SJB Planning

Department of Planning, Housing and Infrastructure
Locked Bag 5022
Parramatta NSW 2124

Attn: Jasmine Tranquille, Senior Planner

28 May 2025

Re: Submission to SSD-78996460 – 16-24 Lord Street & 21-27 Roseville Avenue, Roseville

Dear Jasmine,

We refer to State Significant Development (SSD) application No. SSD-78996460, which proposes a 9 storey residential development above a part 3, part 4 level basement (proposal) at the nine (9) existing properties at 16-24 Lord Street and 21-27 Roseville Avenue (site) and within the established Clanville Conservation Area (CCA).

The proposal has been lodged under State Environmental Planning Policy (Housing) 2021 ('Housing SEPP') transport oriented development (TOD) provisions and in addition seeks to rely on the in-fill affordable housing bonus provisions under the Housing SEPP.

SJB Planning has been engaged by the Eastside Roseville Action Group Inc. (ERAG) to review the proposal and prepare a submission. We act on behalf of ERAG and write to formally object to the proposal.

The detailed submission is attached to this letter, with a summary provided below:

— The proposal ignores, is entirely inconsistent with, and undermines, the publicly exhibited draft statutory planning controls contained in the TOD Preferred Alternative Scenario applying to the site and the CCA.

— The draft statutory planning controls contained within the TOD Preferred Alternative Scenario, prepared by Ku-ring-gai Council (Council) with the support of the Department of Planning Housing and Infrastructure (DPHI), were exhibited from 2 to 22 April 2025 and are anticipated to be approved by the Council and forwarded to DPHI in early June 2025. The draft statutory planning controls will amend the planning controls applying to the site and make the proposal prohibited development. Based on our assessment the application does not meet the requirements of Item 1 - Statutory Context of the Secretary's Environmental Assessment Requirements (SEARs) dated 14 January 2025.

— The proposal was lodged after the commencement of the public exhibition of the draft statutory planning controls, and as a result of ignoring of this publicly exhibited material, is flawed in considering compatibility of the proposal with the both the existing and desired future character of the precinct in which the site is located. The documentation submitted with the proposal avoids an assessment of this strategic planning issue which has resulted in an overestimation of cumulative impacts. DPHI should consider whether the application meets the requirements of Item 5 - Design Quality of the SEARs dated 14 January 2025.

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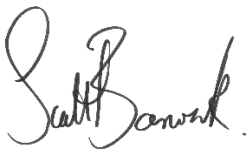
- Due to the excessive height, bulk and scale of the proposal, it will have an unacceptable visual impact on the character of the CCA, on the streetscape and directly on the adjoining properties. Based on our assessment the application does not meet the requirements of Item 5 - Design Quality, Item 6 - Built Form and Urban Design and Item 8 - Visual Impact of the SEARs dated 14 January 2025.
- The proposal will have an unacceptable heritage impact on the CCA and on the heritage items adjoining to the east at 29 Roseville Avenue and opposite at 22 Roseville Avenue. The Heritage Impact Statement (HIS) supporting the proposal has not adequately considered the significance of the established subdivision character, the resultant streetscape character and the pattern of built form and significant landscaping. We also refer to the separate Heritage Response prepared by Lisa Trueman Heritage Advisor on behalf of ERAG. Based on the assessment undertaken by Lisa Trueman, we raise concerns as to whether the proposal is consistent with the requirements of Item 22 – Environmental Heritage of the SEARs dated 14 January 2025.
- The proposal has not adequately considered the constraints of adjoining properties to the west and nearby arising from the existence of the Sydney Metro tunnel corridor traversing the land. This constraint may impact the scale of development notionally possible on land in East Roseville sitting above rail corridor protection reserves. There is also a question mark regarding the suitability of the site to accommodate the proposal due to its proximity to the Sydney Metro tunnel corridor and its impacts on land protected for the Metro tunnel.
- The documentation supporting the proposal does not appear to meet the requirements of Item 4 – Engagement of the SEARs dated 14 January 2025. A separate Community Engagement Review of the adequacies of the engagement undertaken, with particular reference to the *Undertaking Engagement Guidelines for State Significant Projects*, prepared by PlanCom Consulting is provided.
- For reasons relating to the above matters, and as discussed in more detail in the attached objection, the exceedance of the height of building development standard is unjustified. The applicant has failed to demonstrate that compliance with the development standard is unreasonable or unnecessary in the circumstances, or that there are sufficient environmental planning grounds to justify the contravention of the development standard.

Based on our review of the proposal, together with the separate heritage, survey and community consultation reports, we submit, on behalf of ERAG, that the proposal should be rejected.

Should you require any further information, please do not hesitate to contact myself on (02) 9380 9911 or by email at sbarwick@sjb.com.au.

Yours sincerely,



Scott Barwick
Director

Submission to SSD-78996460 - 16-24 Lord Street & 21-27 Roseville Avenue, Roseville

1. Strategic and Statutory Context of the Proposal

1.1 Housing SEPP TOD provisions

SSD-78996460 (proposal) seeks to rely on the TOD provisions introduced under Chapter 5 of the Housing SEPP in May 2024.

Under the TOD provisions, the previously existing statutory planning controls under Ku-ring-gai Local Environmental Plan 2015 (KLEP) were amended for land within 400m of Gordon, Killara, Lindfield and Roseville railway stations in the Ku-ring-gai local government area. The following TOD provisions apply to the site:

- Maximum height of buildings - 22m.
- Maximum floor space ratio (FSR) - 2.5:1.
- Development for the purpose of a residential flat building is permitted with consent in the R2 Low Density Residential zone.

1.2 TOD Alternate Preferred Scenario

With the agreement of the DPHI, the Council has explored alternative ways to accommodate new housing while preserving the area's valued heritage and environmental assets. The overriding objective of the Council's exploration has been to prepare more nuanced, considered and location-appropriate planning controls applying to the affected centres of Gordon, Killara, Lindfield and Roseville, rather than simply relying on the unilateral 400m radius.

The Council has undertaken a process of extensive consultation with DPHI to explore and exhibit alternative options, which principally seek to:

- Deliver at least the same dwelling capacity as that expressed under the TOD provisions as required by the mediation agreement in *Ku-ring-gai Council v State of New South Wales* in Land and Environment Court Proceedings 2024/00173748.
- Preserve the area's heritage significance and unique character.
- Protect existing environmental assets.

This Council work included developing four alternative housing scenarios which, along with the Housing SEPP TOD provisions, were publicly exhibited between 15 November and 17 December 2024.

The feedback from this 2024 exhibition process, together with a range of additional detailed urban design, technical and planning studies undertaken in late 2024 and early 2025, led to the Council developing and

adopting a TOD Alternate Preferred Scenario at the Council Meeting on 31 March 2025. The TOD Alternate Preferred Scenario, was, with the agreement of the DPHI, publicly exhibited from 2 to 22 April 2025.

Following public exhibition, and including consideration of community and land owner feedback, it is anticipated that the Council will approve and forward the amended TOD Alternate Preferred Scenario draft statutory planning controls to DPHI in early June 2025. The draft statutory planning controls, as they relate to the site, have not been amended compared to those that were publicly exhibited (i.e. the CCA including the site is proposed to be 'downzoned' to low density residential development).

The implementation of the TOD Alternate Preferred Scenario will require amendments to the KLEP as well as amendments to the Housing SEPP. It is intended that the KLEP and Housing SEPP amendments will be made by the Minister for Planning via a self-repealing SEPP.

This history and consideration of the draft statutory planning controls is relevant to the assessment and determination of the proposal.

The documents lodged with the proposal ignores the TOD Alternate Preferred Scenario, although the applicant appears to have been aware of the circumstances. Based on the documentation package forming part of the proposal, the applicant attended pre-lodgement briefing meetings with the Council's heritage and planning teams in February 2025 to discuss the proposal.

Page 10 of the applicant's Request for SEARs also acknowledges the "*scenarios proposed by Ku-ring-gai Council to deliver new housing supply around Roseville station include retaining TOD controls within heritage conservation areas.*" The applicant referred to Scenario 2b of the originally exhibited scenarios which were notified to the public in late 2024.

The environmental impact statement (EIS) submitted with the proposal was signed on 16 April 2025 (EIS page 1), 2 weeks after the commencement of the public exhibition of the TOD Alternate Preferred Scenario draft planning controls on 2 April 2025.

Based on both the applicant's pre-lodgement discussions with the Council and the community engagement outcomes identified in the proposal documentation, the applicant appears to have been aware of the exhibited draft planning controls but apparently elected to ignore these draft controls in the preparation of the EIS.

In our opinion this is a notable omission, particularly when considering the suitability of the site for the development, compatibility with the existing and desired future character of the precinct in which the development is located, as well as consideration of the public interest.

In addition, it appears that the applicant's documentation may not meet the requirements of Item 1 - Statutory Context of the SEARs issued on 14 January 2025.

1.3 Implications of the TOD Alternate Preferred Scenario

As detailed in section 1.2 above, the TOD Alternate Preferred Scenario seeks to remove the current core TOD provisions applicable to the CCA including the site, and adopt the following provisions:

- Maximum height of buildings - 9.5m.
- Maximum FSR - 0.3:1.
- Development for the purpose of a residential flat building prohibited in the R2 zone.

The site and its surrounds are located within the CCA (C32) under Schedule 5 of the KLEP. The site is also adjacent to two other heritage conservation areas.

Figure 1 shows that the exhibited TOD Alternate Preferred Scenario will exclude the majority of the CCA from TOD provisions, including the site.

Figure 1: Extract of Preferred Scenario Justification for TOD Areas Removed from Clanville Conservation Area (Source: Ku-ring-gai Council)

The exclusion of the CCA from the Housing SEPP TOD planning controls, and the inclusion in the TOD Alternate Preferred Scenario was informed by extensive justification within the exhibition including the Council's '*Preferred Scenario Justification for TOD Areas Removed and Added - Heritage Conservation Areas*'.

The CCA, inclusive of the site, was excluded in order to protect heritage character, to avoid fragmented or transitional development, and to ensure appropriate building heights.

The TOD Alternate Preferred Scenario will minimise development impacts in the CCA and continue to present opportunities for gradual height transitions towards the site and its surrounds. Additional dwelling capacity required to meet housing supply targets will be relocated to land proximate to the four stations.

The Council's endorsement of the TOD Alternate Preferred Scenario on 31 March 2025 also included a resolution to request DPHI that no SSD applications within the current TOD areas be saved. The reasoning set out in the Council's report in support of this is as follows:

- Significant inconsistencies with the TOD Alternate Preferred Scenario.
- Some SSD applications may be prejudicial to any alternate scenario that the Council may adopt.
- The TOD Alternate Preferred Scenario would be juxtaposed against out of scale development where there is a transition between different densities and housing typologies.

The proposal was specifically identified by Council officers as being inconsistent with the TOD Alternate Preferred Scenario in respect of its location, height and density.

The Council's nuanced, considered and place-based planning approach has been developed in close consultation with DPHI and has been the subject of refinement as a result of the community consultation process to provide certainty for landowners prior to its Ministerial approval. These factors and circumstances should be given considerable weight in the assessment and determination of the proposal.

2. Unacceptable impacts of development

The proposal will result in significant adverse and unacceptable impacts.

2.1 Site consolidation and associated excessive built form and scale

The proposal is for an extremely large, consolidated site of 9,370.9m² which is entirely out of character with the established subdivision character. This subdivision character remains generally intact and is reflected in the Plan of Roseville Station Estate dated 15 May 1896 (refer to Figure 2).

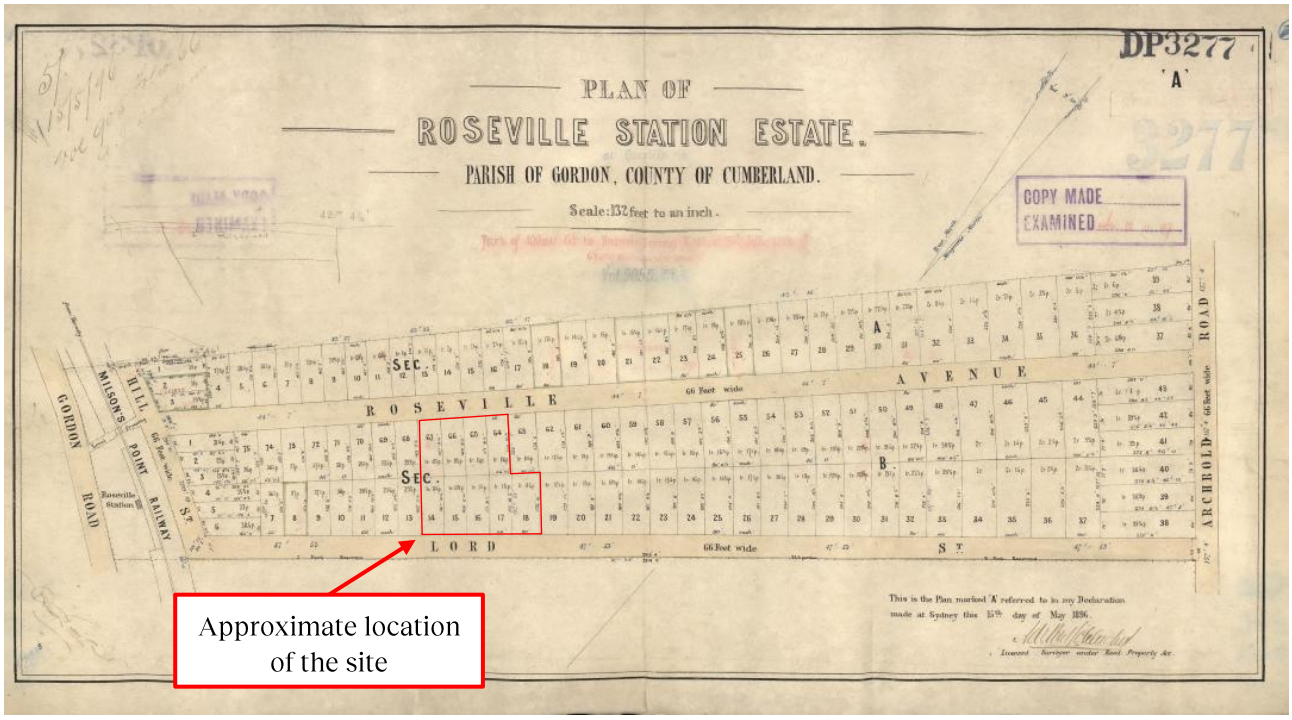


Figure 2: Extract of the Plan of Roseville Station Estate dated 15 May 1896

The southern frontage to Lord Street is approximately 98m, the northern frontage to Roseville Avenue is approximately 80m, and the depth of the site is between approximately 101m and 106m. Not only is the site extremely large, but the rectilinear dimensions facilitate a huge built form footprint, in the context of the locality.

Character and Direct Transition Impacts

The main consequence of the proposed site consolidation is that a building of extremely large width, depth and footprint will be accommodated.

At the Lord Street frontage, the width of the building is approximately 92m and will occupy approximately 94% of this enormously wide frontage. The proportion of the building to the Roseville Avenue frontage is approximately 86%, although there is a notable break in the northern building frontage to accommodate an existing Chinese elm tree.

The Council's exhibition of the TOD Alternate Preferred Scenario characterises transition impacts into two categories; 'character transition impacts' and 'direct transition impacts'.

The northern, southern and eastern street frontages present character transition impacts, whereby the visual character of the street will be negatively impacted due to the significant differences in building footprint, height and envelope along the street.

The HIS considers the proposal in respect of the Ku-ring-gai Development Control Plan 2024 and states the following at pages 117-118:

> *"The use of the podium element will visually break down the proposed bulk and lessen the visual effect on the streetscape. The upper levels would be recessed to further this effect. The façade projections of the building are undulating and avoid presenting to the streetscape as a singular monolithic mass."*

It is noted that DCPs do not apply to SSD however this heritage commentary remains relevant, nonetheless. Two recesses within the façade with a combined length of approximately 11.5m are provided along the Lord Street frontage, which does not support the applicant's argument that the podium breaks down the proposed bulk and reduces visual impact in the streetscape.

Direct transition impacts occur when there is no street separation between areas of increased height and neighbouring properties. These transitions present the most significant visual and amenity impacts.

The western podium interface of the proposed building footprint is approximately 88m in length and directly faces low density residential development adjoining to the west. At its upper levels, the western side of the building is approximately 83m in length (refer to Figure 3).

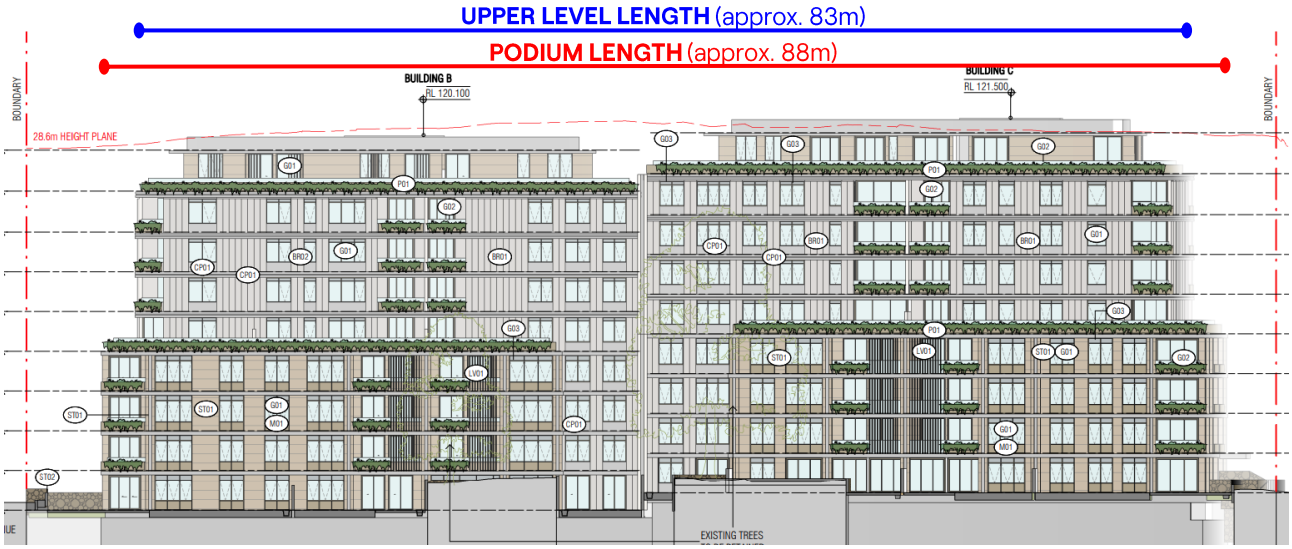


Figure 3: Extract of the West Elevation, Drawing No. SSDA-201 including SJB Planning mark-ups of building length (Source: FKA)

Along its 88m length, the western podium interface presents a minor 3m recess in the centre of the site. This minor element is unlikely to be able to be "read" from the properties and dwellings adjoining directly to the west as they are situated adjacent to the northern and southern portions of the building, not the centre (refer to Figure 4). The western elevation of the upper levels above the podium provides no additional recess other than the 3m upper level setback.

The western elevation presents as an eight storey wall, with inadequate breaking down or separation of the horizontal form to provide visual relief for properties to the west. The footprint also follows the consolidated western boundary at an obtuse angle (less than 180^0) which will contribute to an even higher sense of enclosure for adjoining properties.

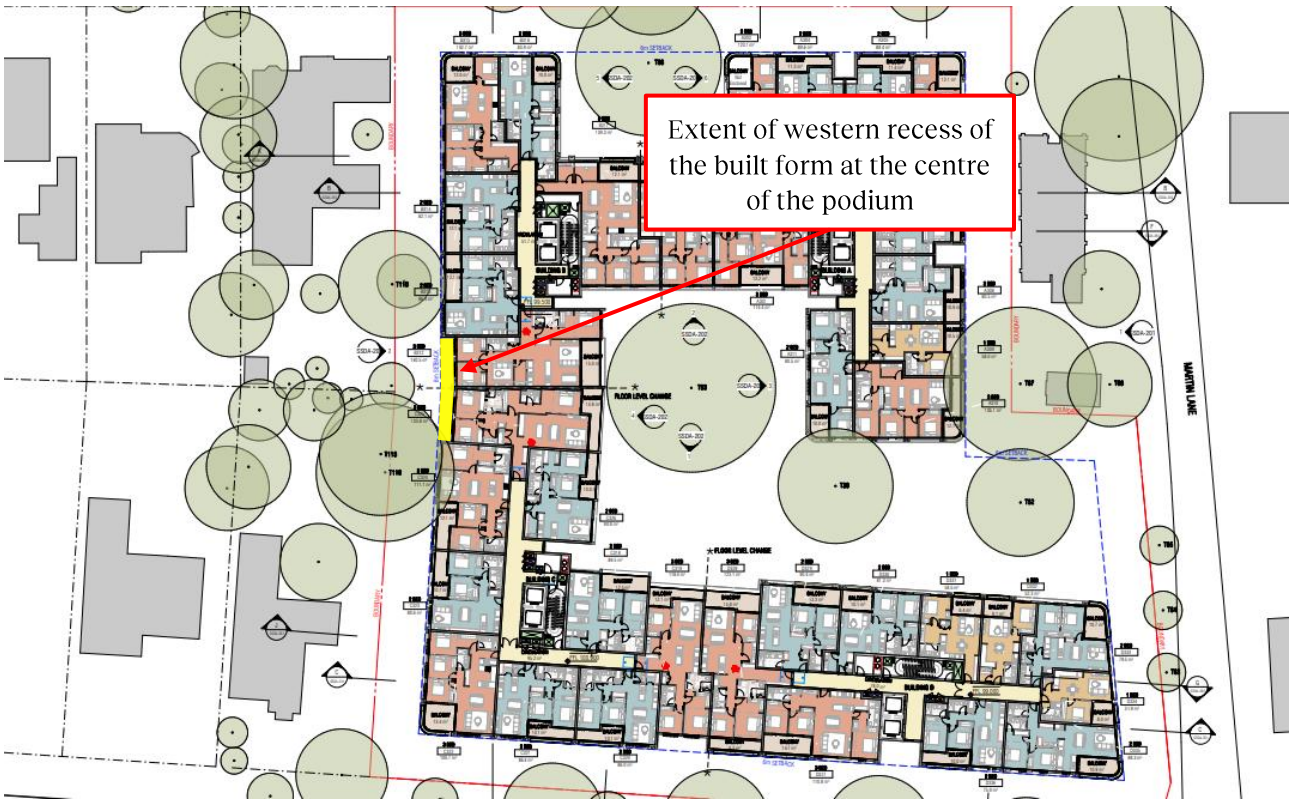


Figure 4: Extract of the Level 3 Plan, Drawing No. SSDA-103 including SJB Planning mark-ups (Source: FKA)

The proposed nine storey building will have detrimental and irreversible direct transition impacts adjoining detached dwellings to the west. These dwellings to the west sit above the Sydney Metro tunnel protection reserves and may be unlikely to be able to be substantially redeveloped, as detailed in sections 1.3 and 3.1 of this submission.

The proposal will be inconsistent with the following relevant aims of the ADG:

Part 2C Building Height

— Building height controls ensure development responds to the desired future scale and character of the street and local area

— Building height controls consider the height of existing buildings that are unlikely to change (for example a heritage item or strata subdivided building)

Part 2D Floor Space Ratio

— Ensure that development aligns with the optimum capacity of the site and the desired density of the local area

Part 2E Building Depth

— Ensure that the bulk of the development relates to the scale of the desired future context

Part 2F Building Separation

— Ensure that new development is scaled to support the desired future character with appropriate massing and spaces between buildings

Part 2H Side and Rear Setbacks

- Retain or create a rhythm or pattern of spaces between buildings that define and add character to the streetscape
- Achieve setbacks that maximise deep soil areas, retain existing landscaping and support mature vegetation consolidated across sites
- Manage a transition between sites or areas with different development controls such as height and land use.

2.2 Unacceptable and unjustified building height

Measuring building height

Sections 18 and 155 of the Housing SEPP identify the applicable maximum height of buildings development standard of 28.6m for the proposed development, which includes a maximum potential 30% affordable housing bonus on top of the 22m maximum height for residential flat buildings in a TOD area. This potential maximum is not a given, and bonuses may may not be achieved on all sites due to site constraints and local impacts. The DPHI Practice Note of December 2023 "*In-fill affordable housing*" makes it clear at page 12 that:

> *"The full extent of the in-fill affordable housing bonuses should not be treated as an entitlement."*

Noting that the height bonus is not an entitlement, there is also a question regarding the methodology used within the Clause 4.6 Variation Request to determine ground level (existing). The approach taken in the applicant's requests that seeks to go even higher again than the 30% bonus, does not appear to be consistent with the accepted approach in circumstances where surveyed reduced levels (RLs) are available and able to be relied upon. Surveyed RLs are provided in Appendix G to the EIS.

The applicant has used the approach adopted in *Tony Legge v Council of the City of Sydney [2016] NSWLEC 1424 (Legge)* to determine ground level (existing) as part of the written request to vary the height of buildings development standard as part of the SSD application.

The written request states at page 16:

> *"In the case of Tony Legge v Council of the City of Sydney [2016] NSWLEC 1424, the Commissioner discerned that "it is appropriate to take the levels of the site at its interface with the public domain" and the importance of placing "the proposed building in its context, rather than relying on the present built form of any existing development on a site". "As such, the proposed development and the extruded height plane has taken the site levels at the lot interfaces with the public domain, rather than "stepping down" to reflect the existing pool depths. Further, the intention of the above definitions is to limit building heights above the existing ground or street level and not relate to any excavated depths. Therefore, the proposed development has been developed in accordance with the intentions of the definitions, and the height plane of 28.6m above the prevailing existing ground level has been adopted for the assessment of the application."*

We consider that by using this methodology, the written request is flawed in the following ways:

- The development to which *Legge* related was an existing four storey mixed use building with total site coverage. The building contained a direct interface at the public domain as it was built to all property boundaries.
- *Legge* [16] concurs with the approach taken in *Bettar v Council of the City of Sydney [2014] NSWLEC 1070 (Bettar)*, which only determined that in circumstances where the site is wholly built out, it is

appropriate to take the levels of the site at its interface with the public domain as the internal levels would be unknown.

- The subject site is not wholly built out. It is comprised of 9 properties containing detached dwellings, backyards, and swimming pools of varying depths where existing ground level can be easily identified via the available survey information.
- Unlike *Legge* or *Bettar*, natural ground levels at the subject site's interface with the public domain do not need to be extrapolated as natural ground levels within and across the site are readily known.

The most suitable, accurate and recent approach for the site has been established by *Merman Investments Pty Ltd v Woollahra Municipal Council [2021] NSWLEC 1582 (Merman).* This involves a combination of natural levels outside of existing building footprints as well as the excavated ground levels beneath existing buildings.

Merman [73] provides the following key points in respect of the definition of "*ground level (existing)*":

- The existing level of the site at a point beneath the existing building is the level of the land at that point; and
- The "*ground level (existing)*" within the footprint of the existing building is the extant excavated ground level on the site.

The applicant has not used the methodology established under *Merman* to inform the written request.

Merman [74] notes that prior excavation of a site within the footprint of the existing building can properly be described as an environmental planning ground within the meaning of clause 4.6(3)(b). However, this argument cannot be used as a means to incorrectly establish "*ground level (existing)*" as defined by the Standard Instrument - Principal Local Environmental Plan.

On this basis, the written request to vary the height of buildings development standard under the Housing SEPP may be flawed due to the methodology used to determine building height.

Lack of justification

The applicant is required to demonstrate that:

(a) compliance with the development standard is unreasonable or unnecessary in the circumstances, and
(b) there are sufficient environmental planning grounds to justify the contravention of the development standard.

For the reasons we state elsewhere in this submission regarding the excessive building height, bulk and scale, the applicant has failed to demonstrate that compliance with the standard is unreasonable or unnecessary or that there are sufficient environmental planning grounds to justify the contravention.

2.3 Unacceptable visual impact

A review of the Visual Impact Assessment (VIA) included with the proposal has been undertaken.

Viewpoint Selection

The VIA at page 7 states, "*Accessible locations that feature a prominent, direct and mostly unobstructed line of sight to the project are used to assess the visual impact of the Design Proposal.*" Figure 5 shows that of the thirteen viewpoints selected, four contained no existing or clear line of sight to the site.

Figure 5: Extracts of Viewpoints 4, 8, 10 and 13 which do not have an existing line of sight to the proposal (Source: Urbaine Design Group)

It is unclear whether these locations are of relevance and can be classified as 'key viewpoints' or important vistas in relation to the proposal. We note that Item 8 - Visual Impact of the SEARs requires analysis from key viewpoints. The presentation of viewpoints from either significant distances, locations where existing views are obstructed, or a combination of both, does not appear to represent an analysis of 'key viewpoints'.

Material provided by local residents also raises concern with:

- The consistency of the locations of Viewpoints 6 and 12 as identified on page 9 of the VIA with their existing photos and photomontages.
- The approach used to model existing and proposed vegetation on the proposed photomontages.
- The consistency of the visual impact summary contained in section 6.1.3.2 of the EIS in relation to the findings of the VIA for each viewpoint.

The balance of view selection contained within the VIA has reduced opportunities for the applicant to interrogate visual impacts where they are clearly most significant, particularly as it relates to the visual setting of surrounding heritage items.

Roseville Scout Hall Group - 29 Roseville Avenue

Of particular concern is the avoidance of a visual impact assessment in respect of the adjoining local heritage item described as the '*Roseville Scout Group Hall*', being Local Heritage Item No. I115 at 29 Roseville Avenue.

As it stands the Scout Group Hall building is seen in a low rise context with buildings of a similar scale and period of construction. The proposed elevational drawings (refer to Figures 6 and 7) demonstrate that the Scout Group Hall building will be viewed in relation to the northern and eastern podium facades of the proposed Building A and, to a lesser extent, the northern podium façade of Building D at its rear.

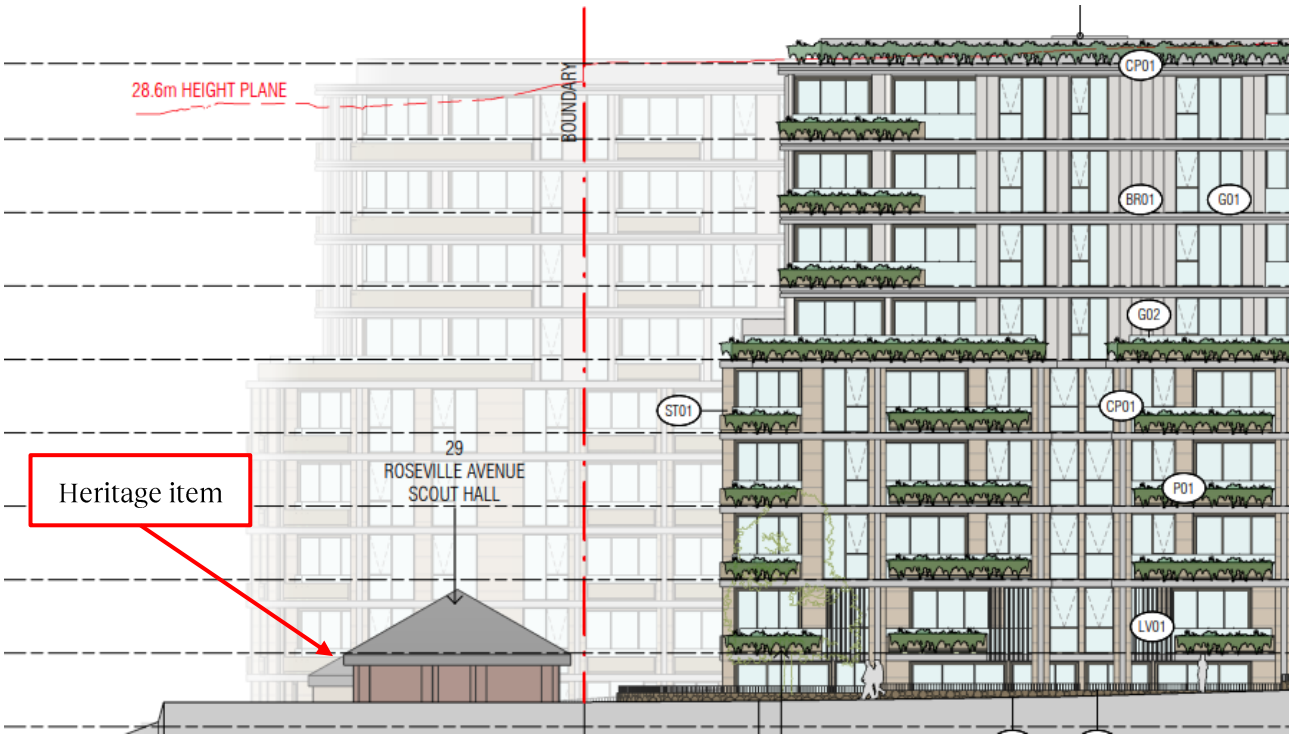


Figure 6: Extract of the North Elevation, Drawing No. SSDA-200 (Source: FKA)

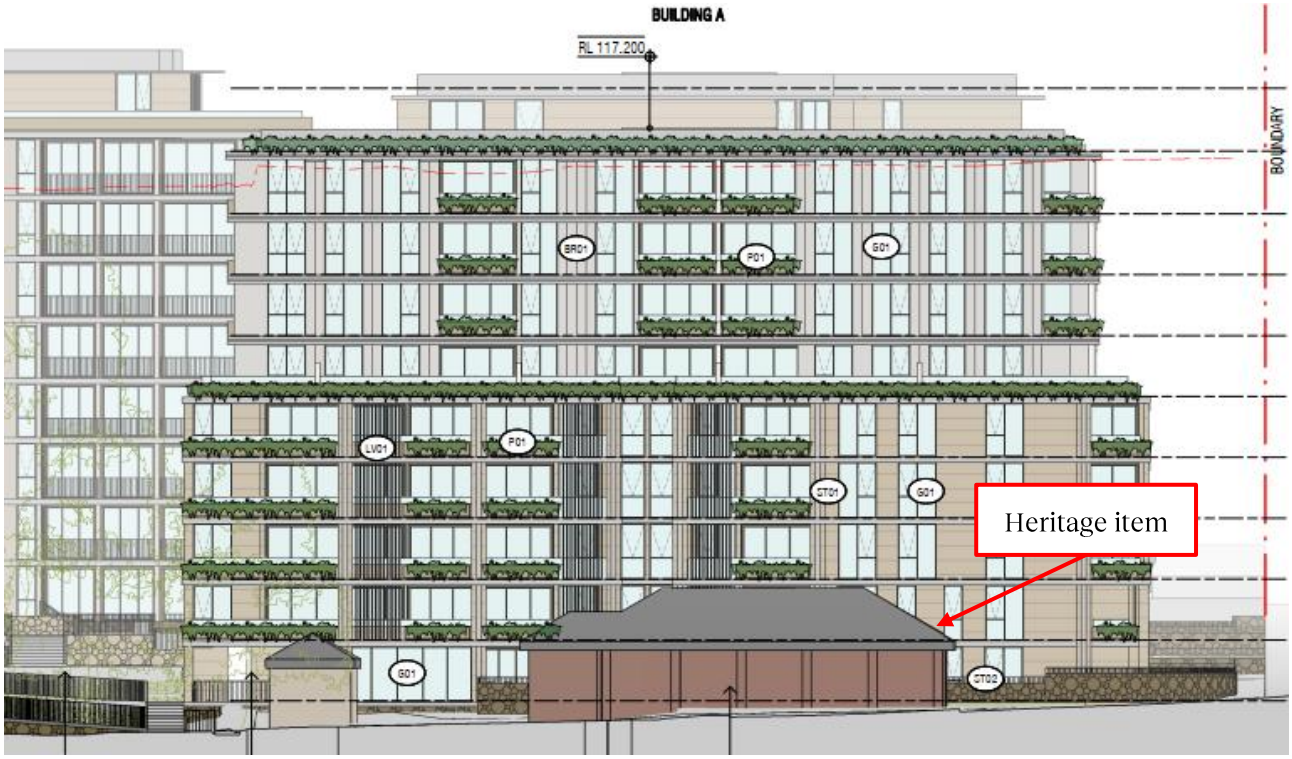


Figure 7: Extract of the East Elevation, Drawing No. SSDA-201 (Source: FKA)

Figure 8 shows the relationship of the adjoining heritage item to the proposed Building A.

