station and the needs of the local community.
- Deliver public benefit through a mixed use local centre including:
 - High quality new open spaces, public domain, community facilities and local retail that supports the needs of the future community.
 - A range of housing types (including affordable housing) within the town centre that will be highly accessible to the metro station, social infrastructure and retail facilities.
 - To facilitate transit orientated development enabling people to live and work close to public transport and to activate and capitalize on the city shaping Sydney Metro project.
 - Investigate the movement, access and transport infrastructure requirements from the broader precinct to and from the Cherrybrook Station.
 - A place based planning outcome that reinforces the local character.
- Demonstrate the suitability of the site for the proposed land uses.

- Integrate the plans for the mixed use local centre for the government land with the surrounding precinct.
- Prepare a new planning framework for the site to achieve the above objectives.

Previous Planning Investigations

In late 2015, UrbanGrowth NSW (now Landcom) began planning investigations in collaboration with Hornsby Shire Council and The Hills Shire Council for the rezoning of the government land at Cherrybrook Station and wider precinct planning for the Cherrybrook Station Precinct. A range of technical studies were progressed through this process, although were never completed and remain as draft working documents.

Landcom may be able to utilise some information from these studies to assist in satisfying the study requirements for the SSP submission. However, the information from the existing studies will likely require updating to address these study requirements.

Applicant

Landcom on behalf of partner and the landowner Sydney Metro.

Date of Issue (Draft)

20 April 2020

Scope of SSP Study

The following general issues will be considered and assessed as part of the SSP 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, education, 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;
- Integration with and relationship with the surrounding precinct;
- Means by which developer contributions should be secured for the site;
- Recommended land uses and development controls for the site; and
- Staging strategy for the government land site.
- Determine the Place Agenda for the Government land and how to achieve this site, including the considerations of the District Plan and Local Strategic Planning Statements.

Key Study Requirements

The study requirements for the SSP site have been prepared in consultation with Hornsby Shire Council and The Hills Shire Council, with input from Transport for New South Wales.

The Study must address the following key requirements:

1 Vision, Strategic Context and Justification

- 1.1 Informed by the vision for the precinct as set out in the 2013 North West Rail Link Corridor Strategy, prepare a draft vision, principles and master plan options for the SSP site, including consideration of adjacent sites, for review by the Project Review Panel Meeting.
- 1.2 Outline the strategic planning context for the proposal including an assessment of relevant State planning documents, State Environmental Planning Policies and consideration of local planning documents, including Hornsby Local Environmental Plan 2013 (refer to Appendix 1).
- 1.3 Consider what is required to achieve the desired outcomes, considering for example: built form typologies, density, layout and connectivity of different land uses including the open space Green Grid.
- 1.4 Prepare final place-based vision, principles and master plan for the SSP site following feedback from Project Review Panel.

2 Urban Design

- 2.1 Prepare a detailed site and context analysis with opportunities and constraints mapping for the SSP site, including adjacent sites.
- 2.2 Prepare a set of urban design principles that underpin future development of the SSP site.
- 2.3 Investigate development options for the site and use these to demonstrate the process for selecting the preferred option. Each option needs to identify the development statistics that are produced from them to understand the development capacity that is being achieved so the outcomes in relation to yield, GFA, population, etc can be clearly understood.
- 2.4 Preferred option selected based on feedback from the Project Review Panel Meeting.
- 2.5 Prepare a series of plans, including site plans, massing diagrams, shadow analysis and sections, showing the proposed development of the site, including land use, building heights and footprints, public domain, infrastructure and community facilities.
- 2.6 Provide an analysis of the proposed distribution of gross floor area, development yields, building typologies, building envelopes and heights across the site, and population, this information should be used to demonstrate that the proposed rezoning and planning controls have the capability to enable future development applications to comply with the Apartment Design Guide.