Figure 8: Extract of the proposed photomontage (Viewpoint 5) showing a view looking west along Roseville Avenue (Source: Urbaine Design Group)

Whilst the visual impact from this location is assessed by the applicant as moderate-to-severe, the VIA does not consider or acknowledge the heritage significance of the existing Scout Hall building. The proposal from this viewpoint is deemed to be acceptable and reasonable on the basis that the existing low density residential context is not visually apparent and is concealed by street tree canopies and hedges.

The Scout Group Hall building can be clearly viewed from the public domain and surrounding properties, and an assessment has not been made of whether the heritage item will be negatively impacted. The VIA also fails to provide photomontages of the proposal when viewed from within the curtilage of this heritage item and therefore a complete assessment of visual impact is not provided.

The VIA has also failed to assess views obtained from the following heritage items in close proximity to the site:

- Local Item No. I106 - described as '*Dwelling house*' at 19 Lord Street.
- Local Item No. I689 - described as '*St Luke's Hall*' at 28 Lord Street.
- Local Item No. I697 - described as '*Dwelling house*' at 31 Roseville Avenue.
- Local Item No. I695 - described as '*Dwelling house*' at 22 Roseville Avenue.
- Local Item No. I114 - described as '*Dwelling house*' at 16 Roseville Avenue.

The proposal has inadequate regard for the assessment of heritage items and their visual setting within a low scale, suburban context.

The VIA avoids a genuine and higher level of interrogation in respect of the key viewpoints that were selected, especially as it relates to significant components of the CCA.

Additional Viewpoints Locations Required for a Complete Assessment

Based on the deficient analysis undertaken as part of the VIA, SJB Planning undertook a physical inspection of the site and significant components of the CCA, including surrounding heritage items and contributory buildings on 22 May 2025.

The below context map (refer to Figure 9) and photos identify additional viewpoint locations required to be included within an amended VIA to enable a complete and holistic assessment of the proposed visual impacts.

Additional Viewpoint I identified in blue outline below shows a private view obtained over the rear boundary a dwelling along Oliver Road to the north based on material provided by local residents. The visual impact assessment does not consider private views obtained from the viewing locations of surrounding dwellings.

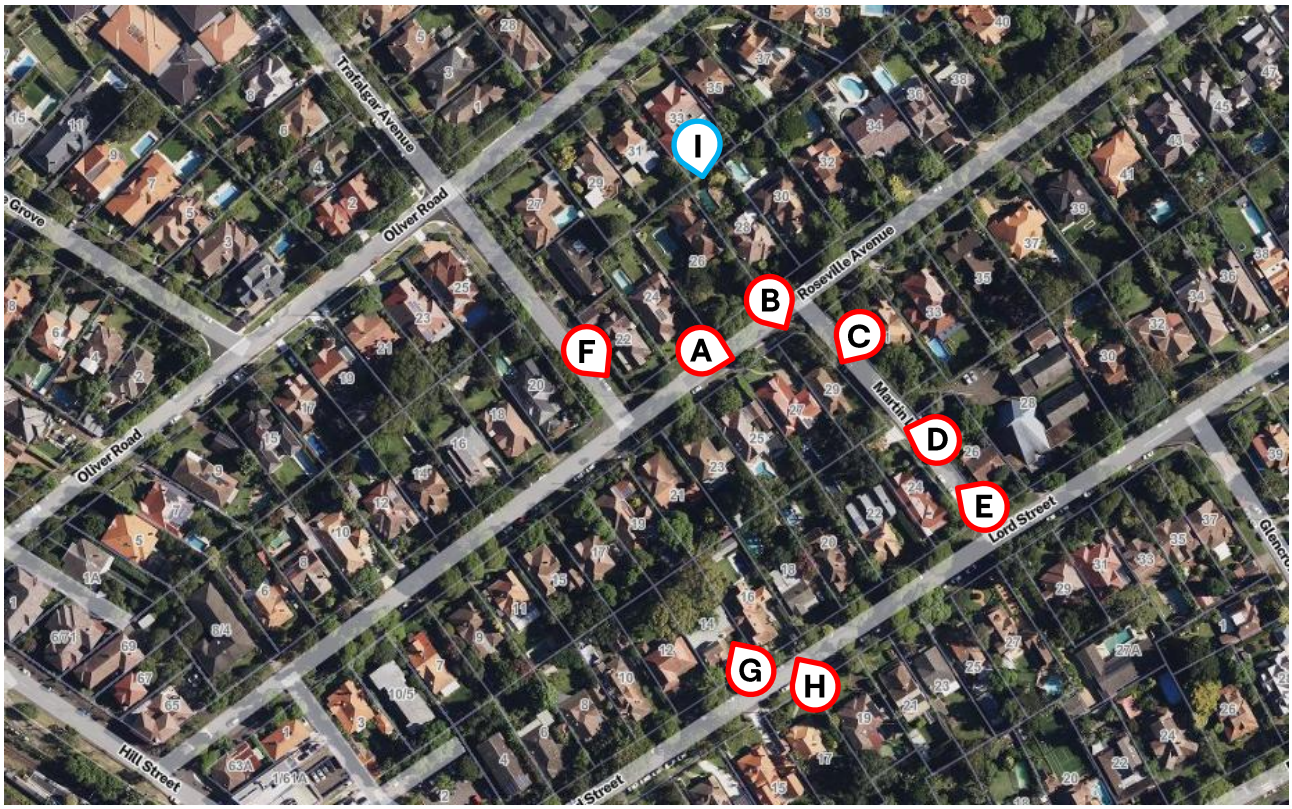


Figure 9: Aerial context map of additional viewpoint locations required to be assessed by the VIA following SJB Planning site inspection and ERAG material (in blue) including lettered references for contextual photos below

Additional Viewpoint A (refer to Figure 10) provides a sightline of the Scout Group Hall building heritage item through to the steel gabled roof of St Luke's Church Hall at 28 Lord Street, which is identified as Local Item No. I689.

Figure 10: View looking south-east from the northern footpath of Roseville Avenue (in front of 24 Roseville Avenue) towards the site, Roseville Scout Group Hall and the steel gabled roof of St Luke's Church Hall behind (Source: SJB Planning)

Additional Viewpoint B (refer to Figure 11) provides a front on view of the Scout Group Hall building from the public domain along Roseville Avenue. This viewpoint can be read in conjunction with the proposed North Elevation, Drawing No. SSDA-200 as shown in Figure 6.

Figure 11: View looking south-east from the northern footpath of Roseville Avenue (in front of 26 Roseville Avenue) towards the site and Roseville Scout Group Hall (Source: SJB Planning)

Additional Viewpoint C (refer to Figure 12) provides a side on view of the Scout Group Hall building from the public domain along Martin Lane in the context of surrounding contributory dwellings. This viewpoint provides a public domain view of the heritage item along its full length.

Figure 12: View looking south west from the eastern footpath of Martin Lane (next to heritage item at 31 Roseville Avenue) towards Roseville Scout Group Hall and the site behind (Source: SJB Planning)

Additional Viewpoint D (refer to Figure 13) shows the Scout Group Hall building from the public domain looking north-west along Martin Lane from Lord Street in context to surrounding contributory dwellings.

Figure 13: View looking north-west from the eastern side of Martin Lane (next to 26 Lord Street) towards the site, Roseville Scout Group Hall and dwellings on the northern side of Roseville Avenue (Source: SJB Planning)

Additional Viewpoint E (refer to Figure 14) shows the low density streetscape along Martin Lane at its intersections with Roseville Avenue and Lord Street. Partial views to the Scout Group Hall building are obtained from this location.

Figure 14: View looking north-northwest from eastern footpath of Martin Lane (next to 26 Lord Street) towards the site, Roseville Scout Group Hall and dwellings on the northern side of Roseville Avenue (Source: SJB Planning)

Additional Viewpoint F (refer to Figure 15) shows intersection of Trafalgar Avenue with Roseville Avenue when looking south. It provides a view of the existing low density residential context and also visual termination point for vehicles driving south along Trafalgar Avenue.

Figure 15: View looking south-east from the eastern footpath of Trafalgar Avenue (next to 22 Lord Street) towards the site (Source: SJB Planning)

Additional Viewpoint G (refer to Figure 16) shows the immediate boundary interface between the proposal on the right and the existing dwelling at 14 Lord Street, which is two storeys in height.

Figure 16: View looking north-west from the northern footpath of Lord Street towards the boundary interface between 14 Lord Street (left) and the site (Source: SJB Planning)

Additional Viewpoint H (refer to Figure 17) provides a public domain view of the boundary interface between the proposal at 16 Lord Street with the existing dwelling at 14 Lord Street.

We note that Viewpoint 2 of the VIA appears to provide a photomontage from a similar location, however the obstructed line of sight (i.e. a large blue car in the foreground of the reference photo) avoids showing the boundary relationship between these properties.

Figure 17: View looking north-west from the southern footpath of Lord Street (in front of 17 Lord Street) towards the boundary interface between 14 Lord Street (left) and the site (Source: SJB Planning)

Additional Viewpoint I (refer to Figure 18) shows a private view obtained over the rear boundary of the existing dwelling at 33 Oliver Road to the north based on material provided by local residents.

Section 2.3 of the VIA provides the following commentary in respect of viewpoints:

> *"In most instances, the view to the subject site will be from dynamic viewpoints - cars and pedestrians, which serves to further diminish the likelihood of excessive visual impact"*

The VIA has considered only a limited selection of views from dynamic viewpoints in the public domain. It is unclear how the assessment can determine that the likelihood of excessive visual impact will be diminished without a complete consideration of:

1. Significant viewpoints in the public domain in respect of heritage items and the CCA; and
2. Private views from surrounding dwellings.

Figure 18: View looking south from the rear verandah of 33 Oliver Road to the roof form of 26 Roseville Avenue and the site behind (Source: ERAG)

2.4 Compatibility and contextual fit under the Housing SEPP

Section 3.2 of this submission discusses the applicant's omission in acknowledging and assessing the desired future character of the area in light of the advanced progression of the Council's TOD Alternate Preferred Scenario.

The NSW Land and Environment Court includes a Planning Principle that addresses compatibility with context as detailed in *Project Venture Developments v Pittwater Council [2005] NSWLEC 191 (Project Venture)*. Relevant sections of the judgement are included below:

Planning principle: compatibility in the urban environment

> *"22 There are many dictionary definitions of compatible. The most apposite meaning in an urban design context is capable of existing together in harmony. Compatibility is thus different from sameness. It is generally accepted that buildings can exist together in harmony without having the same density, scale or appearance, though as the difference in these attributes increases, harmony is harder to achieve.*
>
> *23 It should be noted that compatibility between proposed and existing is not always desirable. There are situations where extreme differences in scale and appearance produce great urban design involving landmark buildings. There are situations where the planning controls envisage a change of character, in which case compatibility with the future character is more appropriate than with the existing. Finally, there are urban environments that are so unattractive that it is best not to reproduce them.*
>
> *24 Where compatibility between a building and its surroundings is desirable, its two major aspects are physical impact and visual impact. In order to test whether a proposal is compatible with its context, two questions should be asked.*
> - *Are the proposal's physical impacts on surrounding development acceptable? The physical impacts include constraints on the development potential of surrounding sites.*
> - *Is the proposal's appearance in harmony with the buildings around it and the character of the street?*
>
> *25 The physical impacts, such as noise, overlooking, overshadowing and constraining development potential, can be assessed with relative objectivity. In contrast, to decide whether or not a new building appears to be in harmony with its surroundings is a more subjective task. Analysing the existing context and then testing the proposal against it can, however, reduce the degree of subjectivity.*
>
> *30 Conservation areas are usually selected because they exhibit consistency of scale, style or material. In conservation areas, a higher level of similarity between the proposed and the existing is expected than elsewhere. The similarity may extend to architectural style expressed through roof form, fenestration and materials."*

The applicant's HIS at page 10 states:

> *"Given the subject site's proximity to the Roseville train station, and the effect of the TOD SEPP, the area's future character is expected to evolve significantly. As a result of these changes, it is acknowledged that heritage conservation areas and heritage items will exist in the future in the context of higher density development than what exists today."*
>
> (Emphasis is underlined)

The desired future character of the locality as reflected in the Council's TOD Alternate Preferred Scenario seeks to retain the following essential features of the locality that contribute to its existing character:

- Predominant low density residential built form comprising single and two storey detached dwellings.
- A regular subdivision pattern of rectangular lots comprising a uniform width (see Plan of Roseville Station Estate at Figure 2).
- Generous landscaping situated in the front and rear setbacks of dwellings.
- Heritage items within the visual setting of the streetscape and heritage conservation area.
- Consistent front and rear building lines (refer to Figure 19).

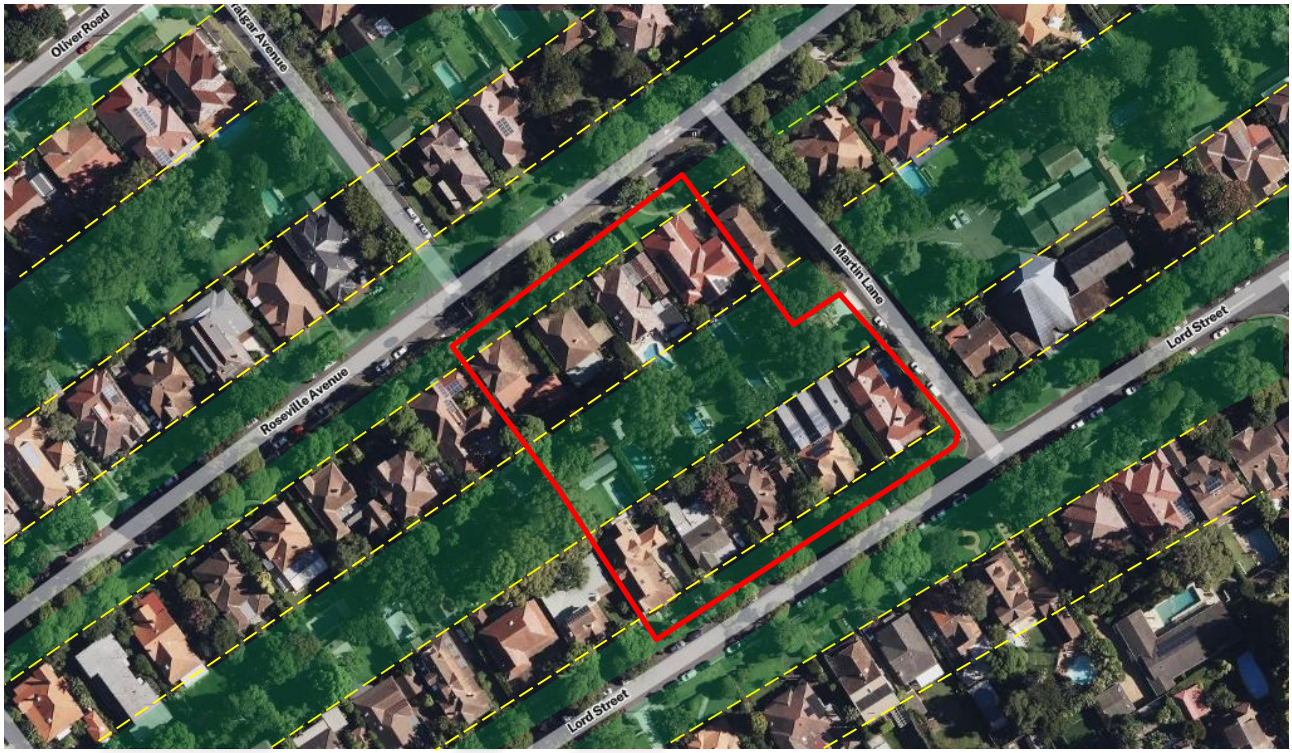


Figure 19: Aerial satellite view of the site (outlined in red) including SJB Planning mark-ups of essential elements of the locality including front and rear building lines (dashed in yellow) and front and rear landscaping (shaded in green) (Source: SDT Explorer)

The proposal acknowledges that there will be an effect on the setting of the CCA, surrounding heritage conservation areas, and the adjacent heritage item at 29 Roseville Avenue as a result of the massing of the building.

Planning justification in the applicant's assessment has framed the acceptability of the proposal in the context of broader uplift to fulfill the objectives of the TOD SEPP and housing targets, more broadly. This approach ignores consideration of the TOD Alternate Preferred Scenario, which determines that the site's location is inappropriate for uplift given the potential for adverse impacts on local character.

Project Venture applies a consistent framework for decision-making in relation to a proposal being compatible with surrounding development. This planning principle provides that in an urban design context, compatibility is 'capable of existing together in harmony'. Though buildings of different densities or scales can exist, harmony is harder to achieve as the difference in these attributes increases.

In the context of East Roseville, the proposal represents between a seven and eight storey difference in building height in relation to surrounding development, which is comprised of local heritage items and contributory buildings that are between one and two storeys in height.

The principles of *Project Venture* acknowledge that compatibility with the future character of an area is more appropriate than with the existing character where planning controls envisage such a change.

Again in this instance, the finalisation and implementation of the Council's TOD Alternate Preferred Scenario will inform the long-term, future desired character of the immediate area. This desired character will remain consistent with existing conditions and therefore should form a crucial consideration of the merits of the proposal demonstrating compatibility and a contextual fit.

Two questions should be asked in order to test whether a proposal is compatible with its context. These are discussed below in relation to the proposal:

1. ***Are the proposal's physical impacts on surrounding development acceptable? The physical impacts include constraints on the development potential of surrounding sites.***

The proposal will result in character and direct transition impacts to surrounding development. These impacts have been assessed by the applicant as acceptable in the scenario that the locality will benefit from broader uplifts that will evolve the future character of the area, however this will not be the case.

The development potential of surrounding sites within the CCA Area are either already constrained due to their heritage listing, or will be 'downzoned' back to existing KLEP provisions for low density residential accommodation following the repeal of TOD provisions in East Roseville, or in the case of some properties, are otherwise constrained due to the Sydney Metro tunnel affectation.

The proposal's physical impacts on surrounding development are unacceptable, will diminish the significance of the CCA and consequently the desired future character of the area.

2. ***Is the proposal's appearance in harmony with the buildings around it and the character of the street?***

The essential elements of the locality that will remain as a result of the Council's preferred scenario will be negatively impacted by the proposal. The following elements of the proposal cause disharmony with surrounding development and the streetscape when examining the established character:

- Significant building height with no transition between properties.
- Uncharacteristic building footprint resulting from site consolidation.
- Lack of consideration of heritage items within their setting of the CCA.
- Rhythm of building-to-void along the western boundary provides no visual relief.
- Retention of the existing Sydney Gum tree in the centre of the site will be enclosed by the podium and screened from both primary street frontages. While the tree is identified as to be retained, as addressed later in this submission, concerns are raised about the practicality of this being achieved in the current design.

- **Design requirements for in-fill affordable housing** - Section 20(3) states:

"(3) Development consent must not be granted to development under this division unless the consent authority has considered whether the design of the residential development is compatible with—

(a) the desirable elements of the character of the local area, or
(b) for precincts undergoing transition—the desired future character of the precinct."

— **Quality of the design of the development in accordance with the design principles for residential apartment development** - Section 147(1) states:

"(1) Development consent must not be granted to residential apartment development, and a development consent for residential apartment development must not be modified, unless the consent authority has considered the following—

(a) the quality of the design of the development, evaluated in accordance with the design principles for residential apartment development set out in Schedule 9,"

The in-fill affordable housing compatibility test and design principles for residential apartment development both require an examination into the desirable elements of the area's character in existing and future circumstances. Both matters also require a consideration of the context of areas identified for change or undergoing transition.

In response to the jurisdictional matters of the Housing SEPP that relate to the compatibility and contextual fit of the proposal within the locality, development consent should not be granted for the below reasons:

Section 20

— The development is not compatible with the desirable elements of the character of the local area.

— The precinct is not undergoing the extent of transition claimed by the applicant and may not evolve in line with TOD provisions and therefore the development will not be compatible with the desired future character.

Section 147

— The quality of the design of the residential apartment development is not satisfactory with regard to the design principles under Schedule 9 (see section 2.5 below).

2.5 Design quality

Design quality is a mandatory consideration in the determination of any development application.

Section 1.3(g) of the *Environmental Planning and Assessment (EP&A) Act 1979* identifies good design as an Object of the Act:

"(g) to promote good design and amenity of the built environment,"

Section 20 of the Housing SEPP, associated with infill affordable housing, requires that the development design must be compatible with the desired future character of the area. This jurisdictional requirement requires a detailed analysis of the likely future character, acknowledging all of the constraints that are likely to impact on, and in some cases, notably restrict, future development outcomes and associated urban character. These matters are discussed in detail within this submission.

Chapter 4, section 142 of the Housing SEPP associated with residential apartment development includes in the Aims:

"(b) to achieve better built form and aesthetics of buildings, streetscapes and public spaces,"

Section 147 of the Housing SEPP requires the consideration of the Schedule 9 design principles associated with residential apartment development.

In relation to the Design Principles, the following comments are provided:

- **1 Context and neighbourhood character** - the Architectural Design Report and the EIS do not adequately consider the location context, and in particular the construction restrictions and associated development constraints, rendered on adjoining and nearby land and the CCA as a whole. It is likely that the proposal will be an "island" site adjoined by development of much lower scale and density given these constraints. This is discussed in more detail in this submission.
- **2 Built form and scale** - for the reasons detailed above and elsewhere in this submission, the design will be an excessive scale, bulk and height within the location, and given the context and constraints. In particular the proposal will present an unacceptable bulk and scale and visual impact to the neighbouring properties to the west and other constrained land opposite in the streetscapes.
- **6 Amenity** - the scale of the development on the extremely large site will negatively influence the external amenity for neighbours, the streetscape and the location, particularly as it appears that it may present as an island site.
- **9 Aesthetics** - as mentioned above, the sheer scale of the extremely large site and associated excessive scale of the proposal will have an unacceptable visual impact within both the existing and likely future context.

Having reviewed the proposal and in turn considered the relevant provisions applicable in the assessment and determination of the proposal, we are of the opinion that the proposal does not exhibit good design within its context.

2.6 Heritage

Reference is made to the Heritage Response prepared by Lisa Trueman Heritage Advisor which is provided at Annexure A of this submission.

The response objects to the proposed development on heritage grounds based on the inadequacy of the HIS submitted with the EIS and the proposal's adverse heritage impacts.

Of relevance, the Heritage Response concludes that the HIS does not follow the appropriate guidelines for assessing heritage significance or heritage impacts, making reference to the *Guidelines for Preparing a Statement of Heritage Impact*. Based on the assessment undertaken, we raise concern as to whether the proposal is consistent with the requirements of Item 22 - Environmental Heritage of the SEARs, which requires that the HIS be provided in accordance with the relevant guidelines.

The Heritage Response provides the following key findings in respect of adverse heritage impact:

> *"The assessment of the impacts of the proposal contained in this report concludes that the proposed development will have a major adverse impact on the significance and character of the Clanville HCA, and the adjacent and nearby heritage items and HCA, due to:*
>
> - *The loss of 9 existing houses, and their garden settings, that individually and collectively contribute to the identified and endorsed significance of the Clanville HCA.*
> - *The impact of the scale, bulk, design, site amalgamation and landscaping of the proposed development on the significance, setting and character of the Clanville HCA.*
> - *The impact of the proposed development on the heritage listed Scout Hall immediately adjacent due to the scale, bulk, setbacks and design of the proposed development.*
> - *The impact of the proposed development on the setting of the many heritage items in the vicinity due to the scale, bulk, setbacks and design of the proposed development."*

3. Documentation Inadequacies

The documentation provided with the proposal is inadequate and inconsistent, as discussed below.

3.1 Assumptions regarding future development and future context

As detailed in section 1 of this submission, the EIS and associated documentation fail to address the existence and status of the TOD Alternate Preferred Scenario and the associated implications for the site and locality.

The documentation submitted with the proposal contextualises the development and its proposed scale, built form and density assuming a future context where the existing TOD provisions will continue to apply and where development consistent with the associated planning controls will occur. This scenario is visualised in the Architectural Design Statement as shown in Figure 20.

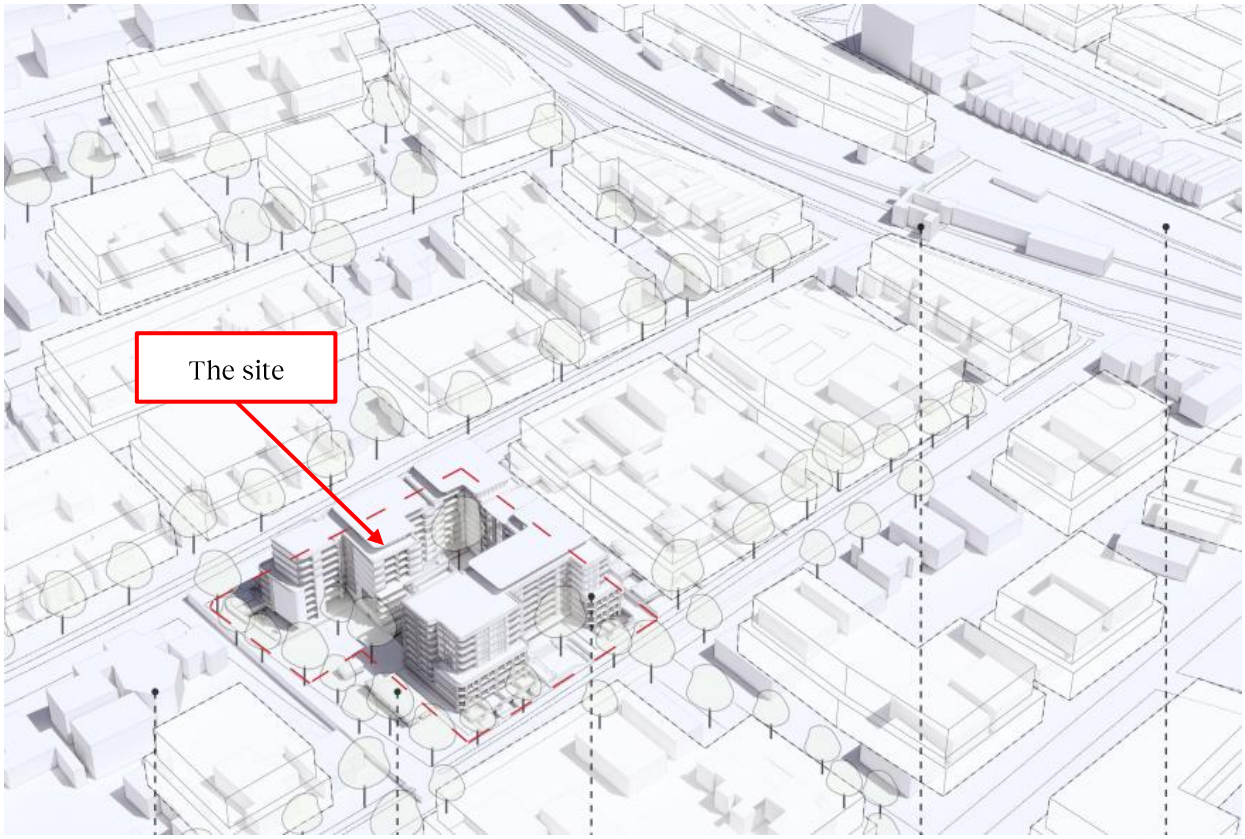


Figure 20: Extract of the Potential Development under Housing SEPP within the TOD Area Diagram (Source: FKA)

The proposal envisages a blanket uplift for the majority of the surrounding area that would result in the proliferation of residential flat buildings (potentially with in-fill affordable housing bonuses included) presented by the current planning provisions.

The applicant's assumptions regarding future context are deficient, given the existence of the well-advanced TOD Alternate Preferred Scenario that is likely to apply to the site, the immediate locality within the CCA, and heritage conservation areas adjacent to the CCA. Development for the purpose of a residential flat building will be prohibited. In addition, the assumptions regarding infill affordable housing under the Housing SEPP, as currently apply, will no longer apply, also impacting on assumed development outcomes.

Further comments regarding the character of the area are included below in this submission.

Cumulative Impact Assessment Guidelines

In addition to address the requirements of the SEARs when preparing an EIS, regard must also be given to the *State Significant Development Guidelines* (SSD Guidelines) per section 190(2) of the EP&A Regulation 2021.

The SSD Guidelines are supported by detailed guidance on strengthening the assessment of cumulative impacts, notably the *Cumulative Impact Assessment Guidelines for State Significant Projects* (CIA Guidelines).

Project-level cumulative impact assessment under the CIA Guidelines builds on the standard assessment of the existing environment to consider the impacts of a project in combination with other future projects that are "*anticipated or reasonably foreseeable.*" The Environmental Risk Assessment submitted with the proposal states that it addresses the potential cumulative impacts arising from other developments in the vicinity of the site.

The CIA Guidelines consider four types of assessment approaches identified in Figure 21.

	Type of assessment	Example
	Incremental types*	
1	**Incremental assessment:** this involves adding the incremental impacts of the project to the baseline condition* of each relevant matter	An increase in traffic on existing traffic levels as a result of the project
2	**Combined incremental assessment:** this is the combined effect of the different impacts of the project, normally on a sensitive area or receiver	An increase in traffic, dust and noise in an area as a result of the project
	Cumulative types^	
3	**Issue-specific CIA:** the cumulative impacts of the project on key matters with other relevant future projects	An increase in traffic on existing traffic levels as a result of the project together with other relevant future projects
4	**Combined CIA:** the combined effect of the different cumulative impacts of the project on key matters, sensitive receptors or important features with other relevant future projects	An increase in traffic, dust and noise in an area as a result of the project with other relevant future projects

Figure 21: Types of assessment approaches under the CIA Guidelines (Source: Department of Planning and Environment 2022)

Cumulative assessment approaches 3 and 4 assume that the impacts of other relevant future projects will materialise in the environment. The CIA Guidelines therefore recommend that robust sensitivity testing of the assumptions used in these assessment approaches "*address key uncertainties and consider the implications of potentially over or under-estimating the cumulative impacts of the project combined with other relevant future projects.*"

The assessment undertaken in the proposal documentation has avoided consideration of the applicability of the TOD Alternate Preferred Scenario, including proposals that may have progressed similarly under the TOD provisions but will no longer occur.

The applicant's visual impact summary at page 73 of the EIS states that, "*While it is acknowledged that the building will have a significant impact on the neighbouring dwellings, this outcome was anticipated as it is the first proposed higher-density development on the street.*"

In the event that the TOD Alternate Preferred Scenario applies, the above visual impact statement confirms that the proposal will be the first and only high-density residential development in this part of the street. The proposal will have a significant, and in our opinion unacceptable, visual impact.

Section 2.2 of the EIS identifies two major projects that were assessed as potentially being of relevance in the cumulative impact assessment of the proposal:

— **SSD-9912** - Approval of a new sport and wellbeing centre and expansion of the existing Roseville College school campus.

— **SSD-77829461** - Construction of a residential apartment development up to 28.6m in building height. This is at the 'Prepare EIS' stage on the Major Projects Portal.

With regard to these two developments referenced in the EIS they are, respectively, a three-storey facility for the purpose of an existing educational establishment and a potential residential development approximately 440m to the south-west of the site on the western side of Pacific Highway and the T1 North Shore railway line. It is unclear what relevance these projects have in respect of cumulative impacts to East Roseville.

The CIA Guidelines acknowledge that an issue-specific approach is often more complex that incremental approaches. These involve matters that are beyond the control of the proponent and that may present greater uncertainties in predicting any cumulative impacts. Section 3.4 requires consideration of emerging development proposals that have been publicly notified, or proposals that have been publicly announced and where there is market interest.

The cumulative impact assessment approach undertaken in the EIS and supporting documentation is deficient in that it:

— overestimates the likely material cumulative impacts (in terms of built form scale and density) of future development in the locality given the existence and advanced stage of the TOD Alternate Preferred Scenario;

— does not effectively deal with the inevitable uncertainties presented by the implementation of a placed-based approach of the TOD Alternate Preferred Scenario that will retain the existing character of the locality; and

— ignores the constraints of adjoining and nearby sites above the Sydney Metro tunnel in redeveloping to the potential of TOD provisions (see discussion below).

<u>Potential construction constraints and feasibility of development above Sydney Metro corridor protection reserves in East Roseville</u>

The documentation supporting the proposal relies on the assumption that all land and associated development within the East Roseville TOD area, and in particular within the CCA, is capable of maximising the TOD provisions. The Architectural Design Statement at page 21 includes the diagram (shown in Figure 20 of this submission) which identifies building envelopes similar in form and scale on adjoining and nearby sites in Roseville Avenue and Lord Street and more broadly in the CCA.

The EIS (pages 55 and 56) relies on the same assumptions as the Architectural Design Statement and additionally states:

> *"The report includes modelling of the site and surrounding areas showing the development potential under the new TOD provisions .... As demonstrated in the modelling, the proposed development will deliver suitable for a TOD area, in line with the increased height and floorspace allowances introduced under the Housing SEPP."*

The EIS (page 62), in addressing the Housing SEPP Schedule 9 design principles for residential apartment development. justifies the built form and scale:

> *"The proposal's height and bulk align has been designed to respond to the surrounding site context"*

Both the Architectural Design Report and the EIS, in depicting and describing the future context and character ignore the constraints of the Sydney Metro tunnel impacting on land within the CCA and in particular on the immediately adjoining land to the west and also diagonally opposite in Roseville Avenue and Lord Street. The "*future*" of the location, and the context in which the site and development will sit, has not been accurately depicted due to construction restrictions associated with the Sydney Metro tunnel. The survey information included at Annexure B of this submission has overlain the metro tunnel restrictions on the Ku Ring Gai LEP heritage map to show this relationship of these heritage items with the development site and reinforcing the low rise context that will remain in the vicinity of the proposal. The extent of the tunnel corridor protection reserves further confirms that extent of land in the vicinity that would be excluded from practically being able to be developed to accommodate six (6) storey development.

Appendix WW of the EIS includes a Geotechnical Desktop Study. On page 5 of that document, the location of the First and Second Reserves associated with the tunnel are shown and again shown in Figure 1 on page 13 as well as on copies of Deposited Plans at Appendix A of the Study. In other words, the applicant possessed material, and included this material with the proposal, that identifies the tunnel and the First and Second Reserves, as well as the stratum lot associated with the tunnel impacting on affected residential lots (refer to Figure 22).

Figure 22: Extract of the Site Locality Plan with Sydney Metro Protection Reserves (Source: PSM – Figure 1Appendix W of the EIS)

The Study provides a commentary (pages 9 and 10) on the application of the *Sydney Metro Underground Corridor Protection Technical Guidelines* as they apply to the tunnel and the associated First and Second Reserves. In relation to the First Reserve, which applies to adjoining land at 15-19 Roseville Avenue and 8-14 Lord Street, as well as land opposite at 16-20 Roseville Avenue and diagonally opposite at 7A-11 Lord Street, the Study confirms construction restrictions – see below. Development on the affected properties (and many others in the CCA) as shown in Annexure B to this submission (see Figure 23 below) and in the applicant's own Study, is highly restricted.

Types of construction	First reserve	Second reserve
Excavation for basements, footings	Not allowed	• Excavations less than 2.0 m depth from surface level, assessment not required. • Excavation greater than 2.0 m depth, assessment required.
Shallow footings or pile foundations	Not allowed	Allowed, subject to load restrictions. Assessment required.
Tunnels and underground excavations	Not allowed	Allowed, subject to assessment.
Ground anchors	Not allowed	Allowed, subject to assessment.
Demolition of existing subsurface structures	Not allowed	Allowed, subject to assessment.
Penetrative subsurface investigations e.g. boreholes, instrumentation	Allowed away from support zone. Assessment required.	Allowed, subject to assessment (refer to Section 7.1 for requirements)

Figure 23: Construction restrictions placed on protection reserves (Source: Sydney Metro Underground Corridor Protection Technical Guideline - April 2021)

ERAG has commissioned survey information prepared by Mitch Ayres Surveying Pty Ltd identifying the location of the First and Second Reserves associated with the tunnel as it cuts a swathe through the CCA. This survey information is included as Annexure B to this submission.

Based on the information available in:

— EIS Appendix WW Geotechnical Desktop Study,

— Sydney Metro Underground Corridor Protection Technical Guidelines, and

— Survey information included as Annexure B of this submission which also overlays the tunnel protection reserves with the LEP heritage map,

the depiction of the future context and character as described in both the Architectural Design Report and the EIS is questionable given the available information detailed above. The extent, scale and density of development in the East Roseville location and in the CCA is much more limited than what has been suggested by the applicant.

These circumstances are particularly relevant in the consideration of Section 20 Design Requirements (compatibility) and the Schedule 9 Design Principles, of the Housing SEPP, as discussed elsewhere in this submission.

3.2 Assessment of the existing and desired future character

Section 20(3) of the Housing SEPP (copied below) requires consideration of compatibility associated with development for infill affordable housing:

(3) Development consent must not be granted to development under this division unless the consent authority has considered whether the design of the residential development is compatible with—

(a) the desirable elements of the character of the local area, or

(b) for precincts undergoing transition—the desired future character of the precinct.

In response to this statutory requirement, Appendix B of the EIS offers only two paragraphs:

> *"The proposed development has been designed in response to the desired future character of the local area, particularly in response to its proximity to Roseville train station, and leverages the vision for the area established by the transport oriented development controls.*
>
> *The design of the development incorporates the retention of existing significant trees and extensive landscaping to provide a green outlook to the development which aligns with the green, park-like character of Roseville and the broader Ku-ring-gai LGA."*

Section 6.1 (page 58) of the EIS also states:

> *"Better Fit*
>
> — *The development thoughtfully considers both its immediate surroundings and the broader urban context. It responds to local landscape features, urban patterns and existing neighbouring built forms. The building effectively addresses the site conditions, enhances local materiality, and offers a diverse array of programs and activities. These initiatives bring together various cultures, age groups, and community members, enhancing the quality of life for all residents."*

Section 147(1)(a) of the Housing SEPP provides that development consent must not be granted to residential apartment development, unless the consent authority has considered the quality of the design of the development, evaluated in accordance with the design principles for residential apartment development set out in Schedule 9 of the SEPP.

Principle 1 (Context and neighbourhood character) requires both existing and future context and character to be considered. Principle 2 (Built form and scale) requires consideration of the desired future character of the street and surrounding buildings.

The assessment and consideration of desired future character are mandatory and threshold considerations under the Housing SEPP and the proposal ignores the desired future character as expressed in the publicly exhibited TOD Alternate Preferred Scenario prepared by the Council. The applicant's consideration is considered selective and deficient and does not meet the mandatory provisions of the Housing SEPP.

The essential elements of the existing character of the locality are discussed further in this submission. The subdivision character of the area is a feature of the CCA and comprises a pattern of regular rectangular lots comprising a width of approximately between 20 to 24m (per the 1896 Plan of Roseville Station Estate), and lot depths of approximately 2.2 to 2.7 times the width.

The subdivision character and pattern results in distinct suburban rhythm of lots and associated detached dwellings in generous landscaped settings in the front and rear setbacks of each dwelling. This combination of uniform lot width, rhythm of detached dwellings and generous landscape settings forms the streetscape character, in turn contributing to the character and significance of the CCA.

The HIS supporting the proposal largely ignores the established subdivision and streetscape character, instead focussing almost exclusively on the significance and contribution of individual dwelling houses in order to support their demolition. The HIS considers the individual qualities of these dwellings but does not consider the consolidated site in a holistic way. The HIS acknowledges the Statement of Significance of the CCA but then proceeds to assert at page 87:

> *"...the above established statement of significance does not provide an accurate reflection of the*

Clanville Conservation Area's character."

There is no holistic analysis contained in the HIS to support this apparently self-serving assertion. There is no analysis of the inherent urban qualities, including the subdivision and lot pattern, that characterise the CCA as supported by the findings of the Heritage Response prepared by Lisa Trueman.

Further discussion regarding compatibility is provided in section 2.4 of this submission.

3.3 Calculation of GFA

The calculation of gross floor area (GFA) is based on the definition below:

> *"**gross floor area** means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes—*
>
> *(a) the area of a mezzanine, and*
> *(b) habitable rooms in a basement or an attic, and*
> *(c) any shop, auditorium, cinema, and the like, in a basement or attic,*
>
> *but excludes—*
> *(d) any area for common vertical circulation, such as lifts and stairs, and*
> *(e) any basement—*
> *(i) storage, and*
> *(ii) vehicular access, loading areas, garbage and services, and*
> *(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and*
> *(g) car parking to meet any requirements of the consent authority (including access to that car parking), and*
> *(h) any space used for the loading or unloading of goods (including access to it), and*
> *(i) terraces and balconies with outer walls less than 1.4 metres high, and*
> *(j) voids above a floor at the level of a storey or storey above."*

The GFA Calculation Plans submitted with the application have not included all areas required to be calculated. These missed areas are shown in Figures 22 to 26 and include horizontal circulation areas that are not otherwise excluded from the definition.

Figure 24: Extract of the GFA Diagrams - Sheet 01, Drawing No. SSDA-410 Rev A including SJB Planning mark-ups of missed GFA areas on Lower Ground and Ground Level highlighted in yellow and dashed in blue (Source: FKA)

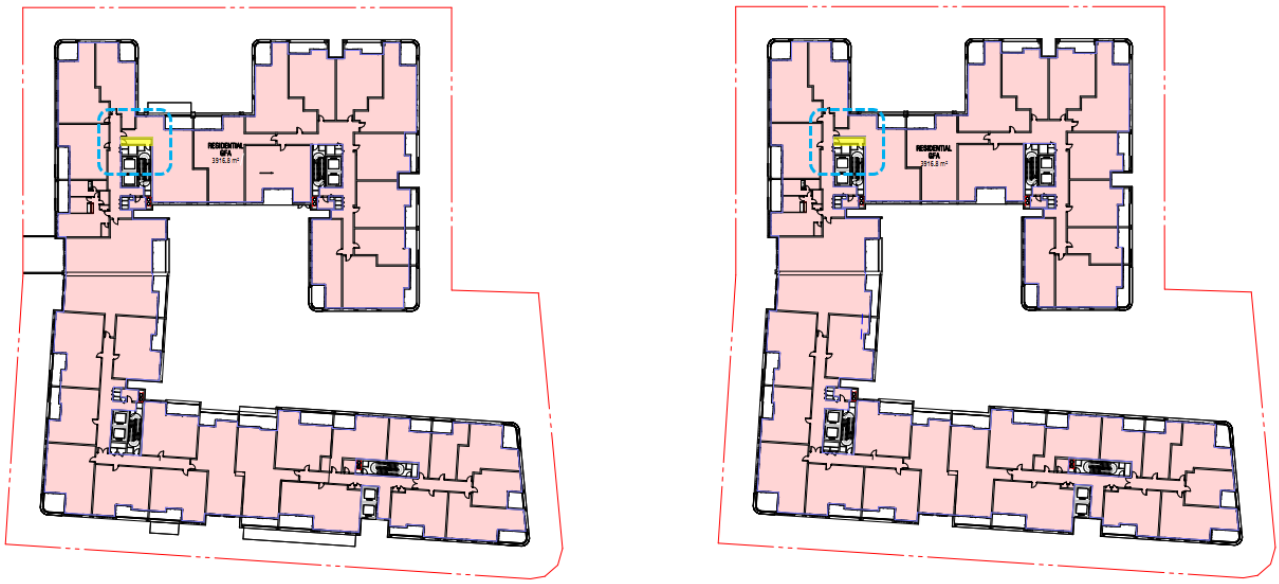


Figure 25: Extract of the GFA Diagrams - Sheet 01, Drawing No. SSDA-410 Rev A including SJB Planning mark-ups of missed GFA areas on Levels 1 and 2 highlighted in yellow and dashed in blue (Source: FKA)

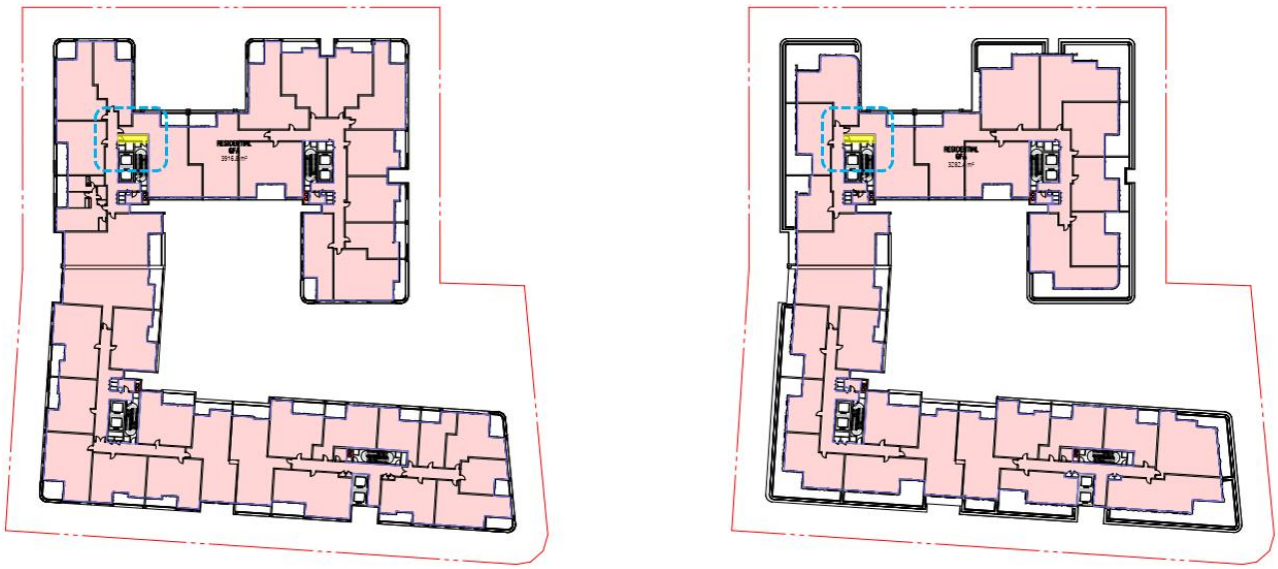


Figure 26: Extract of the GFA Diagrams - Sheet 01, Drawing No. SSDA-410 Rev A including SJB Planning mark-ups of missed GFA areas on Levels 3 and 4 highlighted in yellow and dashed in blue (Source: FKA)

Figure 27: Extract of the GFA Diagrams - Sheet 02, Drawing No. SSDA-411 Rev A including SJB Planning mark-ups of missed GFA areas on Levels 5 and 6 highlighted in yellow and dashed in blue (Source: FKA)

Figure 28: Extract of the GFA Diagrams - Sheet 02, Drawing No. SSDA-411 Rev A including SJB Planning mark-ups of missed GFA areas on Levels 7 and 8 highlighted in yellow and dashed in blue (Source: FKA)

These areas should be included and the overall GFA and the floor space ratio (FSR) should be recalculated in accordance with the definition.

The Landscape Design Report prepared by Land and Form at page 19 describes the swimming pool as an "*Indoor Pool*", as shown in Figure 29 below. Any indoor facility, including an indoor pool, is also included in the definition of GFA and is required to be included in the calculation.

Figure 29: Extract of the Central Courtyard Plan (Source: Land and Form)

Existing ground levels for basement GFA calculations

Clarification is needed regarding whether the proposal has adequately GFA at the lower ground level in accordance with the Standard Instrument LEP definition.

Figure 30 identifies garbage and storage areas within the proposed lower ground floor plan that would be captured as GFA if they are not located in the "*basement*", which is defined as follows:

> "***basement*** *means the space of a building where the floor level of that space is predominantly below ground level (existing) and where the floor level of the storey immediately above is less than 1 metre above ground level (existing).*"

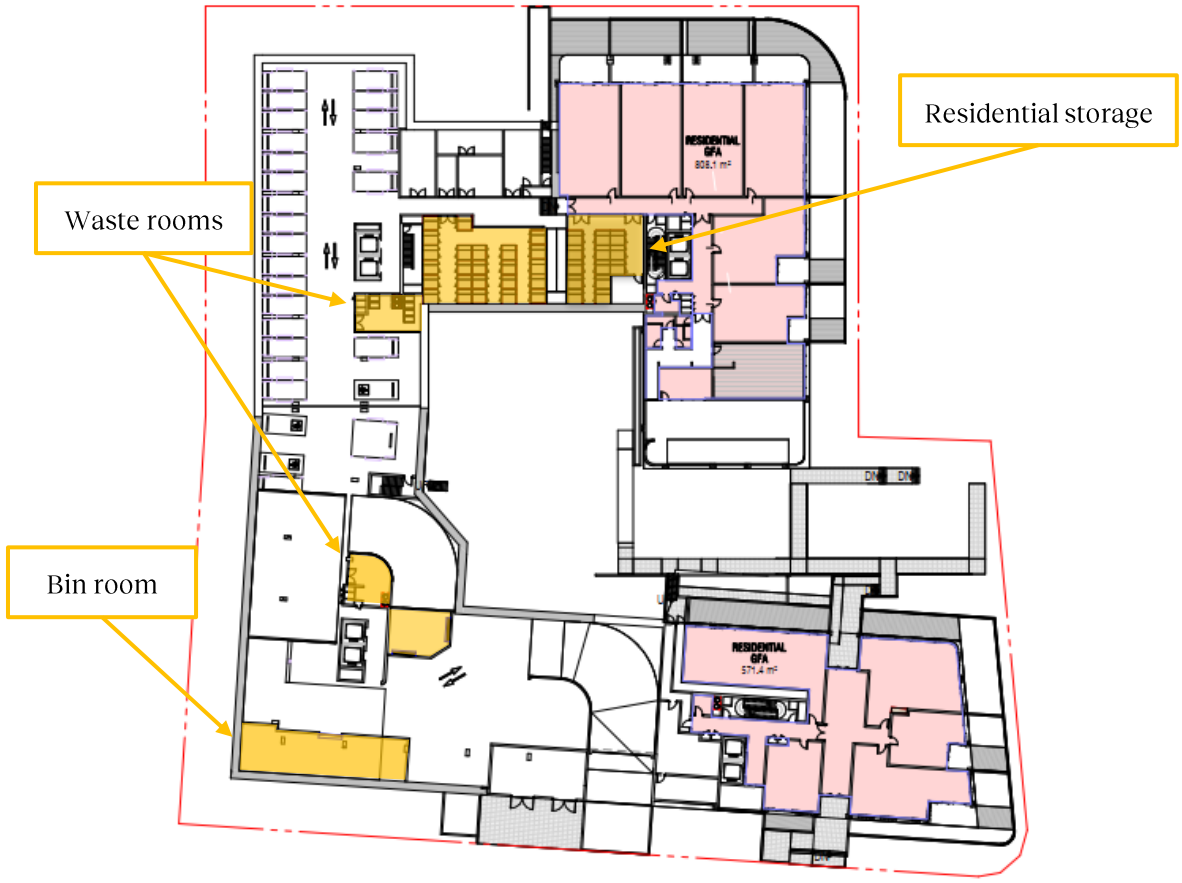


Figure 30: Extract of the Lower Ground GFA Diagram, Drawing No. SSDA-410 including SJB Planning mark-up of areas subject to GFA clarification (Source: FKA)

Should the consent authority find that these areas are to be captured in GFA calculations, a Clause 4.6 Request to Vary a Development Standard in relation to the floor space ratio (FSR) may be required.

3.4 Calculation of deep soil area

The EIS at page 32 states that the deep soil area is 2,160.3m², or 23% of the site area. The EIS does not include any diagram or details of how this figure was calculated.

The Deep Soil Zone Plan within the Architectural Plans includes a diagram and a table with calculations of the "*deep soil zone*" (refer to Figure 31). This drawing states that the area is 3,205.2m², or 34%.

DEEP SOIL ZONE	
DEEP SOIL ZONE	AREA
LANDSCAPE	
LANDSCAPE	3205.2 m²
	3205.2 m²

REQUIRED = 15%
PROPOSED = 34%

Figure 31: Extract of the Deep Soil Zone Plan, Drawing No. SSDA-425 Rev A (Source: FKA)

The Landscape Design Report dated March 2025 does not provide a calculation of deep soil area but does provide a "*GL Landscape Area*" on Drawing No. LD-DA003 Rev 1, with a calculation of 3,205m² or 34%.

The applicant's calculation of deep soil areas appears to include areas that, based on the landscape drawings, are clearly not deep soil areas as they include structures, with a snapshot shown in Figure 32 below.

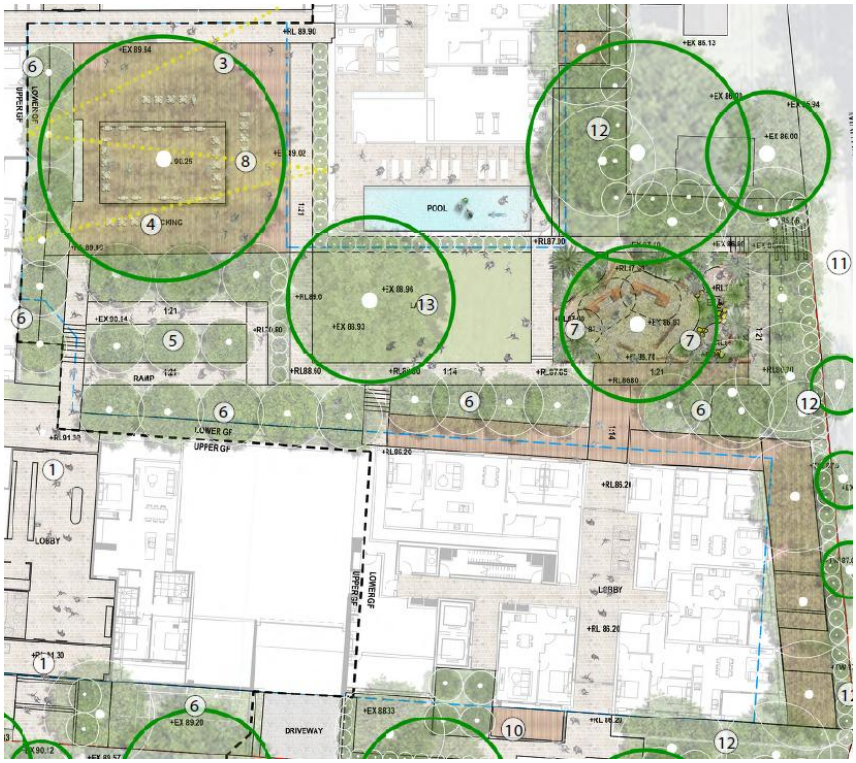


Figure 32: Extract of the Landscape Ground Plan (Source: Land and Form)

There is inconsistency between the architectural, landscape and planning documents submitted with the proposal and based on our assessment none, either individually or collectively, can be relied upon for the accurate calculation and assessment of landscaped area and deep soil areas.

3.5 Traffic and parking analysis

The traffic and parking analysis within the Transport Impact Assessment at Appendix Q of the EIS is a desktop analysis only and is not based on local observations or traffic survey information.

Observations from SJB Planning's inspection of the site and its surrounds revealed that in the immediate vicinity and along streets up to Roseville railway station, on-street car parking is extremely difficult. This appears to be due to the apparent all-day commuter parking in the street network, whereby workers park their vehicles and walk to the train station. On-street car parking was also observed on both sides of Martin Lane along the eastern boundary of the site, which allows one direction of traffic when cars are parked on both sides.

Based on this, it is unclear what has supported commentary in section 9.6 of the TIA that construction workers during the construction phase will use existing public transport options, noting that such workers would need to transport and store their tools and materials.

No analysis of traffic patterns of the local road network in respect of survey analysis and traffic counts appears to have been undertaken.

SJB Planning observed high levels of vehicles movements along Trafalgar Avenue through to Martin Lane during our inspection, which was also the case for traffic along Roseville Avenue and Lord Street. These observations are supported by material provided by local residents who have documented in their submissions the real circumstances associated with car parking and the local road network.

The TIA being a desktop analysis does not appear to adequately consider the site context within this very busy area of East Roseville. The scale and intensity of the proposed development requires closer consideration of these site-specific and locational circumstances for traffic and parking.

3.6 Community engagement

A Community Engagement Review prepared by PlanCom Consulting is provided at Annexure C of this submission. The review raises a number of concerns with the adequacy of the engagement undertaken as part of the proposed development, having regard to *Undertaking Engagement Guidelines for State Significant Projects.*

3.7 Retention of the existing Sydney Blue Gum

We note that the proposed development identifies the retention of the existing Sydney Blue Gum at the centre of the site, which is identified as Tree 93 in the Arboricultural Impact Assessment submitted with the EIS.

Concern is raised regarding the practicality of retaining the tree based on the current proposed building footprint. The tree is considered to be significant in the context of the locality and a stated objective of the TOD Alternate Preferred Scenario is to protect existing environmental assets.

It is recommended that preliminary construction management details and root mapping investigation be provided in relation to Tree 93 in order to understand the potential impacts of the proposal on the tree during the demolition, excavation and construction stages.

4. Conclusion

Based on our review of the proposal, together with the separate heritage, survey and community consultation reports which have been attached, we are of the opinion that the proposal should be rejected.

The proposal ignores, is entirely inconsistent with, and undermines, the publicly exhibited draft statutory planning controls contained in the TOD Preferred Alternative Scenario applying to the site and the CCA.

The draft statutory planning controls contained within the TOD Preferred Alternative Scenario, prepared by the Council with the support of the DPHI, were exhibited from 2-22 April 2025 and are anticipated to be approved by the Council and forwarded to DPHI in early June 2025. The draft statutory planning controls will amend the planning controls applying to the site and make the proposal prohibited development. Based on our assessment the application does not meet the requirements of Item 1 - Statutory Context of the SEARs dated 14 January 2025.

The proposal was lodged after the commencement of the public exhibition of the draft statutory planning controls, and as a result of ignoring this publicly exhibited material, is flawed in considering compatibility of the proposal with the both the existing and desired future character of the precinct in which the site is located. The documentation submitted with the proposal avoids an assessment of this strategic planning issue which has resulted in an overestimation of cumulative impacts. The application does not meet the requirements of Item 5 - Design Quality of the SEARs dated 14 January 2025.

Due to the excessive height, bulk and scale of the proposal, it will have an unacceptable visual impact on the character of the CCA, on the streetscape and directly on the adjoining properties. Based on our assessment the application does not meet the requirements of Item 5 - Design Quality, Item 6 - Built Form and Urban Design and Item 8 - Visual Impact of the SEARs dated 14 January 2025.

The proposal will have an unacceptable heritage impact on the CCA and on the heritage items adjoining to the east at 29 Roseville Avenue and opposite at 22 Roseville Avenue. The HIS supporting the proposal has not adequately considered the significance of the established subdivision character, the resultant streetscape character and the pattern of built form and significant landscaping. We also refer to the separate Heritage Response prepared by Lisa Trueman Heritage Advisor on behalf of ERAG. Based on the assessment undertaken by Lisa Trueman Heritage, we raise concern as to whether the proposal is consistent with the requirements of Item 22 – Environmental Heritage of the SEARs dated 14 January 2025.

The proposal has not adequately considered the constraints of adjoining properties to the west and nearby arising from the existence of the Sydney Metro tunnel corridor traversing the land. This constraint may impact the scale of development notionally possible on land in East Roseville sitting above rail corridor protection reserves. There is a question mark regarding the suitability of the site to accommodate the proposal due to its proximity to the Sydney Metro tunnel corridor and its impacts on land protected for the Metro tunnel.

The documentation supporting the proposal does not appear to meet the requirements of Item 4 - Engagement of the SEARs dated 14 January 2025. A separate Community Engagement Review of the adequacies of the engagement undertaken, with particular reference to the *Undertaking Engagement Guidelines for State Significant Projects*, prepared by PlanCom Consulting is provided.

For these reasons, and as discussed in detail in this submission, the exceedance of the height of building development standard is unjustified. The applicant has failed to demonstrate that compliance with the development standard is unreasonable or unnecessary in the circumstances, or that there are sufficient environmental planning grounds to justify the contravention of the development standard.

As stated above, it is our view that the proposal is not in a form that could be approved and should be refused.

Annexure A: Heritage Response

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26 May 2025

Eastside Roseville Resident Action Group Inc
c/- Storey and Gough Lawyers
'Harrisford' 182 George Street
Parramatta NSW 2150

SSD-78996460 – 16-24 Lord Street and 21-27 Roseville Avenue, Roseville

Heritage Response to EIS

1. Background

Eastside Roseville Resident Action Group Inc (ERAG) has engaged me to provide independent heritage advice in response to the Environmental Impact Statement (EIS) for SSD-78996460, which is currently on public exhibition. The SSD relates to a proposed residential development with infill affordable housing, at 16-24 Lord Street and 21-27 Roseville Avenue, Roseville. The development site is located within the Clanville Heritage Conservation Area (Clanville HCA) as listed in Schedule 5 Part 2 of the Ku-ring-gai Local Environmental Plan (C32). The EIS includes a Heritage Impact Statement (HIS), prepared by URBIS (URBIS HIS), at Appendix GG. This letter reviews the URBIS HIS and provides a high level independent assessment of the likely heritage impacts of the proposed development.

In preparing this advice, I have reviewed the publicly available information in relation to the proposed development, undertaken a visual inspection of the site and surrounding area, and reviewed other documents relevant to the Clanville HCA to form an evidence-based opinion on the heritage impacts of the proposal.

2. Relevant documents

A review of other relevant documents has been undertaken to inform this report, including, but not limited to:

- HIS for 16-24 Lord Street and 21-24 Roseville Avenue, URBIS, 2025 (URBIS HIS)
- HIS for 27 Roseville Ave, Stephenson and Turner, 2014
- HIS for 16 Lord St, Weir Philips Heritage, 2022
- HIS for 22 Lord St, GBA Heritage, 2015
- HIS for 24 Lord St, Darren Campbell, 2013
- Ku-ring-gai Heritage Conservation Area Review, Tanner Kibble Denton, 2024

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- Comparative Study: Conservation Areas of Ku-ring-gai and Sydney's Suburbs - Ku-ring-gai Council, 2024
- Review of Potential Heritage Items in Ku-ring-gai LGA, Perumal Murphy Alessi, April 2006
- Heritage Item by Heritage Conservation Area, from Ku-ring-gai Council website
- Municipality of Ku-ring-gai Heritage Study, Robert Moore et al, 1987
- Roseville Heritage Issues, Submission to Ku-ring-gai Council be then Residents' Action Group, 1996
- Ku-ring-gai Heritage and Neighbourhood Character Study, David Logan et al, 2000
- Roseville Heritage Review, Architectural Projects, 2012
- The Street Where We Live, Dudley Ave Roseville, Max Farley 1991
- The Historian - Beautiful Roseville, Official Journal of the Ku-ring-gai Historical Society, Vol 48 No 1, 2020-2023
- Focus on Ku-ring-gai, Ku-ring-gai Historical Society, 1996.

3. The site

The development site is located at 16-24 Lord Street and 21-27 Roseville Avenue, in Roseville, and includes the following properties:

- 21 Roseville Avenue – Lot 9 DP1046734
- 23 Roseville Avenue – Lot 66 Section B DP3277
- 25 Roseville Avenue – Lot 65 Section B DP3277
- 27 Roseville Avenue – Lot 64 Section B DP3277
- 16 Lord Street – Lot 14 Section B DP3277
- 18 Lord Street – Lot 15 Section B DP3277
- 20 Lord Street – Lot 16 Section B DP3277
- 22 Lord Street – Lot 17 Section B DP3277 & Lot 1 DP104781
- 24 Lord Street – Lot 18 DP1173328.

The site is currently zoned R2 Low Density Residential

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Figure 1 – Location of the development site (Source: URBIS)

4. Transport Oriented Development and Council's Preferred Scenario

The development site is located in an area identified by the NSW Government under the Transport Oriented Development (TOD) policy, introduced in May 2024. The policy rezoned traditionally low-density areas within 400 metres of railway between Roseville and Gordon stations to permit apartment buildings ranging from six to eight storeys.

In November and December 2024, Ku-ring-gai Council (Council) exhibited four alternative scenarios to the TOD policy. These alternatives provided approximately the same number of new homes as the government's TOD policy. After the community consultation period, Council identified and further exhibited its TOD Preferred Scenario, which reflects community feedback, technical studies and the need to meet dwelling targets, and is designed to meet Council's seven principles for good planning in the Roseville to Gordon corridor. The Preferred Scenario will be considered by Council on 5 June 2025.

The development site is zoned R2 under the Preferred Scenario for Roseville, as shown on Figure 2 Below, with a maximum height limit of 9.5m.

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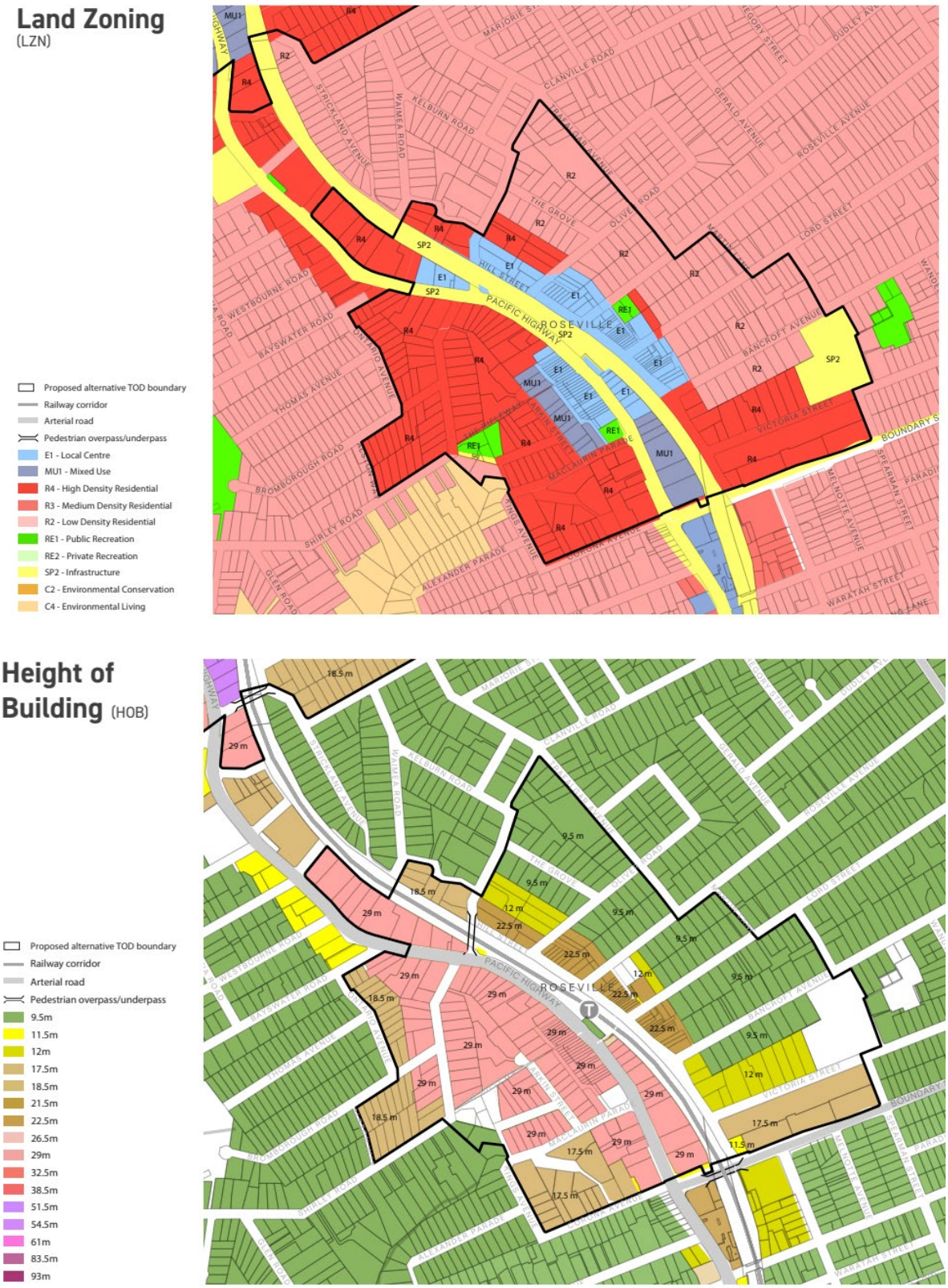

Figure 2 – Council's TOD Preferred Scenario for Roseville

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5. The proposal

The proposal is for the demolition of 9 existing houses, and their garden settings, amalgamation of 10 lots, and the construction of a nine storey multi-unit residential development with 259 units (of which 17% are proposed to be affordable housing) across 9 storeys, above three levels of basement parking.

6. Heritage context

The development site is located within the Clanville HCA (C32) as listed in Schedule 5 of the Ku-ring-gai Local Environmental Plan. It is also located directly adjacent to a heritage item at (Scout Hall) and within the vicinity of locally listed heritage items as indicated on the table and in the maps below. Note that of the properties listed, only the Roseville Scout Hall has been identified or considered in the URBIS HIS.

The development site is also located within the vicinity of many contributory properties along both sides of Roseville Avenue and Lord Street. The southern side of Lord Street is the northern boundary of the Lord Street/Bancroft Avenue HCA, which has strong associations with the Clanville HCA.