- 2.7 Provide a view and visual assessment, with particular focus on significant view lines (e.g. local and district views looking up and down the valley from and towards West Pennant Hills), as well as visual impacts and mitigation measures of the proposal on surrounding areas, such as adjoining residential areas, heritage items (eg. Inala and Glenhope), public open space, and existing tree canopy/character. Use eye level views from public parks, street footpaths, station entries and compare to existing views. identify any mitigation measures. Provide a map identifying all chosen views and agree on additional view lines with the Department.
- 2.8 Provide a shadow and sun access (at the winter solstice) analysis both within the site, addressing open space/public domain and dwellings, and on adjoining land. This analysis must consider open space/public domain and existing adjoining private and public open space.
- 2.9 Provide an analysis of proposed distribution of gross floor area, development yields, building typologies, building envelopes and heights. The use of a development statistics spreadsheet is required.
- 2.10 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.
- 2.11 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 open space/public domain. The raw files need to be supplied to DPIE for ongoing use.
- 2.12 Outline draft controls with a building by building envelope 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.
- 2.13 Demonstrate how other elements of this study have shaped the urban design layout, building typologies, bulk and height and the public domain and open space eg. response to ecologically sustainable development, wind, flooding, transport, traffic and pedestrian accessibility, noise, and air pollution issues.
- 2.14 Demonstrate how the proposal's urban design layout, building heights, building typologies, street blocks, public domain and open space of the SSP site responds to the overarching vision for the precinct as set out in the 2013 North West Rail Link Corridor Strategy. This should also consider the community feedback from previous community consultation including Cherrybrook Station Town Centre Community Workshops Report, KJA (2018), Placescore, NSW Planning & Environment Cherrybrook Priority Precinct, Community Insights (2017) and Cherrybrook Station Precinct Consultation Update (2017).
- 2.15 Demonstrate how the proposal will integrate and transition with adjacent land and the surrounding precinct regarding existing and intended urban form and character for the SSP site and surrounding precinct. This includes but is not limited to the integration and impact of the built form/building envelopes height, scale, spatial layout, building typology, public domain and road connections, open space and pedestrian/cycle linkages.

3 Public Domain and Open Space

- 3.1 Provide a Public Domain Plan identifying proposed public spaces, open space (passive and active), cycle/pedestrian 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.
- 3.2 Provide a framework for long-term provision of public domain open space, streets and public access. The framework must demonstrate how the following considerations can be addressed in the future:
 - How accessibility to any new open space and public domain is maximised by surrounding street interfaces, pedestrian/cycle access, connectivity with existing streets and cul-de-sacs and location in relation to slope/accessibility;
 - 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 of residents for the SSP site and for the precinct growth (with precinct numbers for the purposes of this study to be confirmed by the Department and workers and type of users);
 - How the location in relation to existing parks optimises use for the surrounding community;

- How the public domain, open space and streetscape in association with the urban design framework and ground floor activation contribute to the placemaking opportunities for the local centre; and
 - How the public domain and open space network contribute to a green grid and green infrastructure network.
- 3.3 Provide a Water Sensitive Urban Design (WSUD) strategy that integrates with the flood study, the public domain, public open space and private open spaces, and show any measures on plans and sections.
- 3.4 Demonstrate how the public domain and open space 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.
- 3.5 Demonstrate how the proposal contributes to and meets the Premiers Priority to “Increase the proportion of homes in urban areas within 10 minutes’ walk of quality green, open and public space by 10 per cent by 2023”.
- 3.6 Demonstrate how the proposal will provide suitable pedestrian and cycle access links from and into the SSP site for the proposed residents to external recreational facilities and open space networks and for the wider neighbourhood to access the open space within the SSP site. This includes creating and improving connections from the SSP site to the surrounding streets and to consider the wider existing and proposed pedestrian and cycle access network as indicated in the relevant Hills Shire and Hornsby Shire Council plans and state plans.
- 3.7 Demonstrate how the proposal maximises opportunities to create and extend green linkages to existing surrounding and local bushland and endangered community corridors and reserves and explore opportunities to extend linkages to regional and metropolitan green corridors such as the Green Grid. (refer North District Plan p.109).

4 Urban Forest

- 4.1 Preparation of a Tree Canopy Audit for the site and adjoining streets, including documentation of tree canopy calculations:
- by location typology (e.g. private land, open space, street trees);
 - by classification (i.e. exotic, native, indigenous, endangered community); and
 - by generalised age of trees, generalised state of senescence and generalised life expectancy;
 - Identification and mapping of any significant trees and heritage listed trees as nominated by Hornsby Shire and the Hills Shire Councils.
 - Mapping, graphic and written presentation of tree canopy coverage documentation, analysis, percentages and results.
- In preparation of the Tree Canopy Audit, consider the information prepared in the Cherrybrook Station Precinct Urban Tree Canopy Audit, Ecological Australia (2018).
- 4.1 Coordinate outcomes of the Public Domain/Open Space Design, Urban Design, Utilities (ensuring new utilities are undergrounded), Wind (ensuring that trees are not expected to be the primary wind mitigation mechanism) of this study.
- 4.2 Provide an indicative tree and planting strategy across the site, accounting for biodiversity and habitat considerations including:
- a tree sensitive public domain/open space and that protects existing site and adjacent trees, and allows for the growth of new trees;
 - subject locations, species selection/siting that maximises solar access during winter and shade during summer; and,
 - sufficient soil volumes and quality are provided for long term tree health.
- 4.3 Demonstrate how the proposal contributes to and meets the Premiers Priority to “Increase the tree canopy and green cover across Greater Sydney by planting one million trees by 2022”.
- 4.4 Demonstrate how the proposal addresses the NSW Government and Council policies, strategies, master plans, including: draft Greener Places, Hornsby Local Environmental Plan (2013), Hornsby Development Control Plan (2013), Vegetation Management and Restoration Plan, Hornsby Shire Council (2008) and Flora and Fauna Assessment Guidelines For Development Applications, Hornsby Shire Council (2006). If any policy/strategy is not complied with, demonstrate the implications 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.