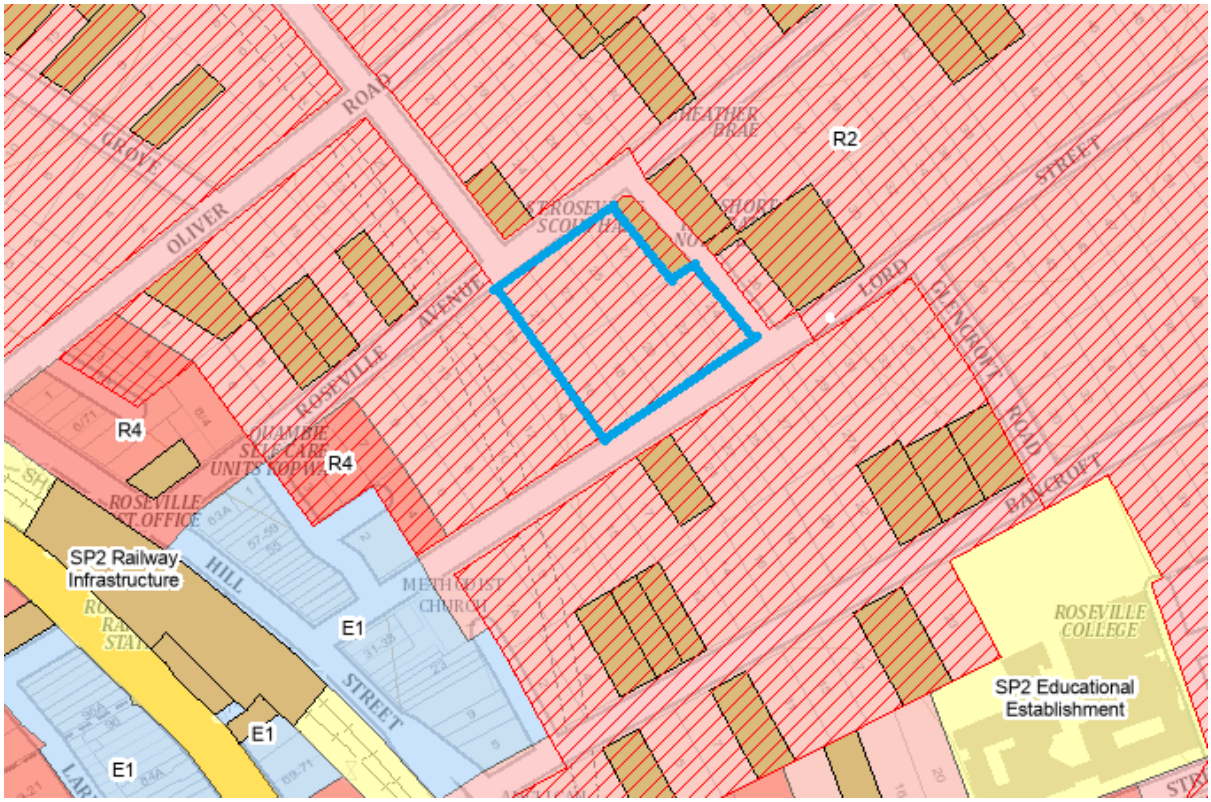

Figure 3: Map of development site (in blue) and its heritage context (Source: NSW Spatial Viewer with LTHA overlay)

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Table 1: Heritage Items in the vicinity of the development site

Description	Address	Location	Significance	Item No.
Roseville Scout Group Hall	29 Roseville Avenue	Immediately adjacent	Local	I115
Dwelling House	19 Lord Street	Immediately across road	Local	I106
Dwelling House	22 Roseville Avenue	Immediately across road	Local	I695
Lord Street/ Bancroft Avenue HCA		Immediately across road	Local	C36
Dwelling House	31 Roseville Avenue	<50m north-east	Local	I697
St Lukes Hall	28 Lord Street	<50m east	Local	I689
Dwelling House	16 Roseville Avenue	<50m west	Local	I114
'Lawarra' Dwelling House	12 Roseville Avenue	<100m west	Local	I113
Dwelling House	10 Roseville Avenue	<100m west	Local	I112
Dwelling House	24 Bancroft Avenue	<100m south	Local	I197
Dwelling House	26 Bancroft Avenue	<100m south	Local	I198
Dwelling House	28 Bancroft Avenue	<100m south	Local	I199

7. What is an HCA?

HCAs are streetscapes, suburbs, areas and precincts that are recognised by a community for their distinctive historical character. HCAs most often provide evidence of the historical development of an area through their high proportion of original historic buildings. HCAs are protected through statutory listings because they demonstrate a distinctive identity, a particular sense of place and character that is valued by the community. The significance of an HCA is usually demonstrated in its subdivision layout and street pattern, and buildings that share common periods of development, with historical associations, and consistent typology, form, scale, materials and details. They often include trees and landscaping, and public domain elements.

Heritage Conservation Areas are listed within Schedule 5 of Local Environmental Plans. This statutory listing is underpinned by detailed heritage assessments against the NSW standard criteria for heritage assessment and supported by thorough strategic planning and extensive community consultation. They are highly regarded by communities and visitors and provide NSW with historic layers that are evident for current and future generations.

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8. The Clanville Conservation Area

As noted above, the development site is located within the Clanville HCA. The Clanville HCA was classified as a Urban Conservation Area Precinct in 1997 and identified as a potential heritage conservation area in the Ku-ring-gai Heritage and Neighbourhood Character Study 2000 has been listed as a heritage conservation area on the KLEP since 2012. The HCA has been the subject of multiple studies over the past three decades which have confirmed its high level of historic, aesthetic and representative significance to the Ku-ring-gai area.

The Ku-ring-gai Heritage Conservation Area Review (Tanner Kibble Denton, 2024) provided the most recent review of the integrity boundaries of the Clanville HCA and noted:

> The conservation area retains a relatively high degree of integrity overall and has high aesthetic values because of its topographical variety, quality of early housing stock and public and private landscaping.

A map of the Clanville HCA is provided at figure 4.

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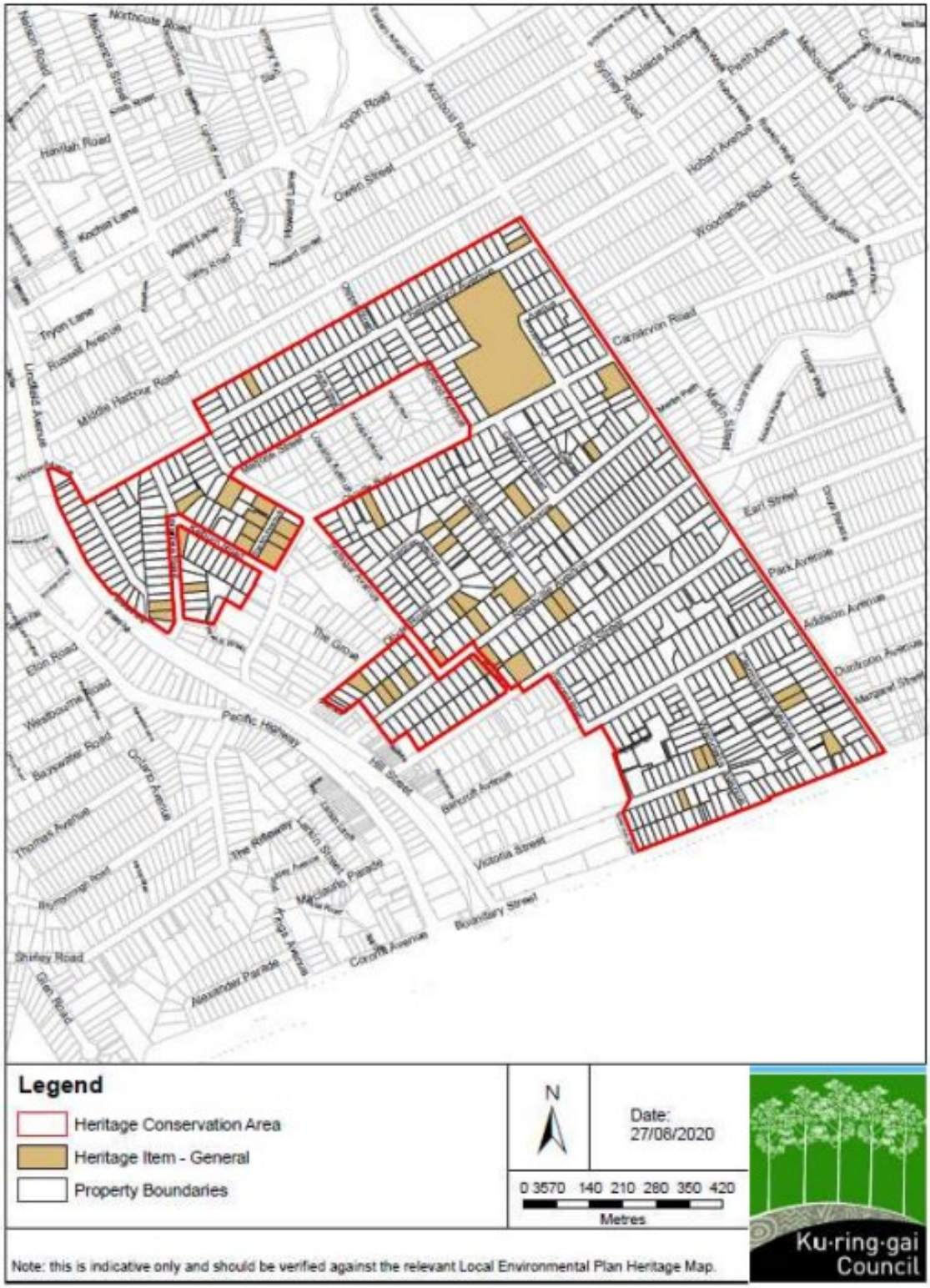

Figure 4: Map of the Clanville HCA (Source: Ku-ring-gai Council website https://www.krg.nsw.gov.au/files/assets/public/v/1/hptrim/information-management-publications-public-website-ku-ring-gai-council-website-planning-and-development/c32_clanville_conservation_area.pdf)

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The following information is extracted from the State Heritage Inventory (a copy of the full Inventory Sheet is attached to this report at Appendix A):

Statement of Significance

The Clanville Conservation Area has historical significance as part of the Daniel Dering Mathew 400-acre land grant "Clanville". The area has further historic significance for the successive subdivisions of "Clanville" in the late nineteenth century with the subdivisions of Roseville Park Estate (1893) and Roseville Station Estate (1896), and the early twentieth century subdivisions of Clanville Estate (1903); Clanville Heights Estate (aka Lindfield Heights Estate of 1906) (1905); Terry's Hill Estate (1908); Archbold Hill Estate (1909); Clermiston Estate (1912); Taraville Estate (1914); The Firs Estate (1918); The Garden Estate (1920); Hordern's Roseville Estate (1922) and Archbold Hill Estate (1923).

The area has aesthetic significance for the highly intact and quality Federation and inter-war houses, with some examples of mid to late twentieth century development. Architectural styles present from the Federation period include Federation and transitional bungalows, Queen Anne, and Arts and Crafts, and present from the inter-war period mostly Californian Bungalows with some examples of Old English., Art Deco and Spanish Mission.

The area is of local heritage significance in terms of its historical and aesthetic value. This satisfies two of the Heritage Council criteria of local heritage significance for local listing

Assessment of Significance:

Criterion (a) Historical significance

The area is of significance as it demonstrates its historical development following the 1903 Clanville Estate subdivision, spurred by the construction of the North Shore rail line in 1890. Meets this criterion at a local level.

Criterion (b) Aesthetic significance

The area is of aesthetic significance as a cohesive early twentieth century streetscape of Federation and inter-war housing. It is aesthetically significant for the high proportion of quality houses. Meets this criterion at a local level.

Criterion (g) Representative significance

The area is representative of suburban development in Ku-ring-gai and in Roseville close to the railway following the 1903 Clanville Estate subdivision. Meets this criterion at a local level.

Description:

The Clanville Conservation Area covers a large part of the eastern side of the suburb of Roseville and represents a substantial portion of the 400-acre land grant to Daniel Dering Mathew. Following the purchase of Mathews' land by Richard Archbold, upon his death the land was subsequently divided amongst his eight children. The 400 acres was divided into 50-acre strips of land running between the

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Pacific Highway and Archbold Road, and it is the division between these eight lots that form the main roads through the area, running east-west, including Boundary Street, Bancroft Avenue, Lord Street, Roseville Avenue, Clanville Road, Chelmsford Avenue and Middle Harbour Road. These long avenues are joined periodically by smaller and narrower side streets to allow access through the area. Most of the streets developed with a linear pattern, except for the section between the railway line and Trafalgar Avenue, within which the street pattern follows the original irregular lines of Gerald and Richard Archbold junior's land parcels. The irregularity can be seen in Clanville Road, Roslyn Avenue, Kelburn Road and Waimea Road. The main roads through the area are generally wide and slope gently down from the railway line and rise up again towards Archbold Road.

The area contains great consistency of intact buildings. The predominant architectural style is Federation, and this varies from Federation Arts and Crafts to Queen Anne and the Bungalow. There are many fine examples of the inter-war Old English and Californian Bungalow styles which emerged after the Federation period. There are also examples of late twentieth century Sydney regional style within the area.

The earliest subdivided areas such as Victoria Street, Bancroft Avenue, Lord Street, and Roseville Avenue contain the majority of Queen Anne and Arts and Crafts style buildings, but there are still elements of inter-war styles, such as California Bungalows and Old English, as well. The later subdivided area, such as Belgium Avenue, Trafalgar Avenue, Clanville Street, Kelburn Road and Rawhiti Street, contains highly significant buildings with more variety of architectural styles, including Federation Arts and Crafts, Federation Bungalow and inter-war styles such as Old English, Art Deco, Spanish Mission, but Californian Bungalows predominate.

The area is characterised by extensive avenue plantings, dominated by jacarandas and brushboxes. The pedestrian network of footpaths throughout the suburb is uniform, as are the grassed verges, creating a practical and user-friendly pedestrian environment. Private gardens are consistent in volume, density and style and generally an understanding by the owners of the architectural period of residence that the gardens surround. Many gardens are intricately designed and well maintained and provide a stimulating backdrop to the streetscape. There is distinct uniformity on front fencing, style and sizes.

Detracting elements within the area include dominating garages and driveways, carports within the front setback, obstructive front hedges, enclosed front verandahs, dominating front porch additions, aluminium front windows, large dormers windows at the front of the house, upper storey front balconies, rendered face brick work, painted face brick work and uncharacteristic colour schemes.

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9. What is a contributory property?

Contributory items are part of the collective significance of a particular conservation area in which they are located. They are important for what they contribute to the significance and streetscape character of the heritage conservation area. As a result, the focus for contributory items is how the building presents in the public domain, and especially from the street.

The following definition is extracted from Section B Part 19 of the Ku-ring-gai Development Control Plan 2014 (KDCP):

> Contributory Properties are buildings and sites within a HCA which are deemed to exhibit one or more of the following characteristics:
>
> i) buildings and sites that make an important contribution to the character and significance of the HCA. They can be from a key historical layer, true to an architectural type, style or period, or highly or substantially intact including their garden setting. Where subdivision has occurred, the subdivision is within the key historical period or the area.
>
> ii) buildings and sites which are altered from their original form but are recognisable and could be reasonably reinstated to that condition or the alterations are not considered to be detrimental to the integrity of the building; for example, a building that has been rendered or painted or where the roof cladding has been replaced but the form is otherwise legible.
>
> iii) buildings and sites with new layers/additions sensitive to the style, form, bulk, scale and materials of the original building.
>
> Note: Contributory buildings do not necessarily need to be high-quality buildings but should represent the key historical period of the HCA. An HCA may also contain high-quality buildings which are not necessarily from the key historical period.

10. Analysis of the Existing Dwellings on the Development Site

An analysis of the existing dwellings on the development site has been undertaken, informed by a visual assessment and available resources including heritage studies, previous HIS reports, the URBIS HIS and other relevant documents. The analysis of the contribution of the individual properties to the Clanville HCA has been based on the Statement and Assessment of Significance for the HCA as provided in the SHI Datasheet, and the definition of contributory properties provided in the DCP:

Table 2: Analysis of Existing Dwellings to be demolished

Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
21 Roseville Ave	1913-1917	Federation Bungalow	Typical Federation dwelling with broad simple roof planes, gabled roof with ridge parallel to the street and with main roof extending over verandah (enclosed)	Modest single storey additions to the rear of the house.	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original

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Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
			Original timber joinery, leadlight windows Mature garden with several large trees and established flowering shrubs Original/early low brick fence with iron gate and driveway entry gates		Federation form and features, garden setting and subdivision pattern. Modifications to the dwelling are modest and do not alter its contribution to the identified significance of the HCA.
23 Roseville Ave	c.1911	Federation Bungalow	Typical simple massing, broad simple roof plan, Gabled roof with ridge parallel to the street and main roof extending over verandah, verandah with roofs supported by masonry piers and simple timber posts, face brick, leadlights used sparingly Principal rooms and front façade intact Some intact interiors in front rooms Mature garden with several large trees in front, front boundary fence is low sandstone wall with a tall hedge planted behind - obscures the garden view	Extension to verandah to wrap around east elevation Single storey additions to rear	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden setting and subdivision pattern. Modifications to the dwelling are modest and do not alter its contribution to the identified significance of the HCA.
25 Roseville Ave	1910-1915	Federation Bungalow	Simple bungalow façade with original verandah (extended around east façade) Gabled roof with ridge parallel to the street and main roof extending over verandah Primary roof form of original dwelling appears intact Front windows have been replaced but	Contemporary single storey addition to the rear of the dwelling and verandah addition/ extension along the east façade – only the original verandah is under the roof line and so the later works read as a contemporary addition The original front façade is largely intact and presents	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden setting and subdivision pattern. Modifications to the dwelling do not alter its scale or

Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
			arrangement remains intact. Front door appears original. Mature garden with several large magnolia trees in front garden. Tall hedging along east boundary.	as mid-Federation dwelling with only minor modifications	presentation to the street, and no not diminish its contribution to the identified significance of the HCA.
27 Roseville Ave	1909-1910	Federation Bungalow	Presents to street as single storey Gabled roof with ridge parallel to street Facebrick (painted), sandstone foundations Main roof extending over verandah Tiled roof Original timber windows to front façade/gable Principal rooms intact Large front lawn with hedge planting fronting the dwelling Low sandstone stacked fence along front boundary with contemporary entry gate and driveway entry gate Brick driveway Low timber paling fence to the east (boundary with heritage item scout hall – maintains good visibility from a distance to the item)	Large addition to the side/rear elevation, using materials (timber, sandstone, tile roof) and scale consistent with original dwelling Painted face brickwork Second storey within new addition to roof line. However, the roof of original dwelling remains largely intact from primary façade	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden setting and subdivision pattern. Although modified, the modifications are mostly located to one side (east) and the rear of the dwelling. The original front façade is largely intact and presents as mid-Federation bungalow to the street. The modifications to the dwelling do not alter its scale or presentation to the street, and no not diminish its contribution to the identified significance of the HCA.
16 Lord Street	1900-1903	Federation Bungalow	Presents to street as single storey Gabled roof with ridge parallel to street Facebrick (painted) with roughcast to upper portion of	Second storey addition within new roofline – primarily visible from east elevation/driveway Additions to the side (east) and rear elevations	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original

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Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
			facades, sandstone foundations Main roof extending over verandah Reinstated front verandah with timber floor and Tile roof Original timber windows to front façade/gable Principal rooms intact Reinstated front entry Mature garden setting, large established trees, with original brick (painted) fence to front boundary with modern timber inserts	Pool	Federation form and features, garden setting and subdivision pattern. Modifications to the dwelling are well-located and do not diminish the contribution of the property to the identified significance of the HCA.
18 Lord Street	1908-1910	Federation Bungalow	Largely intact No apparent alterations to original dwelling Original leadlight windows to front bay principal rooms intact According to Urbis HIS, dwelling contains significant interiors (not shown) Mature garden setting, established shrubs and large exotic trees, original sandstone piers (4) to timber picket fence	Enclosure of front verandah (reversible)	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden setting and subdivision pattern. The property is in in largely original condition.
20 Lord Street	c.1906	Federation Queen Anne	Intact high-quality dwelling with intact Queen Anne elements Fretted woodwork, verandah timber posts, double hung sash windows Gabled roof with ridge parallel to street with rising sun	Second storey addition within roofline with dormers French doors to front verandah replacing original sash windows Loss of 2 original chimneys	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden

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Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
			half-timbered motif to gable end Principal rooms intact Mature established garden with large flowering shrubs including camelias etc, hedging to front boundary timber picket fence The primary façade, including front verandah, gable, sash windows and entry arrangement present as good quality Federation dwelling with modest modifications to the upper storey and roofline	The primary façade remains largely intact with a small dormer window visible to indicate a small second storey addition.	setting and subdivision pattern. Modifications are well-located and do not diminish the contribution of the property to the identified significance of the HCA.
22 Lord Street	1900-1906	Federation Queen Anne	Primary façade is entirely intact All principal rooms, including fireplaces, front and side timber lined verandahs intact, timber verandah posts and brackets, front door, timber windows Chimneys and roof intact Mature front garden with simple pared back planting. Timber picket front fence and entry gate. Established hedging to side boundaries.	Large addition to rear, minimal impact on original front section of dwelling	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and features, garden setting and subdivision pattern. Modifications are well-located and do not diminish the contribution of the property to the identified significance of the HCA.
24 Lord Street	1910-15	Federation Queen Anne	Primary façade is entirely intact, repointed facade All principal rooms, including fireplaces, front and side timber lined verandahs intact, timber verandah posts and	Large two storey extension to rear – however principal front rooms and front façade remain intact	The property contributes to the historic, aesthetic and representative significance of the HCA through its era of construction, retained original Federation form and

Property	Year Built	Style	Key Features	Modifications	Contribution to Clanville HCA
			brackets, front door, timber windows Mature garden with low hedging and painted timber fence around front corner lot boundary		features, garden setting and subdivision pattern. Modifications are well-located and do not diminish the contribution of the property to the identified significance of the HCA.

11. Review of URBIS HIS

A review of the URBIS HIS provided at Appendix GG of the EIS has been undertaken. The URBIS HIS is fundamentally flawed for the following primary reasons:

- The report does not follow the appropriate guidelines for assessing heritage significance or heritage impacts (*Guidelines for Preparing a Statement of Heritage Impact*, NSW Department of Planning and Environment, 2023).
- The report does not contain the required detailed historical analysis or fabric analysis of the existing houses and their settings and contains multiple factual errors about the history of the properties. This undermines the understanding of the contribution of the individual houses to the Clanville HCA and the impacts of their demolition.
- The report has not provided an assessment against the standard criteria to inform the statements made in the report about the significance of the buildings and their contribution to the significance and character of the Clanville HCA.
- The report is not informed by an analysis of the conservation area as a whole and fails to consider the contribution of the existing houses to the collective significance of the Clanville HCA. It fails to identify or acknowledge the key characteristics that contribute to the significance and character of the HCA. This undermines statements made about the impacts of the proposal on the HCA.
- The report has not referenced critical documents such as previous and recent heritage studies, original architectural drawings and previous HIS reports for the properties which must inform any assessment of the impacts of the proposed development.
- The report significantly over-states the effect of alterations and additions to the individual houses. It provides no analysis of the contribution of original facades, roof form and setting to the significance of the HCA or the reversibility of the additions; and is based on the incorrect assumption that any modification reduces significance.

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- No diagrams have been provided to provide evidence of the level of change. There are no internal photographs, external photographs are limited and poor quality, and lack the evidence required to substantiate statements made in the report about level of change.
- The report fails to identify numerous heritage items and contributory properties in the vicinity of the site that will be impacted by the proposed development or consider the impacts of the proposal on those heritage items.
- The report significantly understates the impact of the loss of nine individual houses which contribute to the significance and character of the Clanville HCA.
- The assessment against the LEP and DCP heritage controls contained in the report states that it is based on 'extensive historical and fabric analysis' but no such analysis has been provided.
- The assessment against the DCP controls has omitted an assessment against Section 19A – Subdivision and Site Consolidation, and 19F – Development in the Vicinity of Heritage Items and HCAs
- Whilst the HIS indicates in-principal support for the application, it also includes recommendations for substantial modifications to the design to address its impact on the HCA and nearby heritage items, that warrant its refusal on heritage grounds.

The table below summarises key inaccuracies (I), omissions (O)and unfounded statements (U) in the URBIS HIS

Table 3: Review of URBIS HIS

Page	I/O/U	Content of Urbis HIS	Comment
EXECUTIVE SUMMARY			
1	O	Items and HCA in the vicinity	No mention of the many heritage items in the vicinity (other than the adjacent Scout Hall) or 1 HCA in the vicinity
1	I	Extensive historical and fabric analysis of the dwellings	Not included in report
1	U	Most primary street frontages within the subject site are highly modified	Not substantiated – discussed in more detail per individual property
1	I	Some retain their original scale, most have undergone notable changes to their principal facades that have obscured their original configuration	Not substantiated – discussed in more detail per individual property

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Page	I/O/U	Content of Urbis HIS	Comment
1	I	Visually dominant, anachronistic changes…which do not have well resolved relationships with the original forms	Not substantiated – discussed in more detail per individual property
1	I	The streetscape is more prominently characterised by notably altered dwellings	Not substantiated – discussed in more detail per individual property
1	I	The subject area…is not considered to make a defining contribution to the significance of the HCA	Not substantiated – discussed in more detail per individual property
1	U	The heritage significance of the HCA will be retained despite their removal	Significantly understates the loss of 9 contributory properties in one block.
3	I	This HIS has been prepared in accordance with Heritage NSW guidelines "Assessing Heritage Significance" and "Statements of Heritage Impact"	Incorrect, does not follow these guidelines
SITE DESCRIPTION			
6	I	..predominantly low-rise buildings of one or two storeys that have been constructed throughout the twentieth century. The character of Lord Street and Roseville Avenue is therefore mixed.	Predominantly one storey single family dwellings constructed in the early twentieth century (1900-1930). Therefore, it is an intact and cohesive streetscape.
6	I	Lord Street and Roseville Avenue are of a quiet residential nature with minimal vehicular traffic	Evident in their own photos (p.8) that the traffic and parking in both streets are busy
7	I	Locally heritage listed Roseville Scout Hall lies East along Roseville Avenue and is nearby to the subject site	Heritage item directly adjoins the subject site
7	I	Items of interest along the Pacific Highway include Roseville railway Station and Roseville Post Office	Roseville Post Office is located on Hill Street, not the Pacific Highway
8	O	Images of Lord Street and Roseville Avenue (Figs 4-7)	No streetscape or houses included in images – just the road surface
9-22	U	Individual site descriptions	Covered in sections below
HISTORICAL OVERVIEW			
24	I	By 1824 Richard Archbold was granted 51 acres of land containing the present subject site	In 1824, Richard Archbold (snr) purchased Daniel Dering Mathew's 1819 land grant of 400 acres.
24	I		Upon his death in 1836, the Clanville Estate was divided into 50 acre lots and divided between his children. In 1885 Richard Archbold (jnr) inherited a 51 acre lot (Lot 3) Cert of Title Vol 728-Fol 219. The conservation area (along with adjacent The Grove HCA and Lord/Bancroft HCA)

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Page	I/O/U	Content of Urbis HIS	Comment
			compromises most of Lots 1-6 of the Clanville Estate.
24	I	Figure 45 Richard Archbold Land grant of 1824	Map shown is from 1885 and was not a land grant
26	I	Figure 46 Francis Lord land grant of 1888	In 1886, Francis Lord purchased Lot 3 from Richard Archbold (jnr).
27	I	Figure 47 Red Overlay indicating "subject site"	Overlay includes two extra properties not part of the subject site – 19 Roseville Avenue and 14 Lord Street
16 LORD STREET 1900-1903 Lot 14 Section B DP 3277			
9	I	…the right side, including the veranda and supporting pillars, has been entirely reconstructed to match the original detailing…	Pre 1974 the front verandah was enclosed (see BA74/1459). It was reinstated in 2008 and extended around the eastern elevation
31	I	Incorrect history	Vol-Fol 728-219 – Transfer to Daniel Dering Mathew Vol-Fol 905-66 – Transfer to Francis Lord (1888) – Transfer to George Hough (1899) Vol-Fol 1282-141 – Transfer to William Cole (1929) – Transfer to Ernest Duval and Frederick George Lane (1933) – Transfer to Evelyn Cecily Earnshaw (1934) – Transfer to Milton Margules and Vivenne Margules (1956) – Transfer to Tim Charles John Caldwell and Betty Buchan Coldwell (1974) Vol-Fol 12411-88
32	I	2009 – "rebuild front verandah"	Verandah was reopened to original form, not rebuilt – apparent in Fig 57 (upper right) piers and sandstone were still intact
88	I	Statement of Significance "No contributory value" "Contemporary extension to the left-hand side of the verandah" "No significance has been identified to warrant an individual listing in the dwellings own right"	Remains clearly readable as a Federation bungalow from Lord Street. There is no verandah extension to the left. The extension to the right (east) is consistent with the original materials and style of the house The building makes a significant contribution to the HCA as a Federation bungalow on its original, intact site with acceptable modifications
18 LORD STREET 1900-1903 Lot 15 Section B DP 3277			
10	U	Minimal fabric analysis of the original building	The report provides only minimal fabric analysis of this site in particular – one obscured photo of

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Page	I/O/U	Content of Urbis HIS	Comment
			the front façade and one of a late addition cabana.
10	I	"Overall massing and exterior have been altered since its original construction, with the front room initially serving as an uncovered porch"	Easily reversable enclose of front porch
40	U	DA 1072/04	The works approved in DA 1072/04 have not been constructed. The drawings indicate an intact floorplan at that time, and no further DAs have been approved.
88	I	Statement of Significance: "…has little contributory value to the surrounding Clanville Conservation Area" "The dwelling features some aesthetic significance…original fabric…horsehair ceiling lining, hardwood flooring…decorative diamond leadlight casement window set into primary gable…which presents to Lord Street." "The site however does present as an intact item…in its overall form" "A pedestrian representation of a Federation abode" "A lack of intact adjacent items" "The dwelling does not support the heritage character of the subject area"	As an almost entirely original building on its original site, the house makes an important contribution to the HCA The dwelling features significant intact interiors This is a contributory building. The building is a good and intact representation of a modest suburban dwelling from the Federation period Heritage item directly opposite. A lack of adjacent 'items' is not the intent of an HCA As an intact, modest Federation dwelling c. 1900-1903, the building clearly supports the heritage character of the area
20 LORD STREET c. 1906 Lot 16 Section B DP 3277			
11	U	"The dwellings original construction did not match the prepared architectural documentation as shown…"	The original drawings align very well with the original construction. The gable half-timbered rising sun pattern has likely been a contemporary replacement in same style as the original fretwork, replicated on the 1991 upper storey addition.
11	O	"Transom French doors replacing the typical multi-paned window" "The original footprint of the dwelling remains identifiable up to the large hallway contemporary archway"	Reversible work which is an acceptable modification in keeping with original style
88	I	Statement of Significance:	

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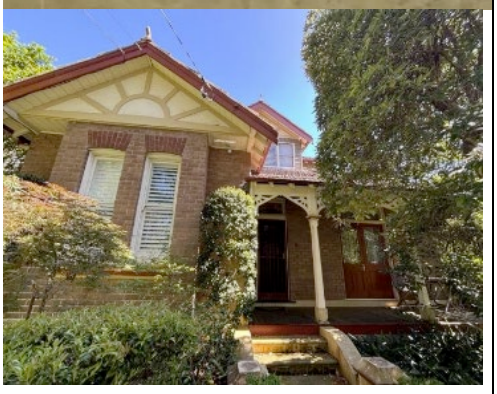
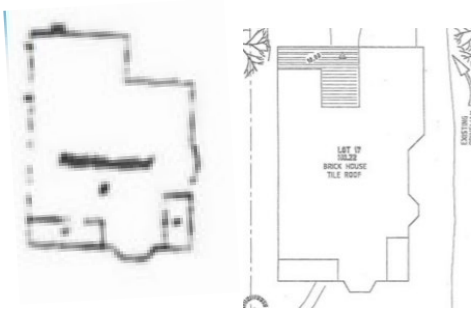
Page	I/O/U	Content of Urbis HIS	Comment
		"Has little contributory value to the surrounding Clanville Conservation Area" The prescribed ornamental extent of the façade design…ornate verandah…fretwork…fenestration pattern…deviates from the original design	While the front elevation has been altered with the addition of a set-back second storey, the house remains very readable as a Federation bungalow  
22 LORD STREET 1910-1915 Lot 17 Section B DP 3277 & Lot 1 DP 104781			
12	U	"Heavily altered, with only the master bedroom, an additional front bedroom with a bay window, the formal lounge room and the front and side verandas remaining from the original footprint"	All principal rooms, front and side verandahs are intact 

Page	I/O/U	Content of Urbis HIS	Comment
			1926 (L) and 2000 (R) footprints  2022 Floor plan (Urbis p. 55)
			Original roof from also still intact
12	U	"The dwelling is constructed of facebrick with a sandstone base, though the street facing bricks have been recently replaced and repointed"	It seems unlikely they would both replace and repoint the bricks. Repointing is likely and does not dimmish the contribution of the house to the HCA
12	O	"The front and side verandahs are finished with contemporary Old English tiling"	Does not reduce contribution to the HCA
12	O	"the lead-light front entry door is a replica"	Does not reduce contribution to the HCA
12	O	"The name 'Billingsley' name plaque on the front façade was installed post 2014"	Does not reduce contribution to the HCA
48	I	Incorrect History	For Lot 17 Section B DP 3277: Vol-Fol 728-219 – Transfer to Daniel Dering Mathew Vol-Fol 1287-42 – Transfer to Dodds, Dickson and Jones (1899) Vol-Fol 1438-89 – Transfer to Frederick Hewy Oxby (1907) Vol-Fol 1799-139 – Transfer to Matilda Jane Woodford (1908) – Transfer to Amy Wilcox (1909) – Transfer to Public Trustees (1959) Vol-Fol 10312-216
89	I	Statement of significance: "…has little contributory value to the surrounding Clanville Conservation Area"	With the main footprint, original façade, roof line and principal rooms all intact, the Federation bungalow dwelling makes a significant contribution to the HCA

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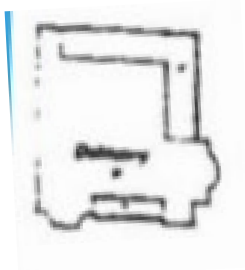
Page	I/O/U	Content of Urbis HIS	Comment
		"Its original footprint of the front rooms, gable form and fenestration pattern are representative of traditional Queen Anne elements"	This statement confirms that the building contributes to the significance of the HCA
		However these elements are presently contemporary reconstructions	No evidence that these are reconstructions
		Little original fabric remains on the exterior	The majority of fabric on the original part of the building is original
24 LORD STREET (1910-1915) Lot 18 DP 1173328			
15	I		  1926 (L) and 2022 (R) footprint
89	I	Statement of significance: "Has no contributory value to the surrounding Clanville Conservation Area"	With the principal façade including veranda and bay window largely as per the original footprint, the dwelling is readily recognisable as a Federation Queen Anne building and as such is a contributory site to the HCA
		"Does not possess any characteristics indicative of architectural excellence"	Unsubstantiated comment
		"Nor does it qualify for any category of significance"	No adequate assessment had been carried out to support this statement
		"It is a common example of Federation dwelling"	Confirms that it is contributory dwelling within the Clanville HCA.

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Page	I/O/U	Content of Urbis HIS	Comment
		"The original presentation to the streetscape…has also been altered through contemporary updates…"	Appropriate modifications have been carried out, and the dwelling continues to make a contribution to the HCA
21 ROSEVILLE AVENUE (1913-1917) Lot 9 DP 1046734			
16	U	Most likely built by Frederick Lockwood Holmes	Incorrect - Holmes owned the site from 1915-1936
16	I	Federation period home with Queen Anne style elements	No Queen Anne style elements visible in photos and they are not described in report
16	I	The home is on a simple lot The roof is simple terracotta tiling	The lot is a regular lot and the roof is a typical Federation roof "broad simple roof planes, often featuring gabled roof with ridge parallel to the street and with main roof extending over verandah" (Apperley et al p. 147)
65	I	Construction date c.1917-1918	Incorrect - the house ("Chigwell") was occupied by owner Percy Farebrother from 1912 (Sands)
65	I	Incorrect history	Lot 67 Section B DP 3277: Vol-Fol 728-219 – Transfer to Daniel Dering Mathew Vol-Fol 905-66 – Transfer to Francis Lord (1888) Vol-Fol 1287-42 – Transfer to Dodds, Dickson and Jones (1899) Vol-Fol 1438-89 - Transfer to George Hough (1908) Vol-Fol 1862-37 – Transfer to Percy Farebrother (1910) – Transfer to Frederick Lockwood Holmes (1915) – Transfer to FL Holmes Pty Ltd (1936) – Transfer to George Lindsay Main (1968)
89	I	Statement of significance: "…has little contributory value to the surrounding Clanville Conservation Area" "The subject dwelling possesses a degree of aesthetic and representative significance in that it is the most visibly intact dwelling of the subject area" "Further, a substantial degree of original fabric is extant on the site, specifically the timber joinery and leadlight fenestration arrangement is intact and representative of the Queen Anne style which was prevalent within the LGA and (sic) the time of construction" "Although these characteristics attribute a degree of significance…the dwelling in itself	From satellite images, the original footprint appears intact at the front of the dwelling. All additions appear to be at the rear of the property This contradicts the previous statement and instead indicates that the property contributes to the significance of the HCA. This comment further indicates that the property contributes to the significance of the HCA The word 'pedestrian' is not appropriate to describe a dwelling and does not follow the appropriate guidelines. It appears has been used to undermine the representative values of the building. It is a good quality example of its type

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Page	I/O/U	Content of Urbis HIS	Comment
		largely presents as a pedestrian example of a mid-Federation dwelling…"	and contributes to the collective significance of the HCA.
23 ROSEVILLE AVENUE Lot 66 Section B DP 3277			
18	I	"…primary form is of unfinished red face-brick construction…with a common sandstone base below, meanwhile the roof construction is of simple terracotta roof tiling devoid of applied ornamentation"	The dwelling is a very good example of a Federation bungalow, with simple, massing, broad simple roof plan, gabled roof with ridge parallel to the street and main roof extending over verandah, verandah with roofs supported by masonry piers and simple timber posts, face brick, leadlights used sparingly (Apperley et al p. 147)
18	O	"The left side of the wrap around verandah and horizontal timber elements along the primary façade were added during a 1973 extension"	Appropriate modifications have been carried out, and the dwelling continues to make a contribution to the HCA
20	U	Figure 36: Reconstructed leadlight front entry door	The door appears original and there are no plans provided that detail a new front door
69	I	Both figures show BA73/2959, labelled as indicating alterations and additions "from 1984"	A 1973 BA plan would not show changes to the building made in 1984
66	I	Incorrect history	Vol-Fol 728-219 – Transfer to Daniel Dering Mathew Vol-Fol 905-66 – Transfer to Francis Lord (1888) Vol-Fol 1287-42 – Transfer to Dodds, Dickson and Jones (1899) Vol-Fol 1438-89 - Transfer to George Mitchell (1919) Vol-Fol 1998-170 – Transfer to Oswald Allen West Dengate (1911) – Transfer to Donald John Durie and Judith Mary Durie (1962) – Transfer to Owen Curtis Hales and Roberta Wynn Hales (1982) Vol-Fol 14729-116
89	I	Statement of significance: "…has little contributory value to the surrounding Clanville Conservation Area" "Little extant original fabric remains within the internal and external construction" "The dwelling has undergone extensive contemporary modifications to its overall from thorough the extension of the side verandah and the addition of living spaces at the rear"	The house is a good and largely intact example of a Federation bungalow and makes a contribution to the HCA. The original roof form and facade are almost entirely intact, with the sensitive addition of a side verandah to the existing front verandah in 1973 Unsubstantiated. Neither the plans nor photos provided illustrate "extensive modifications". Then verandah extension is an acceptable modification which does not reduce the contributory value of the house. Other work has been appropriate, modest in scale and limited to the rear façade.

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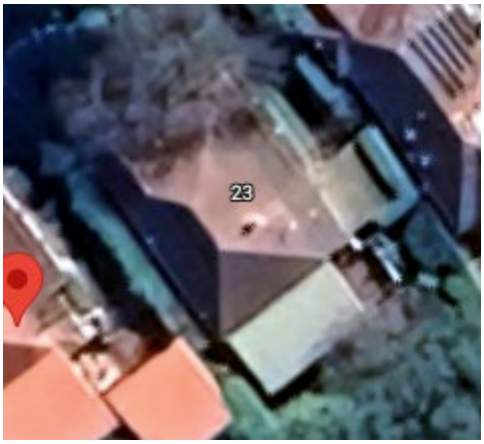
			All glazing on the primary façade appears original and no plans indicate otherwise
		"…presentation to the streetscape along the primary façade has also been updated through insertion of contemporary glazing…"	
		"Internally, a minor amount of original fabric remains in the front rooms. Some joinery in these spaces, such as the rear fretwork arrangement in the hallway, which presents as original, is a reconstruction of remaining extant fretwork"	No images or plans to support the statement
		"The lack of delineation between original and reconstructed fabric detracts from the site's aesthetic and representative value"	The work that has been carried out has been minimal. The original roof plane appears entirely intact. The only significant alteration – the 1973 verandah extension along the eastern façade – is clearly delineated with a separate roof (seen below, extending along the right hand side of the building) 
		"Overall, due to the extent of contemporary modifications within the subject site, no significance has been identified to warrant an individual listing on the dwelling's own right"	Images and Development Applications do not support extensive contemporary modifications
25 ROSEVILLE AVENUE Lot 65 Section B DP 3277			
20	I	"The simple façade includes Bungalow characteristics such as a large, deep roof plane sheltering a wrap-around verandah. The façade lacks ornamentation, with a contemporary front timber balustrade and replaced timber joinery and glazing"	Contradictory – the façade is described as typical for a Federation bungalow yet lacks ornamentation.
		"The verandah has been heavily modified…sandstone base at the front is the only remaining original element"	

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		"The dwelling has been heavily modified, with both front and rear facades retaining ,little original fabric"	1994 DA (BA94/1705) indicate the verandah was existing. In 1994 it was extended to the east, and the balustrade was added The images and DAs do not reflect this. The primary roof form remains intact. The front gable, with awning, is intact. The front door appear original. While the verandah has been extended to the east, this newer section is not underneath the roofline and clearly reads as a later addition, and is completely reversable. The original front façade is largely intact and presents as mid-Federation dwelling with only minor modifications
89	I	Statement of significance: "…has no contributory value to the surrounding Clanville Conservation Area" "The primary façade features a notable lack of applied ornamentation in comparison with other dwellings within the subject area" "…the fenestration arrangement and left-side verandah being of recent construction" "the original internal arrangement of the dwelling has been disrupted through the amalgamation of living spaces…" "Consequently, no significance has been identified to warrant an individual listing in the dwelling's own right"	The original front façade is largely intact and presents as mid-Federation dwelling with only minor modifications, and as such makes a contribution to the HCA Contradictory – other dwellings in the area meaning the subject sites they argue should be demolished? While the windows have been replaced (not documented in the DAs but listed as 2006 p. 71) the arrangement is as per the original and the work is reversible 1984 plans indicate a dividing wall between the living and dining rooms was removed. This is reversible and has little impact on the integrity of the building The removal of a dividing wall between two living spaces (reversable work) does not remove all significance from the dwelling or diminish its contribution to the HCA
27 ROSEVILLE AVENUE Lot 64 Section B DP 3277			
21	I	"The dwelling has been heavily modified, with both front and rear facades retaining little original fabric. The only original features on the street-facing façade are the prominent gable with a simple timber screen, roughcast finish, and a protruding window awning with ornate timber bracket"	While the dwelling has undergone extensive alterations, the majority of the impact is to the rear of the site. The primary facade retains its basic form, including the roof line, windows, front door (although a new main entry was created, the original front door appears to remain in place), timber posts and brackets, chimney, half-timbered gable, with awning over timber window.

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Page	I/O/U	Content of Urbis HIS	Comment
21	I	"are contemporary renovations, including the entire left-side verandah, updated in 2015"	The verandah on the eastern elevation, which had been enclosed at an earlier stage, was a reinstatement to its original form (DA0014/14) See Figure 116 p. 80 and below (2009) 
89	I	Statement of significance: "…has no contributory value to the surrounding Clanville Conservation Area" Comparatively to other dwellings in the subject area, the dwelling has undergone the most extensive degree of contemporary modifications…" "The lounge room and front bedrooms are the only extant spaces remaining form the structures original construction…"	Although modified, the original front façade is largely intact and presents as mid-Federation dwelling with modifications mostly located to one side (east) and the rear of the dwelling, and as such makes a contribution to the HCA The primary façade and floorplan of the original dwelling remain readable as a federation dwelling. The modifications have been limited to the eastern and southern façades and sit well back from the original primary façade and street scape, making them highly readable as more recent additions. The front four rooms remain in their original location, Plans indicate the fireplaces remain intact (see Figure 126). As no internal images have been provided, this is not able to be substantiated.
HERITAGE SIGNIFICANCE			
85	I	"The subject site is located within the vicinity of the following heritage items - Item I115 Roseville Scout Group Hall"	Omits: Lord Street/Bancroft Ave HCA 24, 26, 28 Bancroft Avenue 28 Lord Street

Page	I/O/U	Content of Urbis HIS	Comment
			10, 12, 16, 22, 31,32, 40, 45, 47 Roseville Avenue No inventory sheets included for any (inc. Scout Hall) No images included that show Scout Hall in relation to the proposed development
87	U	"detailed analysis have been identified to not be "highly intact" or "high quality"	No detailed analysis has been provided No acknowledgement of the nature of these contributory sites and their role in the collective HCA
		"Substantial contemporary modifications to their primary, street-facing facades"	All sites have a level of intactness making them highly readable of examples of Federation dwellings. None have been so compromised that they present as anything other than early 1900s dwellings
		"Substantial modern extensions present at the rear resulting in the obscurement of their original form"	Rear additions are almost unavoidable in dwellings of the early 20th century and do not diminish their role as contributory items in an HCA
		"...many feature...modern verandah constructions to the dwellings...disrupt the original formal arrangement"	Several of these verandah constructions are reinstatements of the original verandah from, following typical verandah enclose during the 1940s-1960s
88	U	"all of the subject sites have been assessed against the Heritage Council of Aust criteria for assessing heritage significance..."	No assessment against the criteria is included within this report

12. Independent Heritage Impact Assessment

An assessment of the heritage impacts of the proposal has been undertaken against the relevant KLEP and KDCP controls relating to heritage.

Table 4: Assessment of the proposal against the relevant provisions of KLEP and KDCP

Relevant Clause in KLEP 2015		Comment
Clause 5.10 Heritage Conservation		
5.10 (1)	Objectives	The proposal involves the demolition of 9 dwelling houses that individually and collectively contribute to the heritage significance of the Clanville HCA. The demolition of the houses will have a major detrimental impact on the significance and setting of the HCA. As such, it is contrary to the objective of Clause 5.10, as it does not conserve the heritage of Ku-ring-gai.
5.10 (2)	Requirement for consent	Consent is required and has been sought for the development on this site

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Relevant Clause in KLEP 2015		Comment
5.10 (4)	Effect of proposed development on heritage significance	The impacts of the proposal on the Clanville HCA and the many heritage items adjacent to and in the vicinity of the site must be considered in the assessment of this application
5.10 (5)	Heritage Assessment	The HIS provided with the application is fundamentally flawed, does not follow the relevant guidelines and contains many inaccuracies. It fails to identify and assess key aspects of the Clanville HCA and fails to identify and assess impacts to heritage items, contributory properties and an HCA within the vicinity of the site.
5.10 (6)	Heritage Conservation Management Plans	A Conservation Management Plan is not required.
5.10 (7)	Archaeological sites	The subject site is not an identified archaeological site.
5.10 (8)	Aboriginal Places of heritage significance	The subject site is not an identified Aboriginal Place of heritage significance.

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
19A.1 Subdivision and Site Consolidation for new development within an HCA	Objectives: 1 To retain the historic subdivision patterns within HCAs, that reflect the age and circumstances of the early and later subdivisions including the characteristic rhythm and built form spacing. 2 To ensure that new development respects the established streetscape, and the historical patterns of development. 3 To ensure new subdivisions and lot consolidations do not have an adverse impact upon the curtilage of Heritage Items, the streetscape setting of significant buildings and the identified character of the HCA as a whole Controls: 1. Applications for subdivision and site consolidation within an HCA is discouraged and will only be considered if the application: i) will have no adverse affect the significance of the HCA; ii) retains the typical block width characteristics and historic subdivision pattern of the area, including rear lanes; iii) the setting and curtilage of Heritage Items or significant buildings in the vicinity, including important structures and landscape elements, are retained;	The proposal is contrary to the objectives of this section, by proposing the amalgamation of 10 existing lots that reflect the historic subdivision rhythm and built form spacing of the HCA. The new amalgamated lot is entirely different to the established streetscape and historical subdivision pattern, with resultant major adverse impact on the streetscape and identified character of the HCA and the adjacent and nearby heritage items. The proposal is contrary to the specific controls of this section, in that: • The proposed site amalgamation does not retain the typical block width characteristics and historic subdivision pattern of the area • The proposal isolates the adjacent heritage item and will have an adverse impact on its setting and visual curtilage, including views and vistas • The proposed site amalgamation will result in a future development which will adversely affect the significance, character and appearance of the HCA.

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	iv) vistas and views to and from Heritage Items and contributory properties, especially the principal elevations of buildings, are not interrupted or obscured; v) the landscape quality of the streetscape is retained; vi) the contours and any natural features of the site have been retained and respected; vii) will not result in future development which will adversely affect the significance, character or appearance of the HCA. 2 Subdivision or consolidation will not generally be permitted where the setting or curtilage of any Heritage Items and contributory properties within or adjoining the site, would be compromised. 3 Applications for subdivision and site consolidation within an HCA will require a curtilage assessment.	• The proposed amalgamation will compromise the setting and curtilage of the 9 contributory dwellings on the site • No curtilage assessment has been provided with the Application
19B.1 Demolition within HCAs	Objectives 1 To ensure that sites, buildings and landscape features that contribute to the significance of an HCA are retained. Controls 2 The demolition of Heritage Items and contributory properties within HCAs is not supported. 3 Whole demolition of buildings, structures and landscape features (including significant trees) is generally not supported unless the applicant can satisfactorily demonstrate: i) demolition will not result in any adverse impacts on the streetscape or character of the HCA; ii) retention and stabilisation of the building or structure is unreasonable; iii) all alternatives to demolition have been considered with reasons provided why the alternatives are not acceptable; v) the replacement building is compatible with the identified significance and character of the streetscape and the HCA as a whole.	The proposal is contrary to the objectives of this section, as it proposes the full demolition of 9 existing dwellings that contribute to the significance of the Clanville HCA. The proposal is contrary to the controls of this section, in that: • The proposal is for the demolition of 9 existing dwellings that contribute to the significance of the HCA • The proposed demolition will result in major adverse impacts on the streetscape and character of the HCA through loss of contributory fabric and setting • Retention of the existing buildings is not unreasonable • Alternatives to demolition have not been considered • The replacement building is entirely incompatible with the identified significance and character of the HCA as a whole

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Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
19C Development within HCAs		
19C1 Local Character and Streetscape	Objectives 1 To ensure that sites, buildings and landscape features that contribute to the significance of an HCA are retained. 2 To conserve and enhance the character and significant elements of the HCA. 3 To ensure that additions or changes to contributory properties within HCAs respect their original, built form, architectural style and character. 4 To ensure the visual impact of new work is minimised through appropriate design, detail, proportion, scale and massing. 5 To promote high quality new design that complements the streetscape character and heritage significance of the HCA. 6 To ensure that new development retains the identified historic character of the HCA in which it is situated. Controls Additional Requirements for New Buildings 4 The scale and massing of new buildings is to be integrated into the established character of the HCA and respect the scale, form and character of adjacent or nearby development. They are to incorporate design elements such as the roof forms, facade and parapet heights, door, window and verandah proportions of contributory properties in the HCA, particularly neighbouring buildings from the same key development period. 5 The design and character of any new buildings are to be informed by the: i) date and style of contributory properties; ii) scale and form of contributory properties; iii) street and subdivision patterns of the HCA; iv) setbacks of neighbouring contributory properties;	The proposal is contrary to the objectives of this section, as it: • proposes the full demolition of 9 existing dwellings that contribute to the significance of the Clanville HCA. • does not retain the character of significant elements of the HCA • does not respect the original built form, style or character • does not minimise visual impact through appropriate design, particularly scale and massing • does not complement the streetscape character and significance of the HCA, introducing a 9 storey building into a low scale residential precinct • does not retain the identified historic character of the HCA The proposal is contrary to the controls of this section, as • The scale and massing of the proposed development has not been integrated into the established character of the HCA and does not respect the scale, form and character of adjacent and nearby development. • It does not incorporate design elements such as the roof forms, facade and parapet heights, door, window and verandah proportions of contributory properties in the HCA • The design and character of the 9 storey proposal is not informed by the date, style, scale, form, street and subdivision patterns, setbacks, materials, details of neighbouring properties, or views and vistas of the HCA.

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	v) materials, building techniques and details used in the HCA; and vi) views, vistas and skylines in the HCA. 6 Facades of new buildings are to be modulated to break down the scale of new development. 7 The height of new buildings is not to be higher than contributory properties. 8 New building roofs visible from the street are to reflect the size, shape, pitch, eaves and ridge heights, and bulk of contributory properties and roofs. They are to respect the complexity and patterns of predominant roof shapes and skylines of the HCA. 9 New buildings may be contemporary in design, however, their scale, form and detail is not to detract from the scale, form, unity, cohesion and predominant character of streetscape elements around it. 10 Where an HCA is characterised by single-storey development, single-storey development on infill sites is preferred.	• The long, monotonous facades of the proposed development is not modulated to break down its 9 storey scale • At 9 storeys, the proposal is significantly higher than surrounding contributory dwellings which are generally single storey in scale • The proposed flat roof does not reflect the pitched roof forms that characterise the area • The new building is contemporary in design, however its scale, form and detail significantly detracts from the scale, form, cohesion and predominant character of the streetscape. • The HCA is characterised by single-storey development, however the proposal is 9 storeys
19C.2 Setbacks and Building Separation	Objectives 1 To conserve and maintain the character and significance of individual properties and streetscapes in the HCA by maintaining the established pattern of front and side boundary setbacks. 3 To ensure the location and siting of new development respects the established pattern of built elements in the streetscape and the HCA. 4 To ensure new development does not adversely impact on the immediate streetscape or significant views within the HCA. Controls 1 The siting of alterations, additions and new buildings are to maintain the established streetscape pattern, including principal dwellings, garages, carports and garden structures. 2 Where there is a uniform building setback within streets, alterations and additions and new buildings are to respect the established pattern and not	The proposal is contrary to the objectives of this section, as it: • Does not maintain the established pattern of front and side setbacks through the amalgamation of nine allotments and loss of landscape corridors between buildings • The location and siting of the proposal does not respect the established pattern of the streetscape • The proposal will have a very high level of adverse impact on the immediate streetscape and views within the HCA. The proposal is contrary to the controls of this section, as • The siting and setbacks of the building are such that they destroy, rather than maintain, the establish streetscape pattern • The front setbacks of the proposed building does not reflect the established pattern of the street

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	be located forward of adjacent buildings. Where variations in setback exist, the larger setback will apply. Side setbacks are to be consistent with historic patterns. 3 Where variations in setbacks exist within the immediate vicinity and the streetscape, the larger setback will apply. Additional Requirements for New Buildings 4 New buildings are not to be orientated across sites contrary to the established alignment pattern. 5 The location of new buildings is to ensure that significant views to and from places within the HCA are retained.	• The building is oriented contrary to the established alignment pattern • Significant views to and from places in the HCA are obstructed.
19C.3 Gardens and Landscaping	Objectives 1 To retain the garden character of Ku-ring-gai's HCAs which is largely due to the deep frontages and large lots that support remnant trees, early surviving gardens with established introduced trees and built garden features such as fences, walls and paving. The street tree planting and pattern of soft and hard road verges also contribute to the landscape character. 2 To conserve, retain and enhance the significance of the garden and landscape character within individual properties, streetscapes and the HCA as a whole. 3 To ensure streetscapes within the HCAs are characterised by front gardens with substantial landscaped area and minimum hard surfaces. 4 To provide landscape screening to neighbouring properties. Controls 1 The established landscape character (height of the tree canopy, early gardens, remnant trees, historic tree plantings) that contributes to the significance of the streetscape and the HCA as a whole are to be retained and conserved in any new development. The reinstatement of original planting, where known, is encouraged.	The proposal is contrary to the objectives of this section, as it: • Does not retain the garden character of the HCA • Does not provide substantial front gardens and introduces excessive and uncharacteristic hard paved areas • Does not retain and conserve the significance of the gardens and landscape character of the 9 individual properties on the site. The proposal is contrary to the controls of this section, as • The established landscape character that contributes to the significance of the streetscape and the HCA as a whole is not retained and conserved in the new development. • Original gardens are removed

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	2 Original garden features such as gates, paths, stonework, garden terracing, tiling, cement crazy paving, walling and garden edging are to be retained and conserved. 3 New paving and hard surfacing, particularly to front setbacks is to be limited. 4 Front gardens are to avoid screening buildings from the street and: i) have a minimum of 70% landscaped area; ii) include substantial tree and shrub planting along street frontages. iii) front boundary hedges are to be a maximum 1.2m. 5 Materials for new garden paving or pathways are to be appropriate to the architectural style of the HCA, such as gravel for Federation style and sandstone flagging for Inter-war styles. Plain or stencilled concrete is not acceptable. 6 New driveways are to provide landscaping on side boundaries. 7 New, traditionally designed gardens that enhance historic and aesthetic character of the streetscape and the HCA as a whole are encouraged. 8 New gardens should be horticulturally and stylistically sympathetic to the period of the HCA. The use of similar materials such as sandstone, brick and gravel is encouraged. 9 The use of a variety of plant species to avoid mono-cultural plantings along street frontages and as screen planting is encouraged.	• Front gardens and setbacks contain large areas of hard paving and do not allow for substantial tree and shrub planting • The landscape design is not horticulturally or stylistically sympathetic to the period of the HCA
19C.4 Access and Parking	1 To ensure that modifications to provide access do not adversely affect significant built fabric of either individual buildings or the HCA as a whole. 2 To allow for on-site car parking where possible while retaining the character of the property, the streetscape and significance of the HCA. 3 To ensure that driveways do not have any adverse visual impact on the immediate streetscape and historic patterns in the HCA.	The proposal is contrary to the objectives of this section, as: • The impact of the proposed basement carparking and access has a major level of adverse impact on the built fabric of the HCA and the HCA as a whole • The proposed carparking and access has major adverse visual impact on the immediate streetscape

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	4 To minimise the visual impact of new car parking by locating it at the side or rear of properties, where possible Controls 4 New parking areas, garages and driveways are to be designed carefully so that they do not dominate the principal elevations or detract from the immediate streetscape and incorporate provisions for landscaping. 5 The siting of new driveways are to be consistent with the established pattern in the immediate streetscape and the HCA as a whole. 8 No excavation for a driveway is permitted in any front setback. 9 Excavation for a driveway is only permitted: i) in the side setback, at a minimum 3m behind the front building line; ii) a minimum 1m from the original building foundation; iii) where side setback requirements in the DCP are met; iv) only if a side gate is provided to hide the commencement of the excavated driveway slope.	The proposal is contrary to the controls of this section, as: • The proposed parking access dominates the principal elevation of the building at street level and detracts from the immediate streetscape • The proposed driveway is not consistent with the established pattern in the immediate streetscape and the HCA as a whole. • Excavation is proposed in the front setback.
19C.5 Building Design	Materials, Colours and Details Objectives 1 To retain significant materials and details within HCAs. 2 To ensure that the materials and colours of new work complements the identified character of the HCA 3 To ensure that the selection of materials and colours for new work is based on an understanding of the materials, finishes and colours predominant within the HCA. 5 To ensure new development respects the character of, and minimises the visual impact upon, the HCA and its streetscapes. Controls Additional Requirements for New Buildings	The proposal is contrary to the objectives of this section, as: • significant materials and details of the HCA are not retained • the materials and colours of the new work do not complement the identified character of the HCA. The proposal is for light coloured brick, rendered precast concrete, dark metallic bronze balustrades and glazing sets, dark metallic louvres and planters, and light timber fences, all of which are entirely uncharacteristic to the materials and colours of the HCA • the selection of materials and colours for new work is not based on an understanding of the materials, finishes and colours predominant within the HCA The proposal is contrary to the controls of this section, as

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	8 Materials used for new buildings are to be similar to, or compatible with, the original buildings in the HCA. 9 Development applications for new buildings are to provide a material board and details of colour scheme and finishes. 10 New buildings are to incorporate architectural language such as massing, proportions, coursing lines, materials and finishes, which are sympathetic to and complement the predominant character of the HCA. 11 New building colour schemes are not to detract from colour schemes in the streetscape and not to be in visual contrast with the colours of the contributory properties in the HCA. Recessive colours and traditional materials are preferred	• Materials proposed for the new buildings are not similar to, or compatible with, the original buildings in the HCA. • The proposal does not incorporate architectural language such as massing, proportions, coursing lines, materials and finishes, which are sympathetic to and complement the predominant character of the HCA. • The proposed colour scheme will detract from colour schemes in the streetscape is in visual contrast with the colours of the contributory properties in the HCA
19F Development within the Vicinity of Heritage Items and HCAs		
19F.1 Local Character and Streetscape	Objectives 1 To consider the impact on the historic curtilage and setting of the Heritage Item or HCA and related heritage features such as views, streetscape context, historical subdivisions, garden settings, alienated trees and other landscape features. 2 To retain the significance of Heritage Items or HCAs in their settings. 3 To ensure that the scale of new development does not dominate, detract from or compete with Heritage Items or HCAs in the vicinity. 4 To ensure that new development respects and conserves the significance of any nearby Heritage Items or HCA and their settings. 5 To ensure that new development does not visually dominate the adjoining or nearby Heritage Item or HCA. 6 To ensure that the scale of new development in the vicinity of a heritage item and HCA is in harmony with the streetscape and does not dominate, detract from or compete with the Heritage Item or HCA.	The proposal is contrary to the objectives of this section, in that • The proposal has not adequately considered the impact on the historic curtilage and setting of the adjacent and nearby heritage items, contributory properties and HCA, including streetscape context, views and landscape features • The HIS has failed to identify or assess the impacts of the proposal on numerous heritage items and an HCA in the near vicinity of the site, as detailed in section 5 of this report • The proposal does not retain the setting of the adjacent and nearby heritage items • the scale of the proposal, at 9 storeys, will dominate, detract from and compete with the single storey heritage items and HCAs in the vicinity. • The proposal does not respect or conserve the setting of the nearby Heritage Items or HCA, introducing a very significantly larger building height and mass into the historic low-scale setting of the items

Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	7 To protect significant views and vistas to and from the Heritage Item or HCA. Controls 1 All development in the vicinity of a Heritage Item or HCA is to include a Heritage Impact Statement (HIS). The HIS is to address the effect of the proposed development on a Heritage Item or HCA and demonstrate that the proposed works will not adversely impact upon significance, including any related heritage features within the identified curtilage and setting. Built form 2 Development on sites that either directly adjoin or are in the vicinity of a Heritage Item or an HCA is to have regard to: i) the form of the existing building or buildings including height, roofline, setbacks and building alignment; ii) dominant architectural language such as horizontal lines and vertical segmentation; iii) proportions including door and window openings, bays, floor-to ceiling heights and coursing levels; iv) materials and colours; v) siting and orientation; vi) setting and context; vii) streetscape patterns Views New development in the vicinity of a Heritage Item or HCA is to demonstrate that it will not reduce or impair important views to and from the Heritage Item from the public domain.	• The proposal will visually dominate the adjoining and nearby Heritage Items and HCA, due to its scale and massing. • The scale of the proposal is not in harmony with the streetscape and will dominate, detract from and compete with the items and HCA.  • significant views and vistas to and from the Heritage Items and HCA are not protected. The proposal is contrary to the controls of this section, as • The HIS has failed to identify or assess the impacts of the proposal on numerous heritage items and an HCA in the near vicinity of the site, as detailed in section 5 of this report • The proposal does not have regard to the built form of the nearby heritage items or HCA • The proposal will impair views to and from the adjacent heritage item from the public domain

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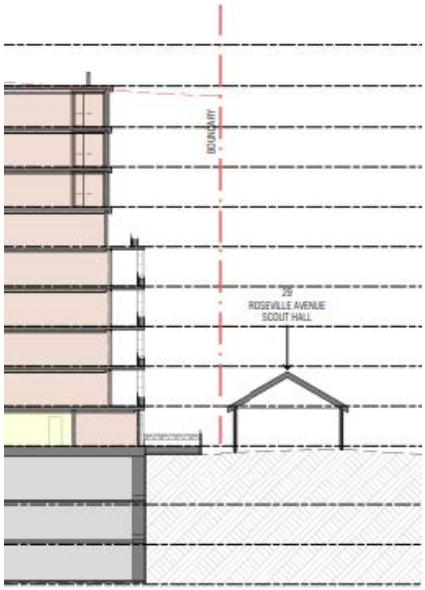
Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
19F.2 Building Setbacks	Objectives 1 To ensure new work in the vicinity of a Heritage Item or HCA respects and contributes to the established streetscape patterns through careful siting of new buildings. 2 To ensure new development provides an interface of scale and bulk to preserve the amenity to the adjacent Heritage Item or building within a HCA. 3 To ensure new medium and high density development does not visually dominate the Heritage Item or building within the HCA. Controls 1 The front setback of development adjacent to a Heritage Item or buildings within an HCA is to be greater than that of the Heritage Item or building within the HCA. Where variations in setbacks exist, the larger setback will apply. Residential Context 2 All medium and high density development is to have a stepped facade to any common boundary with a Heritage Item or building within the HCA. The facade is to be stepped back above an 8m height from natural ground level. Facades greater than 8m high will not be permitted adjacent to a Heritage Item or building with an HCA. 3 In addition to the side and rear setback controls in Section A of this DCP, new development adjacent to a Heritage Item or building within an HCA, is to comply with the following: i) adjacent developments are to have a minimum 12m building separation to the Heritage Item or building in the HCA (more if setback requirements are not met within the 12m) ii) adjacent development is to not exceed a facade height of 8m from existing ground level, including balustrades; iii) adjacent development with a building mass above 8m high from existing ground level is to be stepped back an additional 6m from the Heritage Item.	The proposal is contrary to the objectives of this section, in that • The proposal has not been sited with respect to the established streetscape pattern • The proposal does not provide an appropriate interface of bulk and scale in relation to the adjacent heritage item and items in the vicinity, which are predominantly single storey in scale • The proposal will visually dominate the adjacent and nearby heritage items and HCA due to its excessive scale, bulk and massing, resulting in major adverse impacts   The proposal is contrary to the controls of this section, as • The front setback of the proposal is less than the front setback of the adjacent and nearby heritage items • The façade of the development is not appropriately stepped in relation to the adjacent and nearby heritage items

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Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
	Where variations in setbacks exist the larger setback will apply 4 Any new development is to provide the following building separation to the building eaves or wall, whichever is closest, of: i) a neighbouring Heritage Item building; or ii) a neighbouring building within a Heritage Conservation Area: New Development Height 1 or 2 levels Minimum 6m 3 or more levels Min 12 m 5 Where the building separation requirements of this Part result in a greater setback requirements than stated in Section A of this DCP, the building separation controls of this Part prevail. 6 New development adjacent to a Heritage Item or adjacent to the HCA that has more than 2 levels or has a height more than 8m, is to step back the upper levels	• The proposal is for a 6m setback from the adjacent heritage item, half the required 12m. • The building setback of 9m to the upper levels is grossly inadequate to protect the setting and significance of the adjacent Scout Hall.
19F.3 Gardens and Landscaping	Objectives 1 To ensure that new development does not impact on the landscape character and garden setting of any nearby Heritage Item or HCA. Controls Gardens, Setting and Curtilage 1 Development in the vicinity of a Heritage Item or an HCA is to: i) retain original or significant landscape features associated with the Heritage Item or HCA, or which contribute to its setting. In particular, garden settings in the vicinity are not to be adversely affected in terms of overshadowing or physical impacts on significant trees; ii) retain the established landscape character of the Heritage Item or HCA including height of the tree canopy and density of boundary landscape plantings or otherwise reinstated them in the new development; iii) include appropriate screen planting on side and rear boundaries	The proposal is contrary to the objectives and controls of this section, in that • the proposal will have a high level of adverse impact on the garden settings of the nearby heritage items and HCA, through loss of existing established trees and gardens that contribute to that setting. • The proposed landscaping is fundamentally reduced and different to the existing landscaping on the development site, with adverse impacts on the setting of the adjacent and nearby heritage items and HCA • Appropriate screen planting has not been provided and is not able to be provided due to the excessive scale of the development in relation to the heritage items in the vicinity

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Relevant Clause in KDCP 2014	Relevant Objectives and Controls	Comment
19F.4 Fencing	Objectives 1 To retain early and original fences, gates and retaining walls where they survive, and where they reinforce the original landscape character of the garden and streetscape. 2 To retain those streetscapes where front and side fencing do not form part of the original streetscape. 3 To encourage the reinstatement of the original form of fencing and gates, where known. 4 To encourage new front fences and gates which contribute to the streetscape character of the HCA by being consistent with the established pattern of existing original fences Controls 5 Replacement of unsympathetic fences, gates and walls with new elements of appropriate height, style and materials is encouraged. 6 Where historic records and physical evidence exists, new front fencing and gates, including vehicular access gates, are to reinstate the original. 7 Where no evidence is available to guide reconstruction of missing fences and gates to contributory properties, new front fencing, pedestrian and vehicular access gates are to match the architectural style and period of the house. 8 No metal panel fencing is to be constructed on any boundary to a heritage item. 11 Sloping driveways to basement parking is not acceptable except if the gradient down begins behind the front building line and is less visible from the street.	The proposal is contrary to the objectives and controls of this section, in that the proposal is for the removal of characteristic fencing that contributes to the streetscape and its replacement with uncharacteristic light timber fencing that will detract from the adjacent heritage item and heritage items in the vicinity.

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13. Conclusion

This report provides an independent heritage impact assessment of SSD-78996460 which relates to a proposed residential development with infill affordable housing, at 16-24 Lord Street and 21-27 Roseville Avenue, Roseville. The development site is located within the Clanville HCA as listed in Schedule 5 Part 2 of the KELP. The EIS includes a Heritage Impact Statement prepared by URBIS. This letter reviews the URBIS HIS and provides a high level independent assessment of the likely heritage impacts of the proposed development.

In preparing this advice, I have reviewed the publicly available information in relation to the proposed development, undertaken a visual inspection of the site and surrounding area, and reviewed other documents relevant to the Clanville HCA to form an evidence-based opinion on the heritage impacts of the proposal.

A review of the URBIS HIS provided at Appendix GG of the EIS has been undertaken. The URBIS HIS is fundamentally flawed for the following primary reasons:

- The report does not follow the appropriate guidelines for assessing heritage significance or heritage impacts (*Guidelines for Preparing a Statement of Heritage Impact*, NSW Department of Planning and Environment, 2023).
- The report does not contain the required detailed historical analysis or fabric analysis of the existing houses and their settings and contains multiple factual errors about the history of the properties. This undermines the understanding of the contribution of the individual houses to the Clanville HCA and the impacts of their demolition.
- The report has not provided an assessment against the standard criteria to inform the statements made in the report about the significance of the buildings and their contribution to the significance and character of the Clanville HCA.
- The report is not informed by an analysis of the conservation area as a whole and fails to consider the contribution of the existing houses to the collective significance of the Clanville HCA. It fails to identify or acknowledge the key characteristics that contribute to the significance and character of the HCA. This undermines statements made about the impacts of the proposal on the HCA.
- The report has not referenced critical documents such as previous and recent heritage studies, original architectural drawings and previous HIS reports for the properties which must inform any assessment of the impacts of the proposed development.
- The report significantly over-states the effect of alterations and additions to the individual houses. It provides no analysis of the contribution of original facades, roof form and setting to the significance of the HCA or the reversibility of the additions; and is based on the incorrect assumption that any modification reduces significance.

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- No diagrams have been provided to provide evidence of the level of change. There are no internal photographs, external photographs are limited and poor quality, and lack the evidence required to substantiate statements made in the report about level of change.
- The report fails to identify numerous heritage items and contributory properties in the vicinity of the site that will be impacted by the proposed development or consider the impacts of the proposal on those heritage items.
- The report significantly understates the impact of the loss of nine individual houses which contribute to the significance and character of the Clanville HCA.
- The assessment against the LEP and DCP heritage controls contained in the report states that it is based on 'extensive historical and fabric analysis' but no such analysis has been provided.
- The assessment against the DCP controls has omitted an assessment against Section 19A – Subdivision and Site Consolidation, and 19F – Development in the Vicinity of Heritage Items and HCAs
- Whilst the HIS indicates in-principal support for the application, it also includes recommendations for substantial modifications to the design to address its impact on the HCA and nearby heritage items, that warrant its refusal on heritage grounds.

A detailed list of the inaccuracies and omissions of the Urbis HIS is in section 10 of this report.

The assessment of the impacts of the proposal contained in this report concludes that the proposed development will have a major adverse impact on the significance and character of the Clanville HCA, and the adjacent and nearby heritage items and HCA, due to:

- The loss of 9 existing houses, and their garden settings, that individually and collectively contribute to the identified and endorsed significance of the Clanville HCA.
- The impact of the scale, bulk, design, site amalgamation and landscaping of the proposed development on the significance, setting and character of the Clanville HCA.
- The impact of the proposed development on the heritage listed Scout Hall immediately adjacent due to the scale, bulk, setbacks and design of the proposed development.
- The impact of the proposed development on the setting of the many heritage items in the vicinity due to the scale, bulk, setbacks and design of the proposed development.