5 Land Use and Planning Controls

- 5.1 Outline the proposed zoning and provide justification for the proposed mix and location of proposed land uses.
- 5.2 Provide draft zoning and planning controls to amend Hornsby LEP 2013 and Hornsby Development Control Plan 2013 including lot controls, setbacks, street activation, access etc.
- 5.3 Prepare draft development controls, in a form able to be integrated with the Hornsby Development Control Plan (2013), where additional controls are required to inform future development of the site, including where necessary: public domain, open space, street blocks, pedestrian/cycle connectivity, accessibility, car parking, driveway access crossings, building typologies, building envelopes or building heights/setbacks (ie. for street walls and upper storeys), active street frontages, street trees, deep soil locations for tree planting at a lot level, private open space, waste management, solar access, public art and heritage interpretation.
- 5.4 Justify the proposed development standards and explain the methodology adopted to ensure amenity standards, infrastructure provision objectives, high quality public domain/streetscape/open space, to ensure appropriate transitions to adjoining and surrounding residential areas, ecological areas and heritage items are achieved.

6 Housing

- 6.1 Undertake a housing needs and forecasting analysis for the precinct to identify the appropriate mix of dwelling types and sizes necessary to support a diverse, healthy and socially sustainable community.
- 6.2 Consider the need to increase housing diversity.
- 6.3 Demonstrate how the proposed planning controls will support the achievement of housing and development objectives.
- 6.4 Demonstrate how the proposal will meet NSW Government's commitment to delivering more Affordable Housing in 'A Plan for Growing Sydney', including the affordable rental housing target of 5-10% of new residential floorspace (North District Plan) particularly for government led urban renewal projects.

7 Aboriginal and Non-Aboriginal Heritage

- 7.1 Provide a desktop study for Indigenous and European Heritage (including previous studies commissioned by Landcom), that identifies and describes the heritage values that exist within and surrounding the site.
- 7.2 This should include a desktop review of the possible existence or record of any archaeological material and sites (both Indigenous and European) on or immediately adjacent to the SSP site that may require an archaeological assessment to be undertaken at future development stages.
- 7.3 Where Indigenous 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)**. It is advised to contact the Department Planning, Industry & Environment SSP before this consultation is planned. The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the study.
- 7.4 This study where applicable shall provide management recommendations and interpretation opportunities for any Indigenous and European heritage and archaeological sites, including development control provisions if required, to guide future development of the site to ensure any identified heritage significance is retained and enhanced.

8 Biodiversity

- 8.1 Identify and assess the key biodiversity attributes of the site and surrounds and document how these have been appropriately considered in the planning, rezoning and future development proposed for the site.
- 8.2 This should include the identification of threatened species, ecological communities and/or their habitat listed under the NSW Biodiversity Conservation Act (2016) and/ or the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
- 8.3 Consider the recommendations of the soon to be released Cumberland Plain Conservation Plan in relation to the vegetation on the government land site and the adjacent land.
- 8.4 Identify the requirements and approach to protecting the existing Blue Gum High Forest area adjacent to the north of the site and investigate opportunities for new pedestrian/cycle connection/s between the town centre and surrounding streets to the north east and north west that could be potentially be provided adjacent/to the outer edge of this Blue Gum High Forest area.