The proposal is contrary to the objectives of Clause 5.10 of the KLEP, as it does not conserve, but will have a major detrimental impact on the Clanville HCA and adjacent and nearby heritage items. In addition, the proposal is contrary to all of the relevant heritage objectives and controls contained within the KDCP 2015, as detailed in Section 11 above.

LISA TRUEMAN
HERITAGE ADVISOR

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Accordingly, significant and major objections are raised to this proposal on heritage grounds. The consent authority is requested to consider this assessment in detail in its consideration of the proposed development.

Yours sincerely

LISA TRUEMAN

BSc(Arch) BArch(Hons) M. ICOMOS, M.PIA, Associate RAIA

Attachments

Inventory Sheet – Clanville HCA

Lisa Trueman Curriculum Vitae

Item Details

Name

Clanville Conservation Area

SHR/LEP/S170

LEP # C32

Address

, ROSEVILLE NSW 2069

Local Govt Area

Ku-Ring-Gai

Local Aboriginal Land Council

Unknown

Item Type	Group/Collection	Category
Conservation Area	Landscape - Cultural	Streetscape

All Addresses

Addresses

Records Retrieved: 1

Street No	Street Name	Suburb/Town/Postcode	Local Govt. Area	LALC	Parish	County	Electorate	Address Type
	,	ROSEVILLE/NSW/2069	Ku-Ring-Gai	Unknown				Primary Address

Boundary Description

Refer to the Heritage Map on the Local Environmental Plan for the listing curtilage.

Significance

Statement Of Significance

Historically, the area represents the fine residential development of Roseville and Lindfield during the nineteenth and twentieth centuries. The area provides evidence of the 1819 land grant to Daniel Dering Mathew, the subsequent purchase of this grant by Richard Archbold in 1824 and later its subdivision.

The area has further historic significance for the successive subdivisions of “Clanville” in the late nineteenth century with the subdivisions of Roseville Park Estate (1893) and Roseville Station Estate (1896), and the early twentieth century subdivisions of Clanville Estate (1903); Clanville Heights Estate (aka Lindfield Heights Estate of 1906) (1905); Terry’s Hill Estate (1908); Archbold Hill Estate (1909); Clermiston Estate (1912); Taraville Estate (1914); The Firs Estate (1918); The Garden Estate (1920); Hordern’s Roseville Estate (1922) and Archbold Hill Estate (1923). These subdivisions demonstrate the development resulting from the construction of the North Shore rail line at the end of the nineteenth century.

The area has aesthetic significance for the highly intact and quality Federation and inter-war houses, with some examples of mid to late twentieth century development. Architectural styles present from the Federation period include Federation and transitional bungalows, Queen Anne, and Arts and Crafts, and present from the inter-war period mostly Californian Bungalows with some examples of Old English, Art Deco and Spanish Mission.

The area is of local heritage significance in terms of its historical and aesthetic value. This satisfies two of the Heritage Council criteria of local heritage significance for local listing.

Criteria a)

Historical Significance

The area has historic significance as part of the Daniel Dering Mathew 400-acre land grant known as “Clanville”.

The area has further historic significance for the successive subdivision of “Clanville” in the late nineteenth century subdivisions of Roseville Stations Estate (1896), Clanville Estate (1906), Terry’s Hill Estate (1908), the first Archbold Hill Estate (1909), Clermiston Estate (1912), The Firs Estate (1918), The Garden Estate (1920) and the second Archbold Hill Estate (1923)

Meets this criterion at a local level.

Criteria c)

Aesthetic/Technical Significance

The area has aesthetic significance for the highly intact and quality Federation and inter-war houses, with some examples of mid to late twentieth century development. Architectural styles present from the Federation period include Federation and transitional Bungalows, Queen Anne, and Arts and Crafts, and present from the inter-war period mostly Californian Bungalows but also Old English, Art Deco and Spanish Mission. There are some examples of late twentieth century Sydney regional style within the area.

Meets this criterion at a local level.

Criteria g)

Representative

Further investigation required to establish whether this criterion is met.

Integrity/Intactness

High level of integrity of the building stock.

Owners

Records Retrieved: 0

Organisation	Stakeholder Category	Date Ownership Updated
No Results Found		

Description

Designer **Builder/Maker**

Physical Description **Updated** 02/29/2024

The Clanville Conservation Area covers a large part of the eastern side of the suburb of Roseville and represents a substantial portion of the 400-acre land grant to Daniel Dering Mathew. Following the purchase of Mathews' land by Richard Archbold, upon his death the land was subsequently divided amongst his eight children. The 400 acres was divided into 50-acre strips of land running between the Pacific Highway and Archbold Road, and it is the division between these eight lots that form the main roads through the area, running east-west, including Boundary Street, Bancroft Avenue, Lord Street, Roseville Avenue, Clanville Road, Chelmsford Avenue and Middle Harbour Road. These long avenues are joined periodically by smaller and narrower side streets to allow access through the area. Most of the streets developed with a linear pattern, except for the section between the railway line and Trafalgar Avenue, within which the street pattern follows the original irregular lines of Gerald and Richard Archbold junior's land parcels. The irregularity can be seen in Clanville Road, Roslyn Avenue, Kelburn Road and Waimea Road. The main roads through the area are generally wide and slope gently down from the railway line and rise up again towards Archbold Road.

The area contains great consistency of intact buildings. The predominant architectural style is Federation, and this varies from Federation Arts and Crafts to Queen Anne and the Bungalow. There are many fine examples of the inter-war Old English and Californian Bungalow styles which emerged after the Federation period. There are also examples of late twentieth century Sydney regional style within the area.

The earliest subdivided areas such as Victoria Street, Bancroft Avenue, Lord Street, and Roseville Avenue contain the majority of Queen Anne and Arts and Crafts style buildings, but there are still elements of inter-war styles, such as California Bungalows and Old English, as well. The later subdivided area, such as Belgium Avenue, Trafalgar Avenue, Clanville Street, Kelburn Road and Rawhiti Street, contains highly significant buildings with more variety of architectural styles, including Federation Arts and Crafts, Federation Bungalow and inter-war styles such as Old English, Art Deco, Spanish Mission, but Californian Bungalows predominate.

The area is characterised by extensive avenue plantings, dominated by jacarandas and brushboxes. The pedestrian network of footpaths throughout the suburb is uniform, as are the grassed verges, creating a practical and user-friendly pedestrian environment. Private gardens are consistent in volume, density and style and generally an understanding by the owners of the architectural period of residence that the gardens surround. Many gardens are intricately designed and well maintained and provide a stimulating backdrop to the streetscape. There is distinct uniformity on front fencing, style and sizes.

Detracting elements within the area include dominating garages and driveways, carports within the front setback, obstructive front hedges, enclosed front verandahs, dominating front porch additions, aluminium front windows, large dormers windows at the front of the house, upper storey front balconies, rendered face brick work, painted face brick work and uncharacteristic colour schemes.

Physical Condition **Updated**

Modifications And Dates

Further Comments

These inventories are not comprehensive and should be regarded as a summary and general guide only. Council staff progressively update these inventories as further information becomes available. An inventory sheet with little information may indicate that the place was listed before inventories became common or there has been no building work or updates to the online information recently. It does not mean that the listed place is not significant. Further research is always recommended as part of preparation of development proposals for heritage items. This is necessary for preparing a heritage impact statement and conservation management plan, so that the significance of a listed place can be fully assessed prior to submitting development applications.

A heritage item listing generally covers the whole property including buildings, interiors and grounds. While not all listed features will be significant and warrant conservation, the full listing ensures the significance of features and heritage impacts on the whole place are assessed through the development application process before major changes proceed.

Current Use

Residential/civic

Former Use

Listings

Listings

			Records Retrieved: 1		
Heritage Listing	**Listing Title**	**Listing Number**	**Gazette Date**	**Gazzette Number**	**Gazzette Page**
Local Environmental Plan	Ku-ring-gai Local Environmental Plan 2015	C32			

Procedures/Exemptions

Records Retrieved: 0

Section of Act	Description	Title	Comments	Action Date	Outcome
No Results Found					

History

Historical Notes or Provenance **Updated** 1/22/2024 9:55:52 AM

Early development of the locality:
For thousands of years before European settlement, the Ku-ring-gai area was home to the Darramurragal people and other First Nations clans, the traditional custodians of land within the Ku-ring-gai Council boundaries. Due to the impact of colonisation on the Indigenous population and lack of records, the exact clan area boundaries in this region are not known. (Aboriginal Heritage Office, 19 Aboriginal Heritage and History within the Ku-ring-gai local Government Area, 2015)

The Clanville Conservation Area is part of the 400-acre grant “Clanville”, issued to Daniel Dering Mathew in 1819. It was the first formalised grant north of the Lane Cove River and was used by Mathew mainly for timber-getting purposes.

A little over four years later, Mathew placed an advertisement in the “Sydney Gazette” in February 1824 which described the 400-acre farm as having about 25 acres cleared, grubbed and partly enclosed with a four-rail fence suitable for cattle, with a five-roomed weatherboard house and accommodation and services for servants and farming (The Historian, Vol. 28 No. 1 p. 4).

Mathew sold the entire 400-acre grant to Richard Archbold in 1824. Archbold, a clerk, had been convicted in Dublin in 1813 to seven years’ transportation. He opened a school in The Rocks soon after his arrival and married Mary Pawley in 1917. According to “The General Muster List of New South Wales”, by 1925 Richard Archbold, listed as a school master, and Mary, had five children and were living in Sydney. Archbold had one employee and three government servants. For some years he diversified; he was granted a spirit licence, ran a tobacco store and dabbled in real estate but resumes school teaching in 1825. Archbold had repeatedly applied for land grants unsuccessfully until 14 November 1825 when he was granted 600 acres just south of and adjoining Daniel Dering Mathew’s grant (The Historian, Vol. 28 No. 1 p. 5).

Archbold purchased “Clanville” on 17 February 1824 for £150. He moved his family to the area, with the 1828 census showing the family all living at “Clanville”. Archbold established a new school in the area, for ten boys and four girls, within their new property. The Archbold family developed a fine orchard at “Clanville”, noted for its oranges, nectaries, plums and peaches (Thorne, 1968, p. 49).

When Richard Archbold died in 1836, his widow Mary was in her mid-30s, and their nine children ranged in age from 18 years to 8 months. After Mary’s death in 1850, the estate was divided into eight allotments, one for each of her children. The lots were approximately 50-acre strips, with a north-eastern boundary to what would become known as Archbold Road, southwestern boundary to

what is now Pacific Highway. In some cases, the tracks from the highway adjacent to their dividing lines became the roads eventually to Archbold Road, including Middle Harbour Road, Chelmsford Avenue, Roseville Avenue, Bancroft Avenue and Clanville Avenue (The Historian, Vol. 28 No. 1 p. 5). Gerald Archbold retained his Lot 4 and James transferred his Lot 2 to his wife Anne, but some sold their allotments to their sibling Richard (junior) who ended up with six of the eight lots. Lot 3 was bought by Francis Lord from Richard Archbold junior in 1886. Lord sold part of the land to the Railways Commissioner of NSW for the construction of the railway and the site of the new station in 1888. The conservation area is located entirely within Richard Archbold's 400-acre land parcel, and across Lots 1 to 6 of the eight lots left to his children.

By the end of the 1890s, subdivision of these eight 50-acre parcels into residential lots had begun and Roseville the suburb began to emerge The Historian, Vol. 48 No. 1 p. 7). The first subdivision within the Clanville Estate was in 1893, within Lot 1, known as "The Roseville Park Estate", with lots along both sides of Victoria Street and the northern side of Albert Street (now Boundary Street). A second subdivision took place in 1896, within Lot 3 which had been taken over by Lord's mortgagees. In May 1896 they auctioned the "Roseville Station Estate" which comprised a total of 114 residential lots on Hill Street, Roseville Avenue and the northern side of Lord Street. By that stage, the small cut-through streets such as Martin Lane and Glencroft Road had not yet been created and by 1900, 46 of the lots had been sold and by 1919, 23 remained unsold. Subsequent subdivisions took place throughout the conservation area during the 1900s, 1910s and 1920s:

Clanville Estate 1906 – 76 lots on the southern side of Lord Street and both sides of Henry Street (now Bancroft Ave).

Clanville Heights Estate 1905 - (aka Lindfield Heights Estate of 1906) – 20 lots along the southern side of Clanville Road.

Terry's Hill Estate 1908 – 51 lots on both sides Dudley Street, Gerald Avenue and Gregory Avenue.

Archbold Hill Estate (1) 1909 – Between Trafalgar Avenue and the railway line, including Kelburn Road, Waimea Road, and the western side of Trafalgar Avenue and the western end of Chelmsford Avenue.

Clermiston Estate 1912 – lots along Archbold Road between Boundary Road and Bancroft Avenue, and all of Clermiston Ave. This was a subdivision of earlier estate including Elouera (Hugh Sharpe Esq) on Archbold Road, Clermiston on cnr Clermiston and Boundary). Two large estates on southern side of Bancroft Avenue between Archbold and Clermiston – Charles Knowles Esq and CA Desjardines Esq).

Taraville Estate 1914 – 64 lots including the eastern side of Trafalgar Avenue, Belgium Avenue and Oliver Road.

The Firs Estate 1918 – 41 lots on both sides of Clanville Road between Archbold Road and Gregory Street, plus lots on Cranbrook Avenue. The estate was named for the "magnificent fir trees on the land, together with other fine specimens of the blue and white gum". Advertising makes note of large building blocks, well-formed roads, pleasant walk to the railways station and within a beautiful district of modern villa residences, picturesquely situated, surrounded by flowering gardens. The Council of the Shire of Ku-ring-gai was amongst the various parties which purchased allotments. Between December 1920 and January 1924, Council purchased a number of allotments, including that which contained the house belonging to Robert Fowler who had owned the land from until 1906 until 1918. It is believed the house was built at the end of the nineteenth century by the previous owners, the Archbold family. These allotments formed a large part of what is now Roseville Park. A portion of Marjorie Street was the subject of a Crown Grant to the Council on 22 October 1920 and this was added to the park.

The Garden Estate 1920 – 54 lots on Chelmsford Ave (southern side between Archbold and McLeod), both side of Marjorie (between Archbold and McLeod) and the eastern side of McLeod Street.

Hordern's Roseville Estate 1922 – 15 lots including the southern side of Oliver Road, between Hill Street and The Grove.

Archbold Hill Estate (2) 1923 – 19 lots between Trafalgar Avenue and McLeod Street – south side of Chelmsford Ave and the north side of Marjorie Street.

Very little further subdivision has taken place in the area since the early twentieth century.

Historic Themes

Records Retrieved: 0

National Theme	State Theme	Local Theme
No Results Found		

Recommended Management

Management Summary

Retain and conserve historic buildings and settings that contribute to the conservation area.

Conserve original or significant early features that contribute to the conservation area.

Limit alterations to historic features to maintenance and repair.

Design additions to respect the form and style, without visually dominating, historic buildings in the conservation area.

Before lodging applications for works, contact Council's duty planner for pre-application advice on the most efficient process, information requirements and the planned works.

Prepare a heritage impact statement for development applications.

Refer to the heritage provisions in Ku-ring-gai Council's Development Control Plan for more detailed development guidelines within a conservation area.

Management

Records Retrieved: 0

Management Category	Management Name	Date Updated
No Results Found		

Report/Study

Heritage Studies

Records Retrieved: 0

Report/Study Name	Report/Study Code	Report/Study Type	Report/Study Year	Organisation	Author
No Results Found					

Reference & Internet Links

References

Records Retrieved: 10

Type	Author	Year	Title	Link
Written	Paul Davies Pty Ltd	2008	Ku-ring-gai Town Centres – Heritage Conservation Area Review	
Written	Godden Mackay Logan	2005	Ku-ring-gai Urban Conservation Area Study - Stage 4	
Written	Godden Mackay Logan	2005	Ku-ring-gai Urban Conservation Area Study - Stage 3	
Written	Godden Mackay Logan	2002	Ku-ring-gai Urban Conservation Area Study - Stage 2 and 2(a)	
Written	Godden Mackay Logan Keys Young	2000	Ku-ring-gai Heritage and Neighbourhood Character Study Research	
Written	M.A. Schell & Associates	1999	Street by Street Assessment of Visual Character of Ku-Ring-Gai	
Written	Robertson and Hindmarsh Pty Ltd Architects	1996	Housing in NSW between the wars: a study of housing and housing estates constructed and developed in NSW between World War 1 and World War 11, Volume 3	
Written	Moore R., Pike, P., Proudfoot, H. and Tropman, L.	1987	Municipality of Ku-ring-gai Heritage Study	
Map	Sydney Water	1920	Water Board Maps	
Map	Ku-ring-gai Council	1890	Subdivision Maps	

Data Source

The information for this entry comes from the following source:

Data Source	Record Owner	Heritage Item ID
Local Government	Ku-ring-gai Council	1882683

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to **kmc@kmc.nsw.gov.au**

LISA TRUEMAN
HERITAGE ADVISOR

LISA TRUEMAN - CURRICULUM VITAE

Lisa Trueman is a heritage consultant with over 30 years' experience in built heritage conservation, including 15 years as a heritage adviser in local government. Lisa has qualifications in architecture and specialises in providing heritage advice and statutory guidance to local and state government agencies and private developers in order to facilitate outcomes based on heritage best practice.

Lisa has extensive knowledge of conservation practice and heritage legislation at both local and state level. She has worked on numerous local government heritage studies and reviews and provided advice on, and assessment of, the heritage impact of proposed works to heritage listed places for state and local government agencies.

Lisa has over 20 years' experience as an independent expert witness on heritage issues in the Land and Environment Court of NSW (LEC) and is a sought-after heritage expert for many local councils. Her LEC expertise includes facilitation of Section 34 agreements and provision of evidence.

Lisa is a current member of the NSW Heritage Council and of numerous committees and panels advising local, state and federal government agencies on heritage and planning matters.

Qualifications

Bachelor of Architecture (Honours), University of Sydney, 1990

Bachelor of Science (Architecture), University of Sydney, 1987

Committees and Panels

Member, Heritage Council of NSW, 2025-2028

Member, State Heritage Register Committee of the NSW Heritage Council, 2021–2027

Member, Sydney Harbour Federation Trust Community Advisory Committee 2022–2025

Member, Sydney North Planning Panel 2024-2028

Expert Member, Inner West Local Planning Panel, 2021–2027

Expert Member, Penrith Local Planning Panel, 2023-2027

Expert Member, Woollahra Local Planning Panel, 2024-2027

Expert Member, North Sydney Cove Local Planning Panel, 2024-2027

Expert Member, Lane Cove Local Planning Panel, 2024-2027

Expert Member, Willoughby Local Planning Panel, 2024–2027

Expert Member, Hornsby Local Planning Panel, 2024–2027

Expert Member, Hunters Hill Local Planning Panel, 2024–2027

Expert Member, Burwood Local Planning Panel, 2021–2027

Professional affiliations

Full Member, Planning Institute of Australia (Allied Professional 95352)

Associate Member, Australian Institute of Architects

Australia ICOMOS (International Council on Monuments and Sites) (Full International)

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LISA TRUEMAN
HERITAGE ADVISOR

Relevant Professional background

Principal, Lisa Trueman Heritage Advisor, 2021 – present

Principal Heritage Advisor, Extent Heritage, 2022- 2023

Senior Associate, GML Heritage, 2017– 2022

Conservation Planner, North Sydney Council, 2008–2017

Heritage Planner, Manly Council, 2007–2008

Heritage Advisor, Hornsby Council, 2002–2004

Expert Witness Experience

Expert Witness (Heritage) in numerous matters in the NSW Land and Environment Court, with over 20 years exeprience—representing local and state government agencies inlcuding:

- Heritage Council of NSW
- Inner West Council
- North Sydney Council
- Hunters Hill Council
- Willoughby Council
- Strathfield Council
- Wingecarribee Council
- Burwood Council
- Blacktown Council
- Bayside Council
- Shoalhaven Council
- City of Ryde Council
- Woollahra Council
- City of Parramatta Council
- Newcastle City Council

Recent Judgements

Feros Hotel Group Pty Limited v Shoalhaven City Council [2025] NSWLEC 1052

Cooney v North Sydney Council [2025] NSWLEC 1022

Metro Donnelly Road Pty Ltd v Willoughby City Council [2024] NSWLEC 1736

Hrsto v Burwood Council [2024] NSWLEC 1483

Key Heritage Studies

Hornsby Heritage Development Control Plan—Client: Hornsby Shire Council

Central Coast Heritage Development Control Plan—Client: Central Coast Council

Oxford Street Properties and Centennial Flats – Heritage Significance Assessment – Client: Woollahra Council

Neutral Bay Heritage Conservation Areas Review – Client: North Sydney Council

Hornsby Shire Heritage Conservation Areas Review—Client: Hornsby Shire Council

Hornsby Shire Landscape Heritage Study—Client: Hornsby Shire Council

Manly Heritage Conservation Areas Review—Client: Northern Beaches Council

Inner West Residential Heritage Review—Client: Inner West Council

Kiama Town Centre Heritage Review—Client: Kiama Council

Central Coast Heritage Gap Analysis—Client: Central Coast Council

City of Ryde Heritage Review—Client: City of Ryde Council

Hornsby Shire Heritage Gap Analysis and Action Plan—Client: Hornsby Shire Council

Bayside Heritage Study—Client: Bayside Council

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Independent Heritage Assessments

Regular independent heritage assessments and peer reviews for Burwood, Penrith, North Sydney, Woollahra and Shoalhaven Councils

Pathways Cremorne SSDA, Independent Heritage Impact Assessment — Client: NSW Department of Environment and Planning

2A Gregory Place Harris Park, Peer Review and Independent Assessment of SSDA —Client: NSW Department of Environment and Planning

MLC Building North Sydney, Independent Heritage Assessment of Development Application — Client: North Sydney Council

North Sydney Olympic Pool Independent Heritage Assessment of Development Application — Client: North Sydney Council

Cooper Street and Wentworth Street, Burwood, Heritage Peer Review—Client: NSW Department of Environment and Planning

Parramatta CBD Interface Areas – Independent Review —Client: NSW Department of Environment and Planning

Manly Village Public School, Forest High School, Mona Vale Public School, Dee Why Public School, Darcy Road Public School Masterplans– Client: Schools Infrastructure NSW

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Annexure B: Survey Information

21/05/2025
Ref: 250506 Report

MITCH AYRES SURVEYING

Eastside Roseville Action Group Inc
C/- Natasha Sherwood

Re: Bancroft Avenue, Lord Street, Roseville Avenue & Oliver Road, Roseville

Dear Natasha,

As per your instructions our company has surveyed levels at the frontages to properties on Bancroft Avenue, Lord Street, Roseville Avenue & Oliver Road, Roseville. This report should be read in conjunction with the provided level survey “Plan showing street levels over Bancroft Av, Lord St, Roseville Av & Oliver Rd, Roseville” Ref: 250506 Issue: 2.

Survey Methodology

Levels have been obtained using CORS NRTK GNSS methods. These levels have an accuracy range of ± 0.05m.

The boundaries shown on the plan have been compiled from DP1046731, DP1046734, DP1046912 and DP1046914 and are indicative only. No Boundary survey has been undertaken. The stratum limits of Sydney Metro Stratum lots are:

Lot and DP	Upper Limit	Lower Limit
Lot 1 DP1046731	RL 85.0 (AHD)	Unlimited in depth
Lot 1 DP1046734	RL 85.0 (AHD)	Unlimited in depth
Lot 1 DP1046912	RL 88.0 (AHD)	Unlimited in depth
Lot 1 DP1046914	RL 89.0 (AHD)	Unlimited in depth

Depth from Ground Level to the Upper Limit of the Sydney Metro Stratum Lots

Levels have been interpolated to the centre of the frontages of the properties listed in the table below. These interpolated levels have been derived from the CORS GNSS Observations (which are the levels plotted on the accompanying plan).

Mitch Ayres Surveying Pty Ltd
ABN 21 642 295 494
PO BOX 4226
Lugarno NSW 2210
T 0447 073 893
E adam@mitchayressurveying.com.au
Registered Surveyor SU009288
Adam Kesby B. Eng (Surveying)(Hons) UNSW

21/05/2025
Ref: 250506 Report

MITCH AYRES SURVEYING

Property Address	Lot and Deposited Plan	Interpolated Level at Centre of Street Frontage (AHD)	Upper Limit of Sydney Metro Stratum Lot Below (AHD)	Depth to Sydney Metro Stratum Lot (m) (Rounded to 0.1m)
21 Oliver Road, Roseville	Lot 4 DP1046731	93.78	85	8.8
23 Oliver Road, Roseville	Lot 5 DP1046731	93.24	85	8.2
25 Oliver Road, Roseville	Lot 6 DP1046731	92.61	85	7.6
16 Roseville Avenue, Roseville	Lot 2 DP1046734	93.15	85	8.2
18 Roseville Avenue, Roseville	Lot 3 DP1046734	92.18	85	7.2
20 Roseville Avenue, Roseville	Lot 4 DP1046734	91.28	85	6.3
11 Roseville Avenue, Roseville	Lot 5 DP1046734	94.01	85	9.0
15 Roseville Avenue, Roseville	Lot 6 DP1046734	92.86	85	7.9
17 Roseville Avenue, Roseville	Lot 7 DP1046734	92.01	85	7.0
19 Roseville Avenue, Roseville	Lot 8 DP1046734	91.09	85	6.1
21 Roseville Avenue, Roseville	Lot 9 DP1046734	90.07	85	5.1
8 Lord Street, Roseville	Lot 2 DP1046912	96.6	88	8.6
10 Lord Street, Roseville	Lot 3 DP1046912	95.04	88	7.0
12 Lord Street, Roseville	Lot 4 DP1046912	93.57	88	5.6
14 Lord Street, Roseville	Lot 5 DP1046912	92.31	88	4.3
7A Lord Street, Roseville	Lot 6 DP1046912	98.2	88	10.2
9 Lord Street, Roseville	Lot 7 DP1046912	95.99	88	8.0
11 Lord Street, Roseville	Lot 8 DP1046912	94.01	88	6.0
15 Lord Street, Roseville	Lot 9 DP1046912	92.38	88	4.4
2 Bancroft Avenue, Roseville	Lot 3 DP1046914	95.94	89	6.9
4 Bancroft Avenue, Roseville	Lot 4 DP1046914	95.5	89	6.5
6 Bancroft Avenue, Roseville	Lot 10 DP1046912	95.14	88	7.1

Mitch Ayres Surveying Pty Ltd
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Registered Surveyor SU009288
Adam Kesby B. Eng (Surveying)(Hons) UNSW

21/05/2025
Ref: 250506 Report

Protection Reserves

The protection of Sydney Metro infrastructure is outlined in section 4 of the “Sydney Metro Underground Corridor Protection Technical Guidelines’. This document can be found here:

https://www.sydneymetro.info/sites/default/files/2021-09/SM-Underground-Corridor-Protection-Technical-Guidelines.pdf

This document in full has also been attached to the end of this report.

Kind regards,

Adam Kesby
Registered Surveyor
ID SU009288

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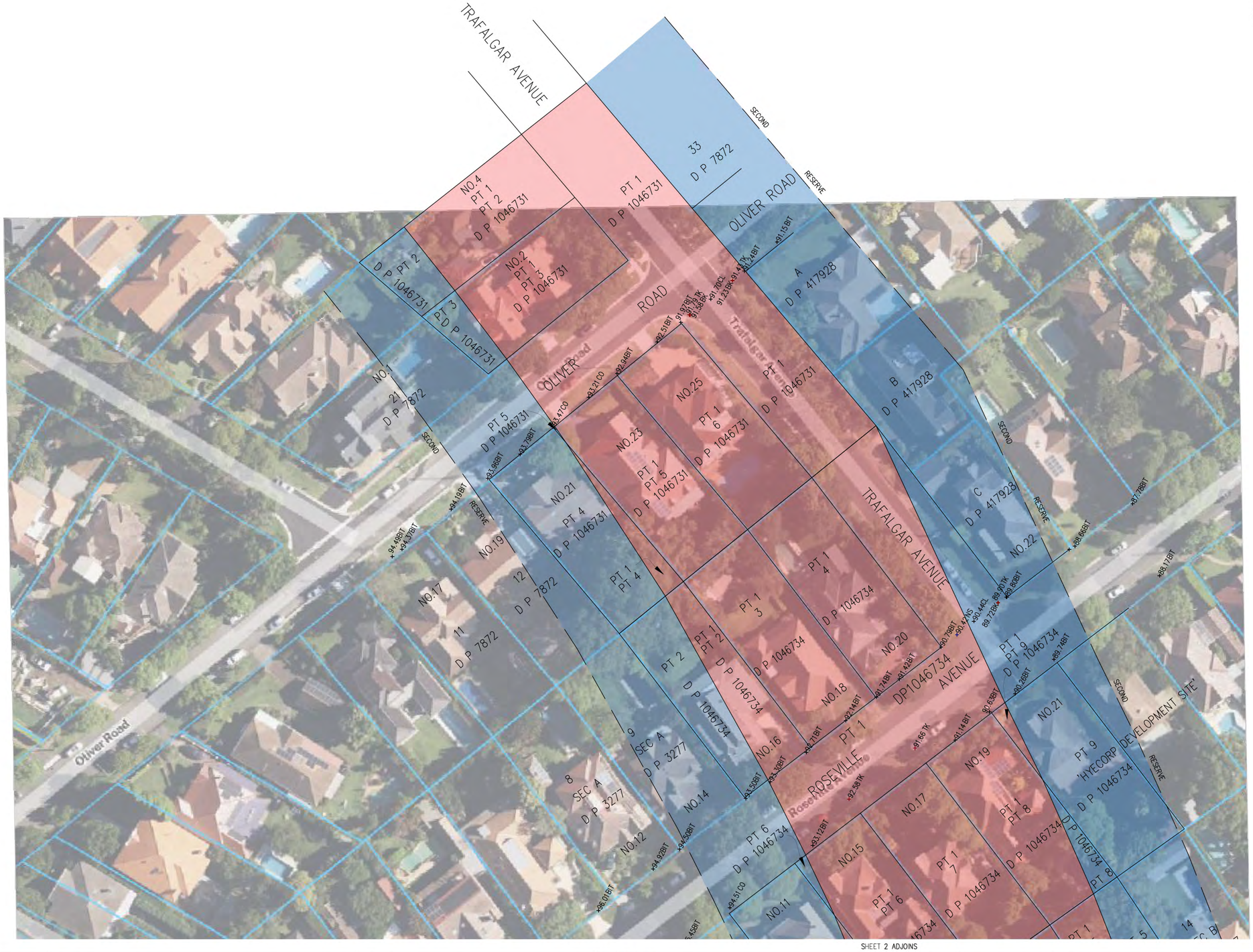

DENOTES LOCATION OF SYDNEY METRO STRATUM LOT

DENOTES 25 METRE CORRIDOR FROM THE SYDNEY METRO STRATUM LOT.

NOTE:
NO BOUNDARY SURVEY HAS BEEN UNDERTAKEN.
BOUNDARIES ARE INDICATIVE ONLY AND HAVE BEEN COMPILED FROM DP1046731, DP1046734, 1046912 AND DP1046914.

WHERE PT 1 DP 1046731 EXISTS, TRAFALGAR AVENUE, OLIVER ROAD AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 85.0 (AHD). LOT 1 DP 1046731 IS LIMITED IN HEIGHT TO RL 85.0 (AHD) AND IS UNLIMITED IN DEPTH.

WHERE PT 1 DP 1046734 EXISTS, TRAFALGAR AVENUE, ROSEVILLE AVENUE AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 85.0 (AHD). LOT 1 DP 1046734 IS LIMITED IN HEIGHT TO RL 85.0 (AHD) AND IS UNLIMITED IN DEPTH.

WHERE PT 1 DP 1046912 EXISTS, LORD STREET AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 88.0 (AHD). LOT 1 DP 1046912 IS LIMITED IN HEIGHT TO RL 88.0 (AHD) AND IS UNLIMITED IN DEPTH.

WHERE PT 1 DP 1046914 EXISTS, THE LANE AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 89.0 (AHD). LOT 1 DP 1046914 IS LIMITED IN HEIGHT TO RL 85.0 (AHD) AND IS UNLIMITED IN DEPTH.

AERIAL IMAGE UNDERLAY HAS BEEN EXPORTED FROM THE NSW SDT EXPORER ON THE 21/05/2025 AND SCALED TO THE COMPILED BOUNDARY.

SHEET 2 ADJOINS

LEGEND

AWN	– AWNING	NS	– NATURAL SURFACE
BT	– BITUMEN	RR	– ROOF RIDGE
BK	– BOTTOM OF KERB	IO	– SEWER INSPECTION PIT
B.D	– BUILDING	SGN	– SIGN POST
BO	– BOLLARD	S	– SILL
BM	– BENCH MARK	GBV	– GRAVRT LEVEL
BS	– BOTTOM OF STEPS	TEL	– TELSTRA PIT
C	– CENTRELINE	TF	– TOP OF FENCE
CO	– CONCRETE	TG	– TOP OF GUTTER
E	– ELECTRICAL BOX	TH	– TOP OF HEDGE
EB	– EDGE OF BITUMEN	THR	– TOP OF HANDRAIL
EC	– EDGE OF CONCRETE	TI	– TRAFFIC ISLAND
EG	– EDGE OF GARDEN	TK	– TOP OF KERB
F	– FENCE	THEDGE	– TOP OF HEDGE
FL	– FLOOR LEVEL	TP	– TOP OF PARAPET
HYD	– HYDRANT	TR	– TREE
H	– HEAD	TS	– TOP OF STEPS
INV	– INVERT LEVEL	TW	– TOP OF WALL
LTL	– LINTEL	US	– UNDERSOIL
MH	– MANHOLE	WIN	– WINDOW
		WM	– WATER METER

TYPICAL NOTES:

1. ORIGIN OF LEVELS SSM 103880 RL 89.67 (AHD)
2. BEARINGS ARE ON MAGNETIC NORTH
3. NO BOUNDARY SURVEY WAS BEEN UNDERTAKEN.
4. BOUNDARY SHOULD BE MARKED PRIOR TO CONSTRUCTION OCCURRING ON OR NEAR THE BOUNDARY.
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CLIENT:

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C/- NATASHA SHERWOOD

TITLE No:	REF:250506
DATUM: AHD	ISSUE:2
DATE OF SURVEY: 14/05/2025	ISSUE DATE:21/05/2025
SURVEYOR:JN	SHEET SIZE:A1
DRAFTER:PH	SHEET 1 OF 4 SHEETS

ISSUE	DATE	AMENDMENT	BY
2	21/05/2025	AERIAL IMAGE AND HERITAGE UNDERLAY ADDED	AK

REDUCTION RATIO 1 : 500
0 5 10 15 20 25 30 35 40 45 50
LENGTHS ARE IN METRES

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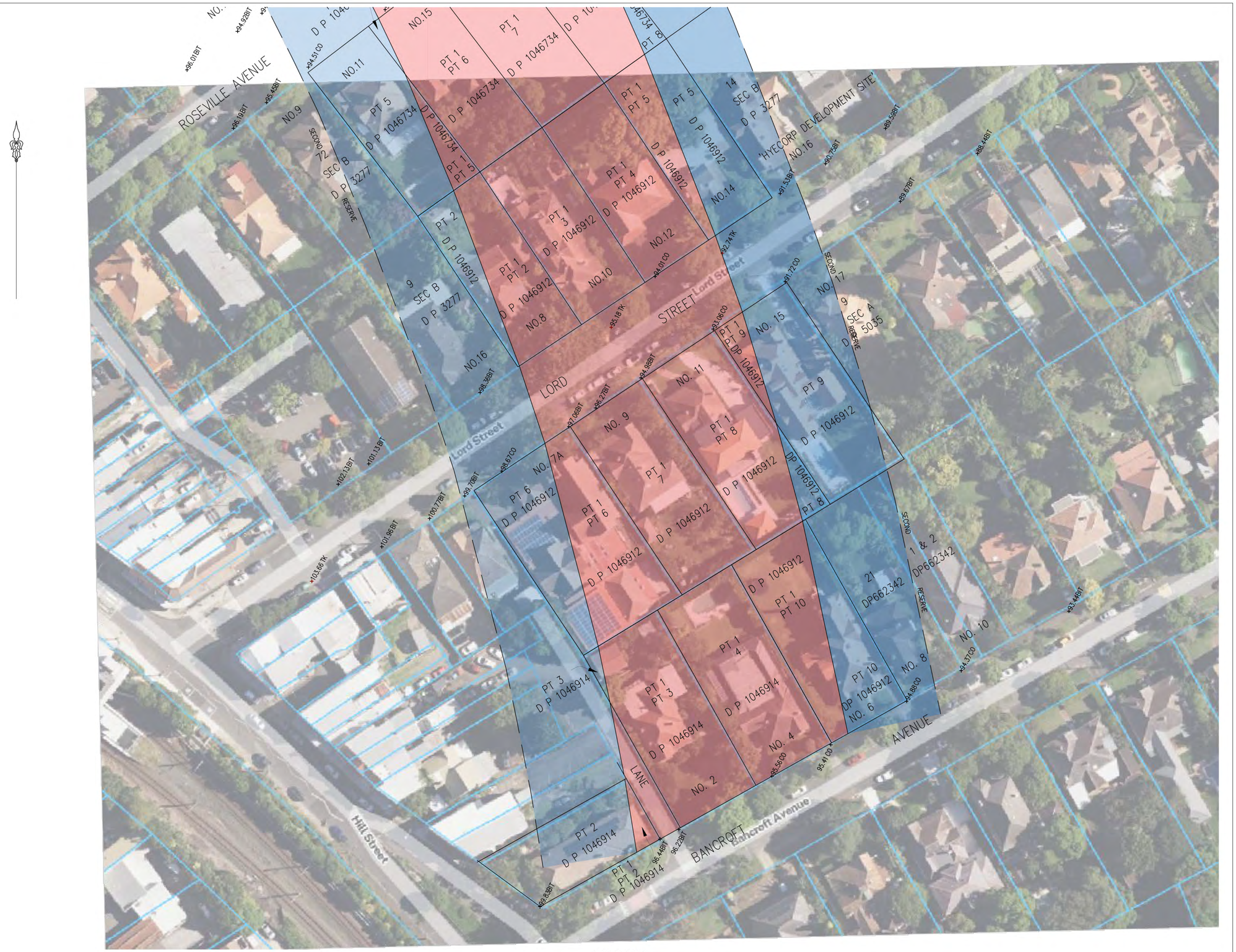

DENOTES LOCATION OF SYDNEY METRO STRATUM LOT

DENOTES 25 METRE CORRIDOR FROM THE SYDNEY METRO STRATUM LOT.