9 Traffic and Transport

Prepare a Traffic and Transport study for the site, including, but not limited to:

- 9.1 Review and liaison including:
 - Review of relevant State, regional and local planning policies and all relevant background documents.
 - Review of concept plans prepared and provide traffic, transport, access and parking design advice during design development phase, for all modes of transport.
 - Review of existing traffic and travel pattern data including Census, Journey-to-work data.
 - Liaison with Transport for NSW, including Transport Performance and Analytics (TPA), and other relevant stakeholders to review and update Strategic Travel Model (STM) and PTPM (by TPA) to reflect relevant modelling scenarios required for this assessment.
- 9.2 Collection of traffic and transport movement data (walking, cycling and traffic) at the following intersections near the SSP site (undertaken after the opening of the new metro station) on a typical Thursday:
 - Castle Hill Road / Robert Road (Bradfield Parade in early 2019)
 - Castle Hill Road / Franklin Road
 - Castle Hill Road / County Drive / Highs Road
 - Castle Hill Road / Edward Bennett Drive / Coonara Avenue
 - Castle Hill Road / Glenhope Road
 - Bradfield Parade / Robert Road
 - Bradfield Parade / Franklin Road
- 9.3 Review of existing traffic and transport conditions, including connectivity and accessibility to walking and cycling routes, public transport accessibility and intersection performance for a typical Thursday AM and PM peak hour.
- 9.4 Consideration and application of the Movement and Place objectives and general approaches as outlined in "Better Placed Aligning Movement and Place" by Government Architect NSW. This should be considered as part of the traffic study analysis and recommendations and the urban design work and should include informing the transport prioritization and the overall urban design framework for new street/s and public domain and recommendations for adjacent streets and intersections.
- 9.5 Preparation of a traffic and transport assessment for the SSP site, in accordance with TfNSW and RMS requirements and methodologies, including:
 - Assess site access and demonstrate connectivity to the surrounding road network, including consideration of the servicing and delivery requirements of the development.
 - Understand the surrounding walking and cycling networks and determine future demands.
 - Identify and propose walking and cycling network measures to improve access to and from the development as well as connecting to the surrounding area.
 - Consider appropriate Travel Demand Management measures to reduce vehicular trip generation of the SSP site.
 - Apply background growth scenarios from strategic modelling outputs to the surrounding road network and understand the without development transport demand scenarios for future years.
 - Determine net increase trip generation of the proposed development (based on the agreed development yield and trip generation rates).

- Distribution of the net trip generation to the surrounding road network based on the preferred access strategy and using the travel patterns derived from the strategic models.
 - Identify existing and proposed public transport services in the surrounding area.
 - Review the Cherrybrook Station Precinct Parking Strategy (undertaken by the Department) and liaise with relevant stakeholders to confirm appropriate parking provision for the SSP site.
 - Identify separate bicycle and car parking requirements to be applied to the development considering sustainable travel initiatives for the development.
 - Assess the road network using SIDRA (Version 8) for each identified intersection with and without the development, for existing and future scenarios during AM and PM peak hours according to modelling requirements (set out at 8.9-8.11 below).
 - Identify potential road network traffic impacts due to the development and non-development related traffic and recommend mitigation measures required to address the impacts.
- 9.6 Agree the core modelling assumptions such as trip generation, travel mode share, parking rates with all relevant stakeholders, prior to commencement of any future year traffic modelling.
- 9.7 Undertake the following traffic modelling requirements to provide an understanding of the impacts of the SSP site as well as any regional upgrades required to cater for the background traffic growth and local upgrades required to support the SSP site and that of the broader precinct growth:
- Existing traffic (based on survey data). SIDRA base models are to be calibrated / validated in accordance with RMS Traffic Modelling Guidelines and Chapter 2.6 of the SIDRA 8 User Guide.
 - Vehicle movements associated with Cherrybrook Station (kiss and ride, park and ride and bus movements).
 - General background traffic growth on the road network as a result of wider population and employment growth of the whole Sydney Metropolitan Area excluding the surrounding precinct (Cherrybrook Structure Plan area), IBM site and the SSP site. The background growth will be determined using outputs of PTPM model, to be run by TPA.
 - Traffic generated by the SSP site eg. 600-700 dwellings.
 - Traffic generated by proposals in vicinity of Cherrybrook Station including:
 - The surrounding precinct (2013 Cherrybrook Structure Plan area) – total of 3,200 additional dwellings (less estimated SSP site dwellings).
 - Note: the precinct dwelling total may change and require additional input to this modelling as a result of: 1) the precinct planning process, or 2) any planning proposals within the surrounding precinct that receive gateway determination approval or rezoning approval. ie. if they alter the surrounding precinct dwelling total.
 - o Mirvac IBM planning proposal – 600 additional dwellings
 - o potentially Cherrybrook Central (Toplace)
 - o and/or Grosvenor Place, with proposed dwelling yields.