NOTE:
NO BOUNDARY SURVEY HAS BEEN UNDERTAKEN.
BOUNDARIES ARE INDICATIVE ONLY AND HAVE BEEN COMPILED FROM DP1046731, DP1046734, 1046912 AND DP1046914.

WHERE PT 1 DP 1046731 EXISTS, TRAFALGAR AVENUE, OLIVER ROAD AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 85.0 (AHD). LOT 1 DP 1046731 IS LIMITED IN HEIGHT TO RL 85.0 (AHD) AND IS UNLIMITED IN DEPTH.

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WHERE PT 1 DP 1046914 EXISTS, THE LANE AND THE LOTS ABOVE ARE LIMITED IN DEPTH TO RL 89.0 (AHD). LOT 1 DP 1046914 IS LIMITED IN HEIGHT TO RL 89.0 (AHD) AND IS UNLIMITED IN DEPTH.

AERIAL IMAGE UNDERLAY HAS BEEN EXPORTED FROM THE NSW SDT EXPORER ON THE 21/05/2025 AND SCALED TO THE COMPILED BOUNDARY.

SHEET 2 ADJOINS

LEGEND

AWN	– AWNING	NS	– NATURAL SURFACE
BT	– BITUMEN	RR	– ROOF RIDGE
BK	– BOTTOM OF KERB	IO	– SEWER INSPECTION PIT
B.D	– BUILDING	SGN	– SIGN POST
BOL	– BOLLARD	S	– SILL
BM	– BENCH MARK	OBV	– OBVERT LEVEL
BS	– BOTTOM OF STEPS	TEL	– TELSTRA PIT
C	– CENTRELINE	TF	– TOP OF FENCE
CO	– CONCRETE	TG	– TOP OF GUTTER
E	– ELECTRICAL BOX	TH	– TOP OF HEDGE
EB	– EDGE OF BITUMEN	THR	– TOP OF HANDRAIL
EC	– EDGE OF CONCRETE	TI	– TRAFFIC ISLAND
EG	– EDGE OF GARDEN	TK	– TOP OF KERB
F	– FENCE	THEDGE	– TOP OF HEDGE
FL	– FLOOR LEVEL	TP	– TOP OF PARAPET
HYD	– HYDRANT	TR	– TREE
H	– HEAD	TS	– TOP OF STEPS
INV	– INVERT LEVEL	TW	– TOP OF WALL
LTL	– LINTEL	US	– UNDERSIDE
MH	– MANHOLE	WIN	– WINDOW
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DRAFTER:PH	SHEET 2 OF 4 SHEETS

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LENGTHS ARE IN METRES

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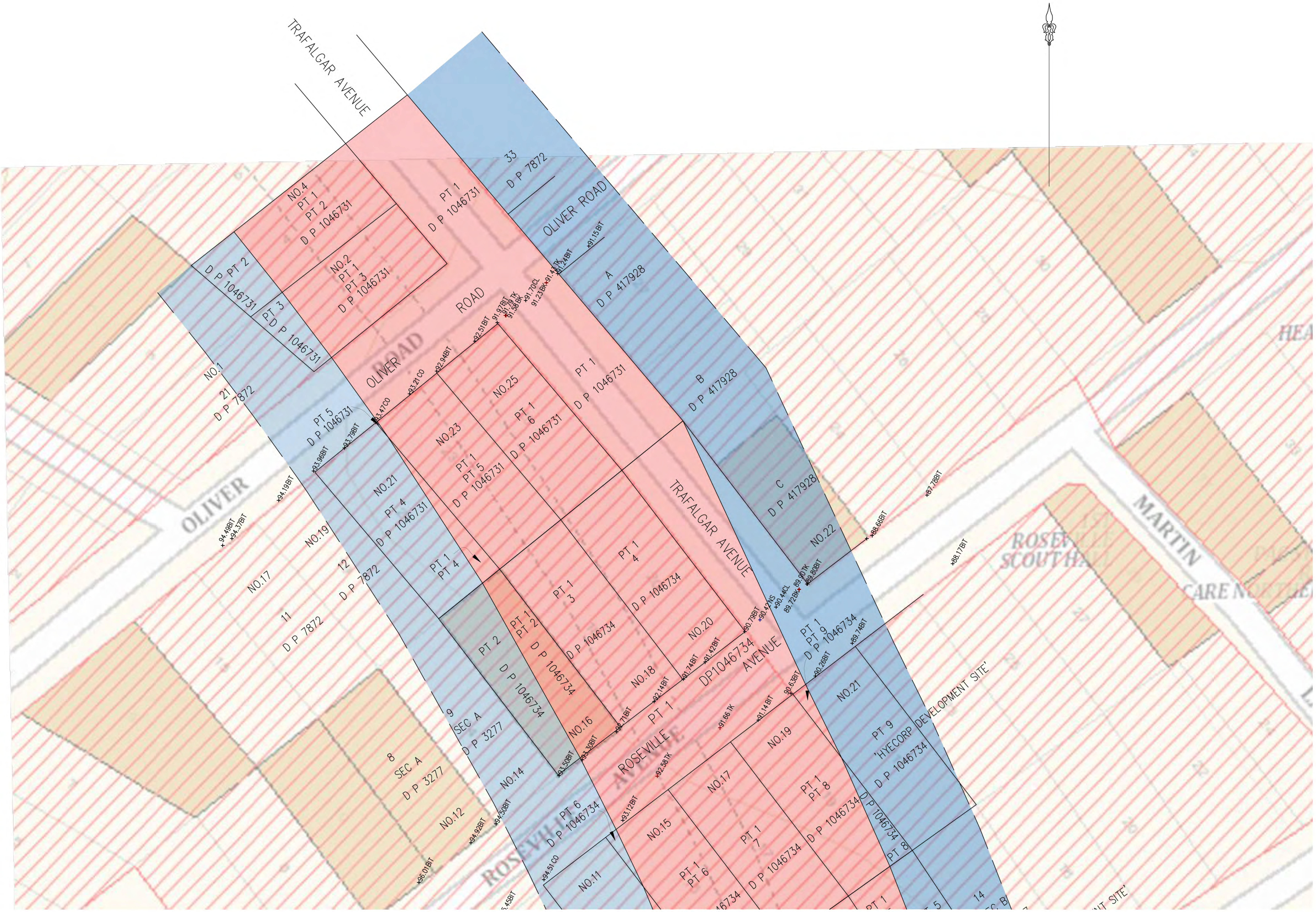

Heritage Map

- Aboriginal Object
- Aboriginal Place of Heritage Significance
- Conservation Area - Aboriginal
- Conservation Area - Archaeological
- Conservation Area - General
- Conservation Area - Landscape
- Heritage Conservation Area
- Item - Aboriginal
- Item - Archaeological
- Item - General
- Item - Landscape
- Local Heritage - General

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THE HERITAGE UNDERLAY HAS BEEN EXPORTED FROM THE NSW PLANNING PORTAL SPATIAL VIEWER ON 21/05/2025 AND SCALED TO THE COMPILED BOUNDARY.

SHEET 2 ADJOINS

LEGEND

AWN – AWNING
BIT – BITUMEN
BK – BOTTOM OF KERB
BLD – BUILDING
BOL – BOLLARD
BM – BENCH MARK
BS – BOTTOM OF STEPS
CL – CENTRELINE
CO – CONCRETE
E – ELECTRICAL BOX
EB – EDGE OF BITUMEN
EC – EDGE OF CONCRETE
EG – EDGE OF GARDEN
F – FENCE
FL – FLOOR LEVEL
HYD – HYDRANT
H – HEAD
INV – INVERT LEVEL
LTL – LINTEL
MH – MANHOLE
NS – NATURAL SURFACE
RR – ROOF RIDGE
IO – SEWER INSPECTION PIT
SIGN – SIGN POST
S – SILL
OBV – OBVERT LEVEL
TEL – TELSTRA PIT
TF – TOP OF FENCE
TG – TOP OF GUTTER
TH – TOP OF HEDGE
THR – TOP OF HANDRAIL
TI – TRAFFIC ISLAND
TK – TOP OF KERB
THEDGE – TOP OF HEDGE
TP – TOP OF PARAPET
TR – TREE.
TS – TOP OF STEPS
TW – TOP OF WALL
US – UNDERSIDE
WN – WINDOW
WM – WATER METER

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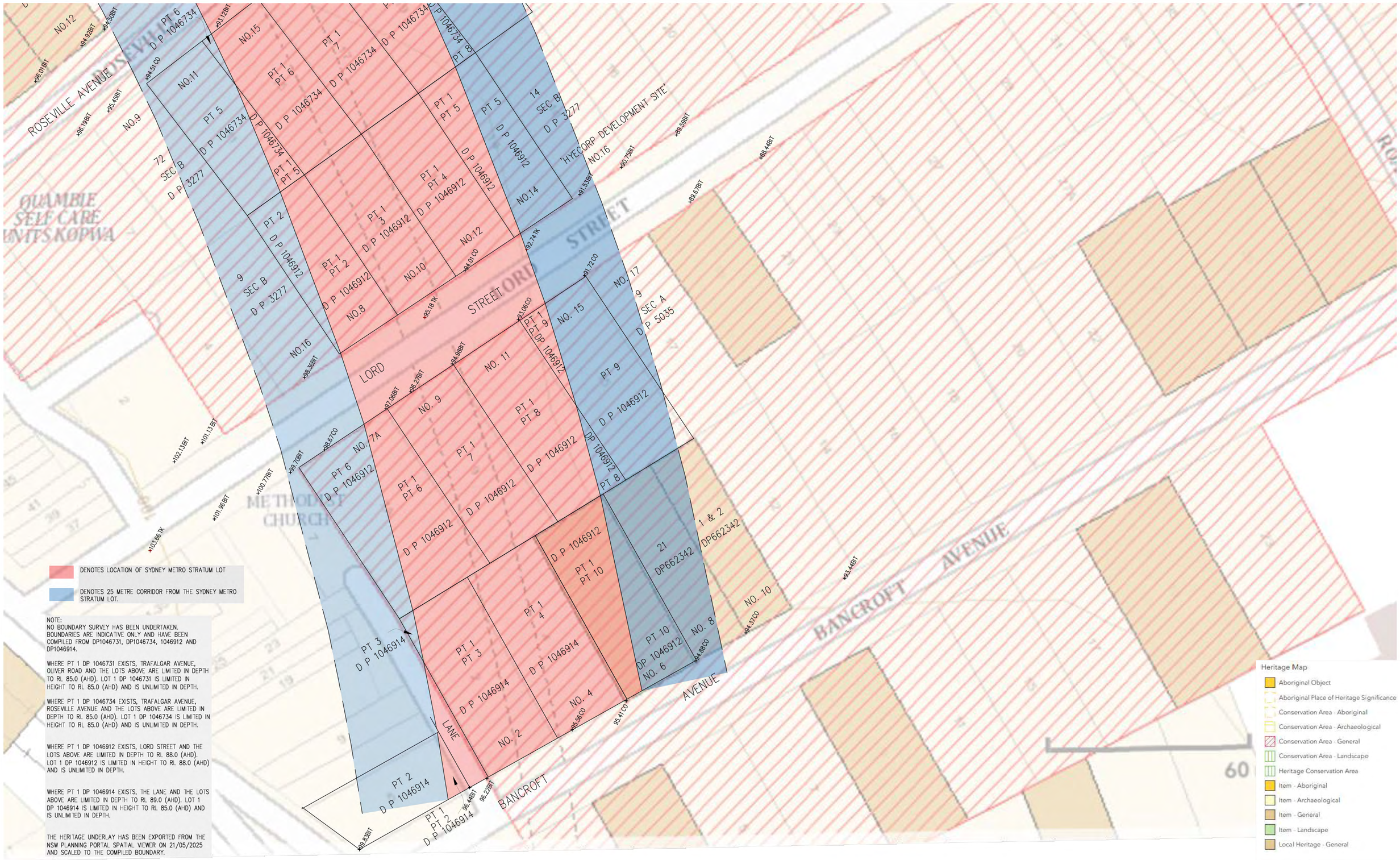

SHEET 2 ADJOINS

LEGEND

AWN	AWNING	NS	NATURAL SURFACE
BT	BITUMEN	RR	ROOF RIDGE
BK	BOTTOM OF KERB	IO	SEWER INSPECTION PIT
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EC	EDGE OF CONCRETE	TI	TRAFFIC ISLAND
EG	EDGE OF GARDEN	TK	TOP OF KERB
F	FENCE	THEDGE	TOP OF HEDGE
FL	FLOOR LEVEL	TP	TOP OF PARAPET
HYD	HYDRANT	TR	TREE
H	HEAD	TS	TOP OF STEPS
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Sydney Metro Underground Corridor Protection Technical Guidelines

Contents

Author:	Jiping Pan – Technical Executive, WSP; Antoni Kuras – Regional Executive, Geotechnics and Tunnels WSP; Denise Thornton – Corridor Protection Analyst, Sydney Metro
Date:	April 2021
Version:	2
Reference:	iCentral SM-20-00081444
Division:	Operations, Customer & Place Making
Reviewer:	Geoff Bateman – Technical Advisor, Sydney Metro
Review date:	As required

1 Introduction

The structural stability and operation of existing Sydney Metro underground infrastructure needs to be protected, including running tunnels, station caverns and shafts. Any new development near existing Sydney Metro underground infrastructure has the potential to impact on the structural stability and operations of this infrastructure. Similarly, developments proposed near planned metro underground infrastructure have the potential to impact on the feasibility of future metro construction.

Sydney Metro under delegation from Transport for NSW (TfNSW) has an obligation to review the development applications of proposed developments near to Sydney Metro underground infrastructure, both planned and existing, to ensure impacts are appropriately assessed and managed. This guideline document has been developed to provide the requirements and technical guidance to assist developers with their assessment of development induced effects and the associated risks.

New civil infrastructure developments by NSW Government will be subject to an interface agreement and are not subject to the requirements of this guideline document.

2 Purpose of this document

This guideline document provides the technical requirements to assess and manage the risks associated with proposed developments near existing and future Metro underground infrastructure. This document is based and builds on the ASA Standard T HR CI 12051 ST Developments Near Rail Tunnels.

The purpose of this guideline document is to assist external developers in the planning, design, construction (including associated temporary works) and operation of proposed development near underground metro rail infrastructure. This guideline supports the requirements of the rail authority under relevant planning instruments including the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP), *State Environmental Planning Policy (Major Infrastructure Corridors) 2020* and *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020* to protect the safety, structural integrity and the safe and effective operation of existing or proposed rail infrastructure facilities from adjacent developments.

2.1 Scope

This guideline document covers proposed developments near the following existing, under construction and future metro lines:

- Metro North West Line including Sydney Metro converted Epping to Chatswood Rail Line (ECRL)
- Sydney Metro - City & Southwest
- Sydney Metro - West
- Sydney Metro - Western Sydney Airport and
- Other future Sydney Metro corridors.

It generally applies to proposed developments near Sydney Metro running tunnels and other underground infrastructure such as: cross passages between running tunnels; station caverns and adits; crossover caverns; station boxes and shafts; nozzle enlargements; services facility shafts; spur tunnel junctions; and dive/portal structures. Information regarding existing and planned new metro infrastructure can be sourced from Sydney Metro (refer to Section 11 for contact details).

There are different rail authorities for different rail corridors. If the proposed development requires referral or concurrence from other transport cluster agencies (TfNSW or Sydney Trains) separate documentation related to their rail infrastructure must be provided and will generally be dealt with separately.

3 Reference documents

The following documents have been referenced to prepare this document:

3.1 Transport for NSW standards

- T HR CI 12051 ST Developments Near Rail Tunnels.
- TS 20001 System Safety for New or Altered Assets
- T HR CI 12070 ST Miscellaneous Structures
- T HR CI 12075 ST Airspace Developments
- T HR CI 12080 ST External Developments
- T HR EL 12002 GU Electrolysis from Stray DC Current

3.2 Legislation and guidelines

- the Environmental Planning and Assessment Act 1979
- the Heritage Act 1977
- State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)
- State Environmental Planning Policy (Sydney Region Growth Centres) 2006
- State Environmental Planning Policy (Major Infrastructure Corridors) 2020 (MIC SEPP)
- State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 (WSA SEPP)
- Development Near Rail Corridors and Busy Roads 2008 – Interim Guidelines – Department of Planning, NSW Government
- Interim Construction Noise Guidelines (NSW EPA, 2009)
- Noise Policy for Industry (2017)

3.3 Other reference documents

- CIRIA C760, Guidance on Embedded Retaining Wall Design, 2017
- AS 2187: Part 2-2006 ‘Explosives – Storage and Use – Part 2: Use of Explosives’
- BS 7385 Part 2-1993 ‘Evaluation and measurement for vibration in buildings Part 2'
- Australian and International Standards referenced in any of the Transport for NSW standards and legislation and guidelines listed above

A Glossary of terminology and definitions used within this document is provided in Appendix C.

4 Protection reserves

Reference should be made to applicable legislation for a legal definition of rail corridor and rail infrastructure facilities. The definition of rail infrastructure facilities can be found in the Infrastructure SEPP.

Protection reserves define the extent of zones that have been established to protect existing metro infrastructure and protect the feasibility of planned metro infrastructure from adjacent proposed development.

For the purpose of assessing the effects of adjacent proposed developments, underground metro infrastructure includes, but is not limited to, the following:

- running tunnels and interconnecting cross passages
- station caverns and adits
- crossover caverns
- station boxes and shafts
- nozzle enlargements
- spur tunnel junctions
- services facility shafts and
- dive and portal structures.

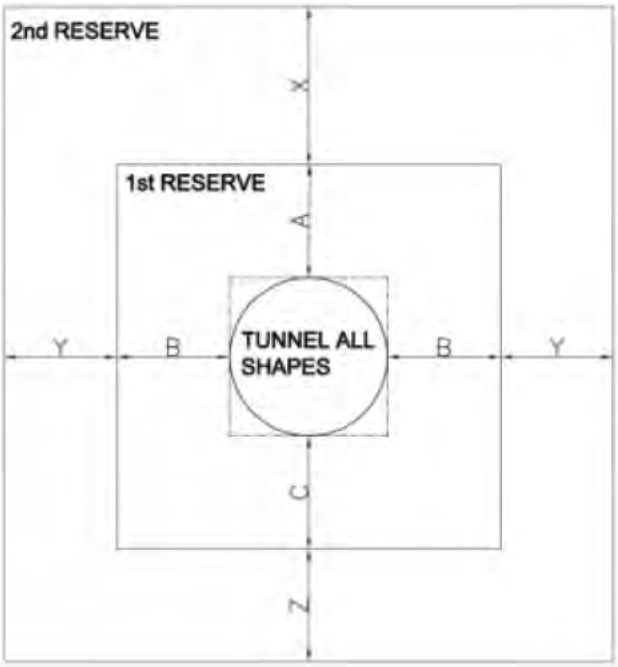
Appendix A includes descriptions of Sydney Metro infrastructure for each of the existing and future metro lines. These descriptions provide an overview of the metro alignments and general location of the underground elements for each section.

Protection reserves are defined in this document. Developers must establish the reserve zones based on the requirements provided within this document and ensure that the design and construction meet the stated requirements.

4.1 Protection reserves

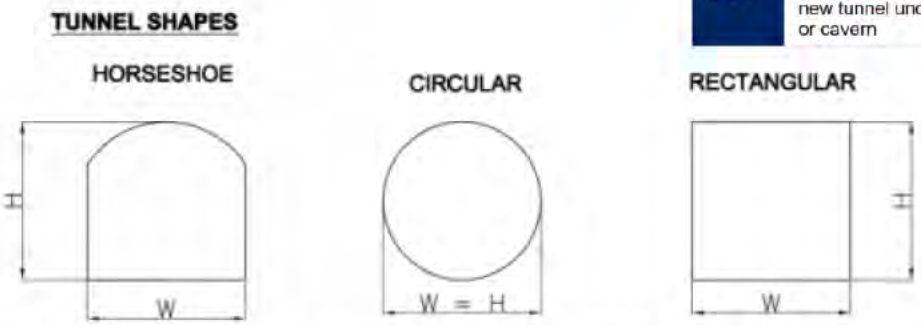
Protection reserves are categorised as either the 'first reserve' or 'second reserve'. Figure 4.1 and Figure 4.2 represent the zones that form the first reserve and the second reserve around metro underground infrastructure. Section 4.2 outlines the formula for calculating the first reserve. Section 4.3 outlines the formula for calculating the second reserve.

The location of the substratum and Sydney Metro infrastructure is required to calculate the first and second reserves (refer to Section 6.1 on how to obtain this information).



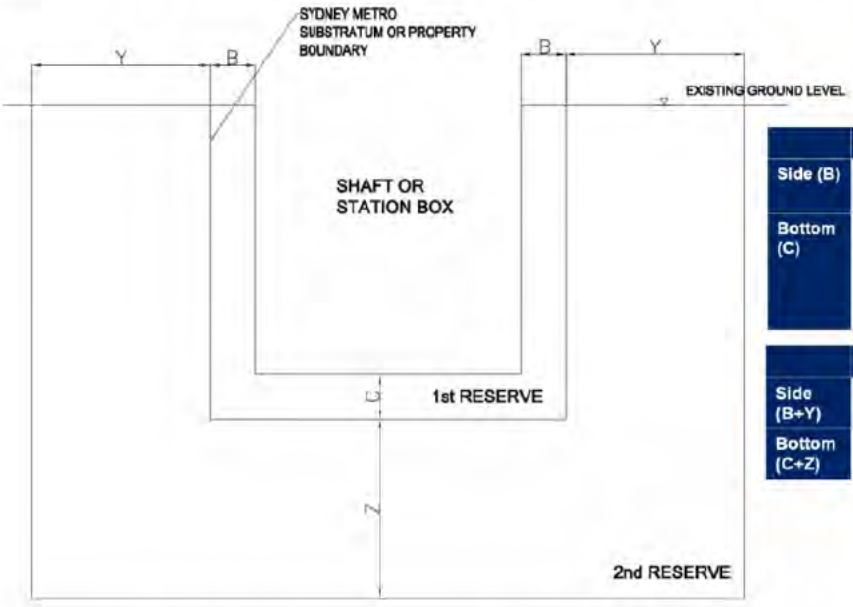
	First reserve dimensions (m)
Top (A)	The greater of the following: • 5 m from the crown of tunnel or cavern or • Support zone based on 1/3* tunnel width plus 1 metre (1/3*W+1) or • Extent of Sydney Metro substratum above crown
Side (B)	The greater of the following: • 5 m from side wall of tunnel or cavern or • Lateral extent of Sydney Metro substratum
Bottom (C)	The greater of the following: • 5 m below the invert of the tunnel or cavern or • Extent of Sydney Metro substratum below invert

	Second reserve dimensions (m)
Top (A+X)	The greater of the following: • 1.5 x (W+H) or • A + 25 or • Where 'W' and 'H' are width and height of the existing rail tunnel
Side (B+Y)	The greater of the following: • W or • B + 25
Bottom (C+Z)	C + 1.5 x (W_n + H_n) Where 'W_n' and 'H_n' are width and height of new tunnel under the existing metro tunnel or cavern



Note: all dimensions are taken from the excavated profile of tunnels and caverns

Figure 4.1 Protection reserves for metro tunnels and caverns



	First reserve dimensions (m)
Side (B)	• Lateral extent of Sydney Metro substratum or property boundary
Bottom (C)	The greater of the following: • 5 m below the invert of the shafts or boxes or • Extent of Sydney Metro substratum below invert

	Second reserve dimensions (m)
Side (B+Y)	• B + 25
Bottom (C+Z)	• C + 25

Figure 4.2 Protection reserves for shafts and station boxes

4.2 First reserve

The first reserve encompasses the ground that immediately surrounds the underground metro infrastructure. This zone represents the area that must not be encroached upon by any proposed development and its construction.

The limits of this zone are indicated in Figure 4.1 and Figure 4.2. These limits are determined based on an appreciation of general ground support principles and the substratum acquired for the Sydney Metro.

Table 4.1 Definition of first reserve for tunnels and caverns

Boundary (Dimension Reference as shown in Figure 4.1)	Reserve dimensions (m)
Top (A)	The greater of the following: • 5 m from the crown of tunnel or cavern or • Support zone based on 1/3* tunnel width plus 1 metre (1/3*W+1) or • Extent of Sydney Metro substratum above crown
Side (B)	The greater of the following: • 5 m from side wall of tunnel or cavern or • Lateral extent of Sydney Metro substratum
Bottom (C)	The greater of the following: • 5 m below the invert of the tunnel or cavern or • Extent of Sydney Metro substratum below invert

Note: References to the tunnel are to the outer edge of the tunnel lining. Refer to Appendix A on details of tunnel diameter.

Table 4.2 Definition of first reserve for shafts and station boxes

Boundary (Dimension Reference as shown in Figure 4.2)	Reserve dimensions (m)
Side (B)	• Lateral extent of Sydney Metro substratum or property boundary
Bottom (C)	The greater of the following: • 5 m below the invert of the shafts or boxes or • Extent of Sydney Metro substratum below invert

4.3 Second reserve

The second reserve zone surrounds the first reserve and covers the areas where proposed developments have the potential to adversely impact on the performance of the support elements of underground infrastructure, metro operations or the feasibility of planned metro infrastructure.

Any proposed developments that take place within the second reserve require an engineering assessment of the works to demonstrate that induced effects on the underground rail infrastructure are acceptable to Sydney Metro, in accordance with the performance requirements outlined in Section 9 of this document.

The limits that apply to the second reserve are summarised in Table 4.3 and Table 4.4 below.

Table 4.3 Definition of second reserve for tunnels and caverns

Boundary (Dimension Reference as shown in Figure 4.1)	Reserve dimensions (m)
Top (A+X)	The greater of the following: • 1.5 x (W+H) or • A + 25 or • Where 'W' and 'H' are width and height of the existing rail tunnel
Side (B+Y)	The greater of the following: • W or • B + 25
Bottom (C+Z)	C + 1.5 x (W_n + H_n) Where 'W_n' and 'H_n' are width and height of new tunnel under the existing metro tunnel or cavern

Note: References to the tunnel are to the outer edge of the tunnel lining. Refer to Appendix A on details of tunnel diameter.

Table 4.4 Definition of second reserve for shafts and boxes

Boundary (Dimension Reference as shown in Figure 4.2)	Reserve dimensions (m)
Side (B+Y)	• B + 25
Bottom (C+Z)	• C + 25

The following factors have been considered to establish the extent of the second reserve:

- potential stress and displacement influence zones associated with external developments that consider the expected zone of negligible ground stress changes due to construction
- extent of shear displacement of horizontal rock defect or bedding and joints during construction
- potential groundwater drawdown influence zone and
- vibration influence zone.

4.4 Construction restrictions placed on protection reserves

Table 4.5 provides the construction restrictions that are applied to each reserve zone as shown in Figure 4.1 and Figure 4.2.

Table 4.5 Construction restrictions

Types of construction	First reserve	Second reserve
Excavation for basements, footings	Not allowed	• Excavations less than 2.0 m depth from surface level, assessment not required. • Excavation greater than 2.0 m depth, assessment required.
Shallow footings or pile foundations	Not allowed	Allowed, subject to load restrictions. Assessment required.
Tunnels and underground excavations	Not allowed	Allowed, subject to assessment.
Ground anchors	Not allowed	Allowed, subject to assessment.
Demolition of existing subsurface structures	Not allowed	Allowed, subject to assessment.
Penetrative subsurface investigations e.g. boreholes, instrumentation	Allowed away from support zone. Assessment required.	Allowed, subject to assessment (refer to Section 7.1 for requirements)

5 Potential impacts from developments

5.1 General

The scope of this guideline includes proposed construction above, below or alongside the existing or future metro infrastructure, that is located within the protection reserves and construction that is located outside these protection reserves, but still has the potential to cause construction-induced groundwater drawdown and vibration that may affect underground metro infrastructure.

Proposed developments near metro infrastructure must be planned, designed, constructed and maintained to ensure the protection of existing and future metro infrastructure including effects on:

- the safety and structural integrity of the tunnels and associated infrastructure by development related loads, induced ground displacement or structural lining movement and
- the safe and effective operation of the network including the operational capacity, maintenance and the efficiency of the network during any stage of the proposed development.

Development related loads and ground displacements could have the potential to cause deformation of existing tunnels and other associated structures and, in extreme situations, could cause structural failure and collapse. The tunnel and cavern support elements and the surrounding ground need to be protected to avoid movement of structural lining which could cause structural instability, groundwater ingress and encroachment of support into rail functional areas, such as rolling stock kinematic envelopes.

The following sections discuss those aspects of developments where construction restrictions are placed within the second reserve and includes safety and environmental considerations.

5.2 Construction restrictions

The following key construction activities are permitted within the second reserve, but have the potential to affect metro infrastructure, as such restrictions may apply to construction activity within the second reserve:

- excavation for basements and shafts – above / beside or below
- shallow footing or pile foundation – above / beside or below
- tunnels and underground excavations – above / beside or below
- ground anchors – above / beside or below
- demolitions of existing structure – above or beside
- geotechnical investigations / instrumentation – above / beside or below.

Whilst these restrictions focus mainly on impacts to existing underground infrastructure, in many cases they may be equally applicable to future metro infrastructure. The intent of construction restrictions for future metro infrastructure is to ensure that the feasibility of future metro construction and operations is not adversely affected by new developments and their construction.

The construction of new developments must take into account:

- the construction constraints, particularly live road and rail operating conditions

- noise and vibration restrictions and track possession constraints that are inherent to working near to an operating rail environment and
- access requirements that may be necessary for inspection and maintenance purposes.

5.2.1 Open excavations

Open excavations can be above and/or to the side of underground metro infrastructure and could potentially:

- alter the in-situ stress regime in the ground that directly affects support elements of underground infrastructure and other sensitive infrastructure and
- reduce the structural support provided by the surrounding rock where the rockmass provides active support.

Temporary and permanent anchors can be used to support open excavations, underground excavations and provide uplift resistance for construction cranes and basements. High stress concentrations around ground anchors can affect the surrounding ground locally and potentially impact on the stability of the rockmass and existing underground structures.

A range of excavation methods are available to excavate ground for new developments. Activities such as rock breaking, pile driving and rock drilling/cutting works have the potential to impose temporary loads and excessive noise and vibration on metro infrastructure. Vibration can dislodge rock wedges on existing metro tunnels and caverns, as well as impose additional non-uniform load patterns on the support of metro tunnels and caverns.

Ground improvement works such as grouting and ground freezing can affect existing metro tunnel and cavern structures. Grouting can block water drainage paths and impose excessive hydrostatic loads on tunnel and cavern support. Specialised techniques such as ground freezing can cause volume increase that can impose loads on nearby tunnel and cavern support.

In addition, excavation activities will induce ground borne vibration with the potential to affect metro infrastructure.

5.2.2 Foundations

Additional pressures from shallow spread footings and piled foundations designed to support proposed developments could potentially increase the stresses in the permanent concrete structural linings of metro tunnels and caverns and the surrounding rockmass. The effects of the foundation loads must be considered, including opportunities to redistribute bearing pressures away from the protection reserves to minimise the impacts.

Of interest are the changes in stress distribution from foundations within the ground above or surrounding existing (or future metro) underground infrastructure, as a consequence of development construction. Issues of potential concern relate to increase in vertical or horizontal pressures beneath foundation elements, increases in shear stress along known existing bedding planes in the rockmass and uplift pressures below the invert of metro underground infrastructure.

Ground borne vibration from activities such as pile driving or bored piles installation and sheet pile installation must be considered.

5.2.3 Underground excavation

Underground excavations include the construction of adjacent rail and road tunnels (above, to the side and below), utility tunnels, cable conduits, drainage pipes, and pedestrian walkways and underpasses. Such underground excavations could potentially significantly alter the in-situ stress field in the surrounding ground resulting in stress concentrations, stress relief and displacements. These changes can significantly affect the existing metro tunnel and cavern support elements.

In cases where underground excavations are designed to be drained structures (that is, the structural lining and ground support of tunnel and caverns are built to support the ground but permit groundwater to flow into the excavation) consideration must be given to the groundwater drawdown that this will cause and the impacts that this will have on nearby metro infrastructure.

Ground borne vibration caused by tunnelling must also be considered.

5.2.4 Demolition

The demolition of any existing buildings or basements may affect existing metro underground infrastructure and cause disruption to metro operations. Where necessary, measures may be needed to protect metro assets during demolition works of existing buildings and structures.

5.2.5 Geotechnical investigations

Development activity requires geotechnical and subsurface investigations that can include drill holes, geophysical exploration, in-situ tests and permeability tests. During construction, instrumentation holes such as inclinometers, piezometers and extensometers can be drilled to measure the ground reaction and the impacts.

Importantly, the drilling of boreholes and installation of instrumentation must be planned to avoid existing metro infrastructure and avoid disruption to metro operations.

5.3 Safety

Developments near underground metro infrastructure must address the following aspects of safety in respect of the metro and its operation at any stage of the life cycle of that development:

- structural safety
- operational safety
- fire safety
- inspection and maintenance and
- floor protection.

Consideration must be given to maintenance and to future users of the development. Importantly, new development must not obstruct emergency access to metro infrastructure and any maintenance access requirements.