10 Ecologically Sustainable Development

- 10.1 Provide a Sustainability Plan that identifies the key sustainable design opportunities for the design, construction and ongoing operation phases of the proposal and establishes a baseline and target for environmental footprint for waste, water and greenhouse emissions. This should include reference to the Green Star Communities tool, climate change adaptation and a methodology for implementation.

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 Northern District Plan 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 Local Infrastructure

- 12.1 Outline the community profile in social and cultural groups, age groups and time series format of the surrounding community.
- 12.2 Analyse the existing and currently planned local infrastructure within the SSP site.
- 12.3 Prepare an infrastructure needs analysis, working in close collaboration with Council that outlines the proposed local infrastructure, including recreation, open space (ie. both local/regional and active/passive), pedestrian/cycle connections and indoor community facilities required to meet the characteristics and needs of the future population of the SSP site.
- 12.4 Consult closely with Hornsby Shire Council and The Hills Shire Council to understand existing opportunities to integrate the local infrastructure needs for the SSP site with the existing and planned infrastructure network.
- 12.5 Outline how the proposal including the town centre infrastructure and planning responds to the infrastructure needs identified for the future SSP site population. This is to include the spatial planning and estimated costs of the related works and timing. This should include, subject to the priorities of the Council's, to plan for potential future expansion of certain SSP site infrastructure such as indoor community facilities, to potentially cater for the future growth of the surrounding precinct.
- 12.6 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.
- 12.7 Outline the scope and mechanism for local development contributions between the proponent and Hornsby Shire Council to fund the local infrastructure identified to meet the needs of the future population of the SSP site having regard to Council's existing contributions plans.
- 12.8 Outline the proposed ongoing responsibilities and maintenance of any proposed open space/connections, drainage reserves, and community facilities.
- 12.9 Outline details of any proposed arrangements with Council for public use of proposed community facilities.

13 State and Regional Infrastructure

- 13.1 In consultation with Council and the relevant government agencies, outline the impact of the proposal on State and regional infrastructure, including public transport, roads, hospitals, regional open spaces and schools. Identify additional infrastructure required to meet the needs of the future population of the SSP site, including the spatial planning, estimated costs (inclusive of land and capital) and timing of the works.
- 13.2 Outline the framework for State and regional and local infrastructure contributions including scope and delivery mechanism/s for development contributions.

14 Economic Analysis and Feasibility

- 14.1 Provide an analysis of the market demand for the commercial/retail components (by category and size) of the proposal.
- 14.2 Provide an analysis of the market demand for the residential component of the proposal, based on comparable locations (eg. areas adjacent to suburban railway stations) including demand for various unit types regarding bedroom numbers, floorspace and dwelling typologies.
- 14.3 Provide an economic assessment of the proposal, including the likely wider economic benefits in relation to employment, commercial and retail impacts.
- 14.4 Undertake a feasibility analysis of future development to contribute towards local, State and regional infrastructure.

15 Geotechnical and Contamination

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

16 Utilities

- 16.1 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 SSP site in addition to stormwater, drainage and sewer. The power utility requirements should be prepared by a suitably qualified (ASP) consultant.
- 16.2 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.

17 Water Quality Flooding and Stormwater

- 17.1 Provide a concept Stormwater Management Plan outlining the general stormwater management measures for the proposal, with particular emphasis on the relationship with the OSD system for Metro Station and Commuter Carpark stormwater, WSUD options and water quality in accordance with Hornsby Council's relevant policies.
- 17.2 Provide a preliminary Flood Risk Assessment, developed in consultation with Councils, identifying flooding behaviors for existing and developed scenarios as well as flood impacts on surrounding environments in post-development scenarios, in accordance with the relevant Council flood studies to outline the suitability of the land for proposed uses.
- 17.3 Provide preliminary assessment on recommended flood management measures including mitigation works, development controls and the most appropriate emergency response strategy to manage risk to life.

18 Noise, Vibration and Air Quality

- 18.1 Provide a preliminary noise, vibration impact and air quality assessment for the proposal. The assessment will address the relevant policies and guidelines including State Environmental Planning Policy (Infrastructure) 2007, Development Near Rail Corridors and Busy Roads – Interim Guideline, Assessing Vibration: A Technical Guideline (2006) and Policy and Guidelines for Noise and Vibration Generating Development, Hornsby Shire Council (2000).
- 18.2 Model and demonstrate that the proposal can meet the recommended noise, vibration and air quality standards and/ or appropriate mitigations measures can be achieved on the site. This includes any noise or air quality impacts potentially generated from the metro tunnel and open cut station.
- 18.3 Recommend appropriate noise and vibration and air quality measures. The consultant is expected to work with the urban designer, and suggested measures to be provided for the protection of future residents of buildings including through the careful siting and layout of the building envelopes whilst maintaining natural ventilation through open windows.

19 Wind

- 19.1 Consider and address potential wind impacts and amelioration approaches through the layout and arrangement of the public domain/open space and the proposed built form envelopes.

20 Bushfire

- 20.1 Address the bush fire protection measures in the publication Planning for Bushfire Protection (2006), avoiding the removal of native vegetation areas.
- 20.2 Ensure any Bushfire Asset Protection Zones can be located entirely within the site.

21 Consultation

- 21.1 Outline the proposed community consultation strategy to undertake an appropriate and justified level of consultation on the proposal with the community, landowners, Hornsby Shire Council, The Hills Shire Council, other relevant State and Federal government agencies, local Aboriginal community. Inala school and associated facilities, Tangara Catholic School and other community/interest group stakeholders, noting that the Councils should have a high level of involvement throughout the process.
- 21.2 Provide a summary of the outcomes of early community and stakeholder consultation, including examples, and how the outcomes have been incorporated into the proposal. This includes the consultation undertaken by the Department in 2017: Cherrybrook Station Town Centre Community Workshops Report, KJA (2018), Placescore, NSW Planning & Environment Cherrybrook Priority Precinct, Community Insights (2017) and Cherrybrook Station Precinct Consultation Update (2017).

Appendix 1 – State and Local Planning References

New South Wales Government References

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- NSW Climate Change Policy Framework, State of NSW and Office of Environment and Heritage (2016)
- Healthy Urban Development Checklist: A guide for health services when commenting on development policies, plans and proposals, NSW Government NSW Health (2010)
- Building Better Health Guidelines, NSW Health (2016)
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- Development Near Rail Corridors and Busy Roads – Interim Guideline, NSW Department of Planning (2008)
- Assessing Vibration: A Technical Guideline, NSW Department of Environment & Conservation (2006)
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- Cherrybrook Station Precinct Consultation Update (2017)
- Cherrybrook Station Precinct Urban Tree Canopy Audit, Ecological Australia (2018)
- Cherrybrook Station Precinct Parking Strategy (Final Draft) (2019)

State Environmental Planning Policies

- State Environmental Planning Policy - State Significant Precincts 2005
- 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
- State Environmental Planning Policy - Infrastructure 2007
- State Environmental Planning Policy - No 55 Remediation of Land

Local Planning Strategies and References

Hornsby Shire Council

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- Hornsby Shire Community Strategic Plan 2018-2028 (2018)
- Hornsby Local Environmental Plan (2013)
- Hornsby Development Control Plan (2013)
- Section 94 Development Contributions Plan 2014-2024, Hornsby Shire Council (2015)
- Housing Strategy, Hornsby Shire Council (2010)
- Affordable Housing Discussion Paper, Hornsby Council (2018)
- Ku-ring-gai & Hornsby Sub regional Employment Study (2018)
- Policy and Guidelines for Noise and Vibration Generating Development, Hornsby Shire Council (2000)
- Waste Minimisation & Management Guide, Hornsby Shire Council
- Vegetation Management and Restoration Plan, Hornsby Shire Council (2008)
- Flora and Fauna Assessment Guidelines for Development Applications, Hornsby Shire Council (2006)
- Hornsby Overland Flow Study (2010)
- Hornsby Flood Management Study
- Stormwater Management Policy, Hornsby Shire Council (2018)
- Water Sensitive Urban Design (WSUD) Reference Guidelines, Hornsby Shire Council (2015)
- Sustainable Water: Best Practices, Hornsby Shire Council (1997)
- Biodiversity Conservation Strategy, Hornsby Shire (2006)
- Hornsby Bike Plan Review for Hornsby Shire Council, Working Paper 2 – Draft Bicycle Strategy (2018)
- Bush Fire Risk Management Plan 2016-2021, Hornsby/Ku-ring-gai Bush For Management Committee (2016)
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The Hills Shire Council

- Hills Future 2036, Local Strategic Planning Statement, The Hills Shire Council, October 2019
- Review of The Hills Shire Council Bike Plan, The Hills Shire Council (2009)
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