Approvals from Sydney Metro are required to enter into the metro assets for dilapidation survey, installation of instruments, monitoring and visual inspections. Persons carrying out these activities must be accompanied by safety personnel from Sydney Metro or from Sydney Metro approved organisations when entering metro tunnels.

5.4 Protection of environment

The developer must take into account the environmental impacts that can affect the metro with a view to minimising any effects during the whole life cycle of development. Typical considerations for developments in the urban environment are as follows:

- stormwater management
- noise and vibration
- air quality, particularly dust
- traffic impacts
- visual impact and amenity
- ability and ease to maintain and 'retro-fit' improvements over time
- disposal and re-use at life cycle end
- ecological impact due to draw-down
- groundwater contamination and
- construction materials to be as low toxicity as possible.

5.5 Transport planning, place making and precinct activation

Sydney Metro is committed to ensuring that its rail corridors and infrastructure provide opportunities for development, place making and integration with the local precincts.

Sydney Metro manages metro operations to deliver integrated, reliable, customer-focused and efficient services, for the current and future metro network, precincts and corridors. It is focussed on developing an integrated metro network with connected and thriving precincts, achieving urban amenity, commercial viability and supporting corridor growth.

Better Placed [1]and Movement and Place [2]are the leading state government design policies for design and place principles for consideration.

[1] https://www.governmentarchitect.nsw.gov.au/policies/better-placed

[2] https://www.governmentarchitect.nsw.gov.au/guidance/movement-and-place

6 Development applications and construction

Proposed development may trigger the requirement for referral for comment or concurrence from Sydney Metro. An urban planner will be able to advise when legislation is triggered to require comments or concurrence. TfNSW has delegated its rail authority functions in relation to the Sydney Metro corridors to Sydney Metro. Different documentation is required at different stages to enable Sydney Metro to confirm the potential impact on Sydney Metro corridors.

Documentation must be provided as part of the development application package lodged with the consent authority to demonstrate that induced effects will be acceptable to Sydney Metro infrastructure. Sydney Metro may also request documentation and supporting information at the design, construction and operation stages of the proposed development.

Staged developments must include appropriate levels of technical and design requirements to be lodged with the initial development application, along with documentation that defines how the phased construction period will be managed, including a design change process for concurrence of potential future design changes.

6.1 Pre-development application

This guideline document provides information on what needs to be considered for proposed developments in the vicinity of the Sydney Metro rail corridor and ideally should be distributed to the development team. Appendix B provides a check list of the documents required to be included in the lodgement package. The latest version of this guideline document can be downloaded from Sydney Metro's website[3].

The following can be carried out or made reference to in order to determine corridor protection zones and the location of the Sydney Metro infrastructure and substratum (if relevant):

- Request the location of the Sydney Metro infrastructure for the proposed development site (refer to Section 11 for Sydney Metro contact details).
- Stratum information (where available) can be obtained through:
    - The owners who were notified of the location of the stratum as part of the acquisition process and
    - The survey plans of acquisition registered with Land Registry Services, NSW (a registered surveyor should be able to assist with this) and
    - Dial Before You Dig Service

It is recommended that experienced and qualified specialists be engaged early as part of your development team.

The information provided in this guideline should enable developers to lodge the required documentation with their development application without the need for a meeting with Sydney Metro. However, it is understood that in some situations where the development is located directly over Sydney Metro infrastructure that developers may want to have a meeting to discuss their preliminary design. In this situation a request should be sent to Sydney Metro for a meeting (refer to Section 11 for Sydney

[3] www.sydneymetro.info

Metro contact details). Sydney Metro may recover costs associated with meeting with the developer.

The following documents should be provided prior to the meeting for comment and discussion during the meeting:

- location of site layout
- existing easements/stratum on land and for the metro underground infrastructure
- architectural layout showing the general arrangement of the development
- plans and drawings of existing metro infrastructure obtained from Sydney Metro that show protection reserve boundaries based on this guideline document
- section view and plan view of the proposed development (including the reduced level of basements) and protection reserves and
- site investigation plans (if they involve drilling within the protection reserves).

6.2 Development application lodgement

Where legislation requires referral or concurrence in relation to Sydney Metro rail corridors for proposed developments the developer must submit the following documents as part of their development application package:

- a detailed survey plan prepared by a NSW registered surveyor, which accurately defines the boundaries between the development, the rail corridor (including first and second reserve), rail infrastructure and any Sydney Metro easements (including right of ways) or stratums, covenants and caveats.
- cross section drawings showing the rail corridor (including first and second reserve), and proposed basement and/or foundation excavation. All measurements contained within the cross-section drawings must be verified by a registered surveyor.
- geotechnical investigation report with details in accordance with Section 7.1 of this guideline document
- impact assessment report with details in accordance with Section 7.2 of this guideline document
- risk assessment report in accordance with Section 7.3 of this guideline document
- instrumentation and monitoring plan with details in accordance with Section 10 of this guideline document and
- noise, vibration and electrolysis studies and control measures if available, in accordance with Section 7 of this guideline document, otherwise this will be required prior to construction certificate.

6.2.1 Concept development application lodgement

Concept development applications set out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications. Sydney Metro will consider the likely impact of the concept proposals (and any first stage of development included in the application).

Where legislation requires referral or concurrence in relation to Sydney Metro rail corridors for proposed developments the developer must lodge the following documents as part of their concept development application package:

- geotechnical desktop study and concept foundation design that meet the standards and requirements of Sydney Metro
- a detailed survey plan prepared by a NSW registered surveyor, which accurately defines the boundaries between the development, the rail corridor (including first and second reserve), rail infrastructure and any Sydney Metro easements (including right of ways) or stratums, covenants and caveats and
- cross-section drawings showing the rail corridor (including first and second reserve), proposed basements, locations of lifts and recommended type of foundation adjacent to the rail corridor; all measurements contained within the cross section drawings must be verified by a registered surveyor.

Subsequent detailed development applications will need to be consistent with this guideline document and will be reviewed by Sydney Metro when they are referred to Sydney Metro.

6.3 Post development application approval

Based on the information provided to support the development application Sydney Metro may require the developer to provide the following information and documentation at the following stages of project development as conditions of consent.

6.3.1 Prior to construction

The following documents may need to be submitted prior to construction commencement:

- detailed ground and vibration monitoring plan including trigger levels, action plans and remedial measures, details of the instrumentation and baseline monitoring readings (refer to Section 10)
- construction schedule, construction management plan including sequence plan identifying impacts
- construction layout of equipment relative to metro infrastructure
- final detailed Safe Work Method Statements (refer to Section 8)
- temporary safety plans and measures
- temporary works plan, temporary access, vehicle, plant and equipment such as cranes (including mobile cranes) and stockpiling
- noise, vibration and electrolysis studies and control measures
- a rail related risk assessment and management plan
- list of machinery to be used during excavation/construction
- groundwater control plans, environmental aspects including contamination
- design loadings and certified drawings for construction related works that affect metro infrastructure
- agreed interface activities plan with Sydney Metro and
- condition and dilapidation survey reports of all metro infrastructure affected by the development (refer to Section 8.2).

6.3.2 During construction

The following documentation may need to be submitted to Sydney Metro at agreed intervals by the developer, during the development construction phase:

- monitoring report at agreed intervals, which includes monitoring results and assessment by the geotechnical or structural consultant
- notification of work progress at agreed intervals, which is applicable during excavations, foundations and support installations, superstructure construction up to the ground level
- interim dilapidation survey reports as appropriate
- any changes to the design and construction methods for approval by Sydney Metro and
- rock face mapping, inspection and assessment reports.

6.3.3 After construction completion and prior to issue of occupation certificate

Sydney Metro may request the following documentation from the developer, after completion of the construction:

- one set of as-built structural and foundation plans signed by a qualified person
- one set of as-built drawings for ground anchors and other support details near the affected metro infrastructure
- monitoring summary report
- copy of the geotechnical mapping report carried out during excavation works
- dilapidation survey report conducted after construction completion (refer to Section 8.2)
- structural safety report
- operational safety report and
- current mitigation verification report, including maintenance base line measurements referenced to measured locations (refer to Section 9.4).

7 Engineering investigations and assessments

The developer must prepare the following documentation in support of their development application during the course of the development process:

- geotechnical investigation report
- engineering impact assessment report
- risk assessment report
- dilapidation survey report
- drainage report
- noise and vibration report
- electrolysis report and
- a summary report that presents the main conclusion and results from the above reports.

This section of this guideline document provides an explanation of the information that needs to be included in these reports to enable Sydney Metro to ascertain the relative impact of the development on existing and future Sydney Metro underground infrastructure. In terms of the engineering investigations and assessments undertaken for future metro infrastructure, the intent of these is to ensure the feasibility of future metro construction is not adversely affected by new developments and their construction.

The main aim of these assessments and investigations is to demonstrate that there will be no adverse effects arising from the proposed development within the defined protection reserves. The acceptability of the effects predicted (as determined through investigation and assessment) must be viewed against the performance requirements described in Section 9 of this guideline document, as well as compliance with relevant standards and codes.

The secondary aim is to provide confidence that any proposed development is ‘fit for purpose’. This is to ensure that the development owner and tenants do not have unrealistic expectations in regards to the impacts of noise and vibration that they may be exposed to as a result of Sydney Metro operations and maintenance.

The developer should approach Sydney Metro for information that defines the extent of existing and future metro infrastructure in order to undertake these investigations and assessments.

7.1 Geotechnical investigation

The developer must carry out detailed geotechnical investigations of the soil or rock strata above, alongside and below existing and future Sydney Metro underground infrastructure, as appropriate, to establish the existing ground conditions within the area affected by the proposed development. Geotechnical investigations must be undertaken by suitably qualified and experienced consultant. The results of the investigation must be presented in a geotechnical investigation report.

The intent of these geotechnical investigations must be as follows:

- Provide information that enables a geological model to be developed. Based on this model, sections must be prepared that illustrate the ground conditions in and around the interface of the proposed development with the Sydney Metro underground infrastructure of concern.

- Establish any likely in-situ stress conditions within the soils and underlying rockmass surrounding the interface.
- Describe any potential presence of critical geological features such as bedding planes, joints and dykes.
- Present an interpretation of relevant rock and soil properties based on the results and any in-situ and laboratory testing that has been undertaken. If no in-situ or laboratory testing has been carried out, industry established rock and soil properties can be adopted with supporting justification.
- Provide an interpretation of the existing groundwater regime within and surrounding the interface.
- Identify and describe the presence of any human-made features within the development site.

The scope of the geotechnical investigation undertaken to support the development application may comprise the following:

- drilled boreholes
- in-situ testing
- geological mapping and
- geophysical exploration.

Whilst the installation of instrumentation and the drilling of investigation boreholes is permissible within the first and second reserve of the rail corridor, they should be located and orientated to avoid the supporting systems of existing metro underground infrastructure. This will require a detailed study of existing arrangements to demonstrate that risk to the underground infrastructure is appropriately managed for acceptance by Sydney Metro prior to the drilling of boreholes.

If boreholes 2m or deeper are to be drilled within the first or second protection reserves Sydney Metro is to confirm no objection to boreholes prior to drilling. The following information is to be provided to Sydney Metro:

- Proposed borehole location plan and cross sections, verified by a registered surveyor, showing:
- the distances from the boreholes to the tunnel reserve boundaries (first and second reserves)
- the distances from the sub-stratum boundary and
- borehole details (e,g. diameter and depth).
- A copy of the Safe Work Method Statement for the proposed works including a requirement to notify Sydney Metro if the driller encounters any indications that Sydney Metro underground infrastructure may has been encountered (e.g. sudden increase or decrease in ground resistance to drilling, interception of voids, sudden loss of water within boreholes) then Sydney Metro is to be immediately contacted on one of the Sydney Metro project enquiry numbers:
- Sydney Metro – City & Southwest – 1800 171 386
- Metro North West Line – (02) 9854 4805
- Sydney Metro – West – 1800 612 173
- Sydney Metro – Western Sydney Airport – 1800 717 703.
- Any other requirements consistent with Section 7.1 of these guidelines.

Please allow two weeks for confirmation of no objection to boreholes from Sydney Metro. All boreholes must be carefully grouted to their full depth with a bentonite and cement grout mixture upon completion.

As a minimum the geotechnical investigation report will need to present the following information:

- borehole location plan, borehole logs, test results, geological mapping, photographic documentation and other relevant information
- description of the soil profile of the area
- critical geological features such as bedding planes, joints and dykes
- other relevant data from geotechnical investigation
- rock and soil properties, laboratory and in-situ test results
- existing in-situ stress states in soils and rocks
- groundwater levels
- detailed geotechnical model for the analysis including geotechnical design parameters
- comments on foundation design, methods of shoring and excavation and
- a copy of all plans, geotechnical data, operations and maintenance records with any qualifications and limitations provided by Sydney Metro to the developer.

7.2 Engineering impact assessment

The developer must carry out an engineering analysis and impact assessment to demonstrate that the effects of the proposed development on tunnels and underground facilities will not cause unacceptable adverse impacts on future or existing Sydney Metro infrastructure. The engineering assessment must be carried out by Competent Persons with appropriate qualifications and experience in tunnel design and analysis. In some cases, Sydney Metro may request the developer to arrange independent verification of the engineering analysis and impact assessment based on the project complexity and the potential effects on metro infrastructure.

The results of the analysis and assessment must be presented in an engineering report. The engineering assessment report must be prepared and endorsed by a Competent Person and submitted to Sydney Metro.

The engineering analysis and impact assessment must take into account any other adjacent development activities planned for the future or that are taking place at the time of analysis. This information can be obtained from Sydney Metro.

Depending on the complexity of the development, a two-dimensional or three-dimensional numerical modelling (finite element [FE] or finite difference [FD]) may be required to demonstrate that induced effects on the rail infrastructure will be acceptable to Sydney Metro through predicting the effects on the underground construction at different stages of construction and the eventual or current operation of the metro. The modelling must also consider the effects of associated temporary works, such as construction loading (e.g. demolition, tower cranes and material stockpiling).

If undertaken, numerical modelling must fulfil the following requirements:

- be based on a realistic geological model derived from the subsurface information gathered through the geotechnical investigation and

- must incorporate critical geological features that may be present, such as bedding planes, weak layers, joints and other discontinuities.

If necessary, the results from this numerical modelling may need to be validated during construction by comparison with the results from the field monitoring of installed instrumentation.

As a minimum the impact assessment report must include the following:

- Details of the scope of the development.
- Verified survey plans by a NSW registered surveyor that show the location of the proposed development in relation to the metro easements, protection reserves and the planned or existing metro alignment including track centre lines and details of the underground structures.
- The metro underground infrastructure must be shown in plan and various sections with the inclusion of the protection reserves as defined in this guideline document to clearly illustrate the comparative position of the development in relation to the existing or planned metro infrastructure. They must also extend to the expected physical zone of influence, which is the extent to which the development is expected to affect the surrounding ground.
- Detailed drawings depicting structural layout, foundation layout, foundation loads, drainage plans, temporary works such as dewatering, shoring and anchoring and permanent works of the proposed development.
- Structural drawings that show the designs for shoring, as recommended by the geotechnical consultant engaged by the developer.
- Predicted displacements of existing or planned metro underground infrastructure (if constructed prior to the proposed development) due to proposed development at various stages, namely pre-construction (including demolition), excavation, development construction and post-construction.
- Predicted displacements, stresses and structural actions as imposed on the structural support of metro infrastructure structure at various stages of construction, namely pre-construction (including demolition), excavation, development construction and post-construction. In most cases this support will be in the form of watertight structural concrete linings.
- Structural assessments of these predicted effects on existing and planned metro infrastructure (if constructed prior to the proposed development). This must include as appropriate the structural integrity of underground support (such as structural linings), track beds, existing drainage structures, waterproofing measures and structural clearances.
- Appropriate sensitivity analysis to ensure that the predictions are not adversely affected by reasonable variations in input parameters and different conditions that can occur during all stages of development construction.
- Assessment of the effects of construction techniques and methodology on the underground metro infrastructure.
- Provide discussion on any design assumptions, qualifications or limitations that have been applied. This discussion must indicate how these have been considered as part of the sensitivity analysis and then integrated as identified risks as part of the risk assessment (as discussed below).
- Recommendations regarding any planned preventive or remedial action that may be required to limit development induced impacts on metro infrastructure.
- Noise and vibration assessment report (refer Section 8.6).

- Stray currents report, including a risk assessment (refer to Section 9.4).
- Certification that the proposed development will not induce unacceptable adverse effects on metro infrastructure.

7.3 Risk assessment

Developers have a legal duty to eliminate risks to ensure safe rail operations so far as is reasonably practicable (SFAIRP). As such developers must identify all reasonably foreseeable safety risks and hazards to the metro or its operations and eliminate these risks where reasonably practicable and where it does not minimise each risk SFAIRP.

The identified risks and their SFAIRP demonstration must be documented in a manner that can be provided as assurance evidence to Sydney Metro. TS 20001 System Safety for New or Altered Assets describes the assurance for changes impacting rail or transport assets. Reference should also be made to T HR CI 12075 ST when preparing the risk assessment.

A rail related risk assessment report must be prepared and submitted for consideration and approval by Sydney Metro in accordance with the safety management system for Sydney Metro and address/include the following:

- safety in design that covers and the whole of asset life cycle, including all stages of construction
- identify all hazards and risks to the development and metro facilities including metro support elements and other infrastructure
- present the risk identification process that has been adopted which considers the entire asset life cycle of the metro infrastructure
- apply and present a risk ranking in accordance with the Sydney Metro safety management system
- confirm that all risks can and will be managed so far as is reasonably practicable (SFAIRP) and
- present the controls that are needed to manage risks from the proposed development to metro infrastructure; these may include early warning criteria for monitoring. The risk of the proposal to Sydney Metro infrastructure will be reflected in the amount of public liability insurance required as a condition of consent.

7.4 Dilapidation survey

As part of an engineering assessment, dilapidation surveys of existing metro infrastructure may be requested by Sydney Metro to be submitted as part of the development application prior to the issue of a construction certificate. If required by Sydney Metro, the developer must arrange, with Sydney Metro, for a dilapidation survey to be undertaken of metro infrastructure in proximity to the development. The existing condition of the metro infrastructure must be established and agreed and considered as part of the risk assessment.

7.5 Drainage report

Where relevant Sydney Metro may request that a drainage report is prepared that details the proposed means of drainage that will be adopted to manage the collection of water, including groundwater, within basement levels of the proposed development.

7.6 Noise and vibration assessment

The developer must submit a noise and vibration impact assessment report prepared by a qualified person as part of the development application or prior to a construction certificate. The noise and vibration impact assessment report must:

- demonstrate that the development is designed, and will be constructed and maintained to avoid damage or other interference which may occur as a result of airborne and ground borne noise and vibration effects that may emanate from the rail corridor during rail construction and from the railway operations and
- determine the effects of any noise or vibration impacts on the metro infrastructure and its operations arising from the proposed development during demolition, excavation and construction (including any machinery causing heavy vibration levels) and its operation after completion and
- Assess any cumulative impacts with Sydney Metro operations, or any adverse impact to a soundscape that Sydney Metro has specifically designed for (ie. Station promenades and concourses).

Refer to Section 9.3 for further details regarding performance criteria to be considered.

Vibration impacts should be considered in the monitoring plan referred to in Section 10.

7.7 Electrolysis assessment

The developer must submit an electrolysis report as part of the development application or prior to a construction certificate, prepared by a suitably qualified consultant, to assess the requirements for electrolysis effects on the development infrastructure from metro operation and to address whether preventative measures are required.

7.8 Summary report

A summary report should be provided to demonstrate that the proposed works will not have adverse impacts on Sydney Metro infrastructure and include the supporting results from the reports described above.

7.9 Independent verification

Depending on the details of the proposed development and the proximity of planned or future metro infrastructure, Sydney Metro may request that independent verification of the engineering analysis and impact assessment be carried out. If required, this independent verification must be arranged by the developer.

The independent verification must be carried out by a Competent Person from an organisation that is independent of the organisation that prepared the engineering analysis. The independent verification organisation will be subject to the approval of Sydney Metro.

The independent verification must include detailed engineering proof checking of all aspects of the engineering analysis and impact assessment including any proposed temporary works.

The independent verification organisation must prepare a report that describes its verification activities and includes certification that the proposed development will produce no unacceptable adverse effects on existing metro infrastructure. The

independent assessment report must be submitted to Sydney Metro with the engineering assessment report.

8 Construction requirements

8.1 General

All metro property must be fully protected during construction of the development and all site work (including clearances to metro tracks and protection reserves) must comply with the requirements outlined in this guideline document, as well as other relevant TfNSW standards relating to air space developments, external developments and tunnels, and safe working requirements.

All construction carried out on metro property must comply with the requirement of the relevant authorities and legislation including workplace health and safety (WHS) requirements and environmental requirements.

8.2 Dilapidation survey

If required by Sydney Metro before construction of the development can commence and an occupation certificate can be issued, a joint inspection of the existing metro near the proposed development may be requested by Sydney Metro. If requested the survey must be carried out by representatives of the developer and Sydney Metro. The existing condition of the metro infrastructure must be agreed and recorded. Additional joint inspections may be required during construction.

The extent of metro infrastructure that must be surveyed will be determined by Sydney Metro.

Detailed dilapidation reports must be submitted to Sydney Metro describing conditions before commencement of the works and after completion of the works.

The dilapidation report must include the following as a minimum:

- details of existing visible defects
- dimensions of existing visible cracks
- photos of visible defects with labels that indicate their locations and
- signs of wetness, staining and seepage from existing visible defects.

This inspection must establish the extent of any existing exposed visible cracks, such as those observed on the surface of concrete linings which support metro tunnels and caverns. These visible cracks must be suitably marked and identified to enable any deterioration to be monitored.

8.3 Risk assessments

Prior to commencing any works, risk assessment reports issued in support of development applications must be updated based on the detailed design at construction. The updated risk assessment report must consider any modifications to the design and the impact these may have on identified risks.

Safe Work Method Statements (SWMS)s must also be prepared that include, as a minimum, the following:

- detailed work methods including the incorporation of the controls as stated in the risk assessment plan and
- an emergency response plan.

The developer must submit the SWMS and updated risk assessment report to Sydney Metro for approval.

8.4 Demolition works and construction impacts

The demolition of any existing buildings or basements must be planned in such a way that no adverse risk is imposed on existing metro underground infrastructure. The developer is required to take every possible action to minimise imposed risks and is required to meet the costs of any protection of the metro infrastructure and any incurred disruption to metro rail operations.

The impact of any proposed underground demolition work (including de-stressing, unloading and resulting ground vibrations) must be assessed to ensure that there are no adverse effects on metro infrastructure. If large-scale demolition works are involved, then the developer is required to install a vibration monitoring system to monitor vibration levels near adjacent metro infrastructure.

Hydraulic rock breakers must not be used within five metres of any existing metro infrastructure without Sydney Metro approval.

The developer is required to arrange a structural investigation by appropriately qualified person to address the impacts.

Refer to T HR CI 12075 ST for further details.

8.5 Excavation works

The developer must submit the following for Sydney Metro's approval prior to commencing excavation for the development:

- an engineering assessment report which through the use of numerical modelling techniques (if required) demonstrates that the excavation will not cause any adverse effect on the underground metro infrastructure
- design reports that detail the shoring system that support excavations must be provided to Sydney Metro prior to construction and must include evidence of independent verification certification
- a detailed monitoring plan for ground deformation, tunnel convergence, stress, crack width monitoring, vibration monitoring and reporting protocol for each party
- risk assessment and contingency plans and
- detailed work method statements which include hold points at various stages of excavation and are linked to the acceptance of monitoring results.

The following requirements apply to excavation and piling works at construction:

- the position of underground metro infrastructure (outer walls) and protection reserves must be marked clearly on the ground for easy identification
- all piling contractors must be made aware of the existing underground metro infrastructure adjacent to construction site
- Sydney Metro must be informed of the progress of piling and excavation works on a regular basis and
- the results of field monitoring undertaken during excavation or piling works must be assessed by a suitably qualified person and reported to Sydney Metro at an agreed frequency.

Depending on the requirement identified in the Impact Assessment Report, Sydney Metro will require the presence of a Competent Person during excavation to carry out visual verifications of substrata, geological mapping and an assessment of monitoring results.

The developer must submit the monitoring results together with the geotechnical consultant's assessment to Sydney Metro at agreed frequencies and stages of construction. A Sydney Metro nominated observer may be involved with the monitoring.

Monitoring must continue until construction of the building structure or superstructure is complete. With prior agreement with Sydney Metro, monitoring frequencies may be decreased when the basement construction is completed. Monitoring must continue after the completion of the construction activities, until no changes occur in three consecutive monitoring cycles. Sydney Metro must be informed before termination of the monitoring activities.

8.6 Noise and vibration

The effects of noise and vibration on existing metro infrastructure and on the proposed development must be considered as part of the design and construction of proposed developments.

The construction of the proposed development must be carried out such that the effects of noise and vibration on nearby metro structures and facilities are minimised.

During development construction vibration monitoring may be required of the underground metro support, such as concrete linings. Refer to section 9.3 for information regarding vibration Alert and Alarm levels.

If the vibration levels exceed tolerable limits, then the developer must modify the construction methodology in such a way that the vibration limits are satisfied.

8.7 Contaminants and hazardous materials

The storage of potential contaminants and hazardous materials within the protection reserves will be subject to Sydney Metro approval. A risk assessment and appropriate safety precautions must be provided for storage of potential contaminants within any of the protection reserves, where there is potential for the contaminants to migrate to or come in contact with the metro underground infrastructure. This assessment must address the potential impact on the durability of concrete, grout, resin, steel, waterproofing gaskets and membranes and any other material forming the permanent works of the metro underground infrastructure.

The storage of potential contaminants and hazardous materials may be permitted if the results from the risk assessment demonstrate that the risk to the metro underground infrastructure can be appropriately managed.

9 Performance requirements

The design and construction of the development must be carried out with full recognition of the potential effects that could be imposed on the performance of the existing metro or the feasibility of the future metro. As an overarching principle the development must not affect the stability and integrity of the metro infrastructure and its safe operation. Broadly, the developer must ensure that the development and its construction do not adversely affect the performance of metro infrastructure in respect of the following:

- amenity
- aesthetics
- structural integrity
- durability
- function
- user/customer benefits
- safety during construction and operation and
- environmental performance.

It should be noted that throughout the developer's activities, the developer must monitor the actual effects of construction against design predictions and in accordance with the project-specific construction phase monitoring requirements.

Aspects of the development and its construction which could potentially adversely affect the metro infrastructure include the following:

- loading or unloading from the development
- ground deformation resulting from excavations and external loading
- induced vibrations during construction and operation
- ground borne noise impacts
- electrolysis from earth leakage currents
- discharge of stormwater from the development
- changes to groundwater levels affecting design assumptions
- loss of support to any underground metro facility (including rockbolts and anchors)
- temporary structures and
- load from anchors.

This section details the design and performance requirements that must be adhered to by the developer in order to address these issues. Reference should also be made to documents listed in Section 3 of this guideline.

9.1 Structural integrity

Development induced load and displacements must not have any short or long term adverse effects on the support structure or support system of metro infrastructure.

The construction of development structures over and/or adjacent to metro underground structures must be suitably designed to take into account the presence

of the existing metro infrastructure and future construction of metro infrastructure. Construction work methods must be developed as part of the design process.

The effects on metro support elements and other metro infrastructure at any stage of the whole life cycle of the development must be assessed to ensure that the works must remain compliant with relevant standards. These structural elements include, but not limited to:

- concrete (precast, in-situ or sprayed) linings
- load bearing columns, walls, slabs and roof beams
- rock pillar supports
- permanent rock anchors (or bolts)
- track slabs
- drainage structure
- shafts and
- underground stations.

Of particular interest is the possibility of increases in structural actions, such as axial loading and flexural bending, to support elements and structural linings of metro underground infrastructure, as a consequence of development loading.

9.1.1 Imposed loading

Any temporary or permanent works adjacent to the metro could be subject to the influence of train loading and as such they will need to be assessed in accordance with AS 5100 for live load surcharge. Parts of the development that could be affected must be designed to comply with T HR CI 12070 ST Miscellaneous Structures, T HR CI 12075 ST Airspace Developments and T HR CI 12080 ST External Developments.

Permanent works adjacent to metro infrastructure must take into account the design actions resulting from any proposed future metro construction. Sydney Metro should be contacted to confirm the location of planned future metro infrastructure.

9.1.2 Induced movement

Displacement of metro infrastructure as induced by the development must not affect the operational functionality and durability of the metro infrastructure. Also, the developer must consider the possibility that future metro construction may induce movement on the development.

The following displacement limits apply (refer to Appendix A for infrastructure details):

- For metro cast in-situ cavern and tunnel concrete linings, the allowable total movement in any direction is 10 mm and differential movement in any plane is 10 mm or 1:2000, whichever is less.
- For metro running tunnels that are supported by a precast concrete segmental lining, the allowable total movement in any direction is 10 mm and differential movement in any plane is 10 mm or 1:2000 whichever is less. The main purpose of these limits is to ensure that the watertightness of the lining through joints is not compromised as consequence of gasket decompression and/or damage.
- Shear movement across rock bedding as induced by the development activities must not exceed 10 mm where permanent rock bolts, installed as part of the metro infrastructure support system, intersect these bedding planes.

Any development activity, whether beneath or adjacent to contained metro tracks, that has the potential to cause track displacement must comply with the requirements of SPC 207 Track Monitoring Requirements for Undertrack Excavation. The track must be monitored and managed in accordance with the requirements stated in SPC 207 for monitoring, notification and intervention levels and emergency procedures.

9.1.3 Induced cracking

The extent of dilapidation surveys undertaken (and described previously in this guideline document) of metro infrastructure must be determined based on predictions of deformation and the load influence zone imposed by the proposed development. The survey must establish the extent of any existing visible cracks, where the extent of the cracks refers to their apparent length and apparent width. Where present these cracks must be suitably marked and identified to enable any deterioration during and after the construction to be monitored.

The following technical criteria must be met regarding visible cracking, including the presence of pre-existing visible cracks on the face of metro concrete structures:

- No new visible cracking of metro concrete structures is allowed to be induced by the development and its construction. Compliance with this requirement must be confirmed by performing impact assessments during the design stage.
- Any existing visible cracks must not increase by more than 0.2 mm in width or increase in length by more than 300 mm in total over the stages of development construction.
- The configuration of visible cracks must not result in concrete spalling or affect the safe operation of the metro system.
- In the event that water seepage is observed (previously absent) through the visible cracks during development construction then Sydney Metro will, on behalf of the developer, seal the visible cracks by grouting the visible cracks until this seepage ceases.
- Engineering analysis and assessment undertaken for the development (as discussed within this guideline document) must take into account the presence of existing visible cracks of metro infrastructure.

The monitoring of existing visible cracks and critical structural elements during construction must form part of the overall monitoring plan.

9.2 Excavation and groundwater

Excavation for the development and all associated retaining works (along with other ground disturbance works associated with the proposed development) must not affect the safety and operational integrity of the metro or cause the destabilisation of metro infrastructure. The methods of excavation employed are of particular relevance in this regard, especially where methods employ chiselling, percussive pile driving or similar methods. Importantly, explosives must not be used for the splitting and removal of rock and excavation.

Typical issues associated with excavation works include slippage, slumping, creation of fissures or cracks, rock or earth falls, exacerbated ground movements, water inflows, cracking of supporting structural elements and in extreme cases structural failure. Excavation works must be undertaken in a manner that minimises the risk of such occurrences.

Sections of temporary shoring installed to support excavations for the development must have a minimum service life of 3 years, if their stability has the potential to affect

metro infrastructure. Shoring systems must be designed by a competent person and independently verified by a qualified person as approved by Sydney Metro unless Sydney Metro advises otherwise in writing. Allowance should be provided for minimum unplanned excavation in accordance with CIRIA C760 Guidance on Embedded Retaining Wall Design, 2017.

Ground anchors are not allowed within the first reserve zone. Any ground anchors within the second reserve must be assessed for their effect on metro underground infrastructure. Anchors must not be tested to the extent that the testing loads applied could cause collapse or failure, or both, in the surrounding soil and rock structure.

Assessment of metro infrastructure from development excavation must also consider the loading that cranes (including their foundation anchorage) will impose within the excavation on metro infrastructure.

Construction near metro underground infrastructure can also impact the local groundwater regime. These impacts have the potential to cause adverse loading of the infrastructure, not contemplated and thus designed for over the design life of the metro. Critically, watertightness and waterproofing must not be adversely affected or damaged.

The developer must carry out an engineering assessment of the impact of any changes to the groundwater regime that the development could cause. Issues of concern that have the potential to impact on metro infrastructure include the following:

- The development and its construction that could create a water barrier that dams groundwater flow above the metro underground infrastructure.
- Any groundwater ingress into excavations associated with the development that could cause dewatering of the local water table. Importantly, dewatering must not commence without prior approval from Sydney Metro.

Consequently, the engineering assessment must address any temporary dewatering (at any stage of the development) to demonstrate that effects on underground metro infrastructure are acceptable.

9.3 Noise and vibration

The noise from construction and rail operation must be considered against statutory and project noise vibration limit requirements. Sydney Metro does not accept liability for the generation of noise and vibration from normal railway operations (including track maintenance), or for its transmission into developments above or adjacent to rail tunnels.

When designing developments above or adjacent to rail tunnels (existing or planned), consideration must be given to operational and construction vibration; as well as ground or structure borne noise emissions in accordance with Developments Near Rail Corridor and Busy Roads – Interim Guideline, Department of Planning, NSW Government 2008 and T HR CI 12051 ST Developments Near Rail Tunnels.

Consideration should be given to whether Clause 87 of the Infrastructure SEPP is triggered for impacts of rail noise or vibration on non-rail development. If triggered measures should be outlined to ensure consistency with the requirements.

9.3.1 Considerations during development construction

In planning development construction, the following requirements apply for vibration impacts on structures and assets.

Structural damage (buildings)

Sydney Metro refers to Australian Standard AS2187: Part2-2006 'Explosives – Storage and Use – Part 2: Use of Explosives', which recommends the frequency dependent guideline values and assessment methods given in BS 7385 Part 2 – 1993 'Evaluation and measurement for vibration in buildings Part 2' as they "are applicable to Australian conditions".

The Standard sets guide values for building vibration based on the lowest vibration levels above which damage has been credibly demonstrated.

The recommended limits for transient vibration to ensure minimal risk of cosmetic damage to reinforced or framed structures and industrial and heavy commercial buildings apply to Sydney Metro infrastructure.

Sources of vibration that are considered in the standard include demolition, piling, ground treatments (e.g. compaction), construction equipment, tunnelling and industrial machinery.

Continuous rock-breaking/hammering and sheet piling, vibratory rollers, excavators and the like can give rise to dynamic magnification due to resonance.

An adjusted peak particle component velocity (PPV) of 20 mm/s at 4 Hz and above applies to any development that occurs within 25 m horizontally from first reserve of Sydney Metro infrastructure as a conservative vibration damage screening level. An Alert level of 15 mm/s shall apply for monitoring and management purposes.

Atypical construction methods should be assessed on a case-by-case basis with reference to the Standards.

In order to assess the likelihood of cosmetic damage due to vibration, AS2187 specifies that the highest of the orthogonal vibration components (transverse, longitudinal and vertical directions) would be compared with the guidance vibration velocity limits.

Buried services

Buried structures and utilities such as gas pipelines and fibre optic cables are to be assessed on a case-by-case basis.

An acoustic consultant shall be engaged by the construction contractor and would liaise with the structure of utility's owner in order to determine acceptable vibration levels.

Vibration-sensitive equipment

Where it is has been identified that vibration sensitive scientific instruments are likely to be in use inside Sydney Metro premises, objectives for the satisfactory operation of the instrument would be sourced from manufacturer's data.

It may be beneficial for the project if baseline vibration measurements are carried out at the building where vibration-sensitive equipment is located. These baseline measurements will determine what existing ambient vibration levels are. The site-specific equipment criteria would need to be agreed with the occupant/users of the equipment as well as Sydney Metro.

9.3.2 Considerations for operational noise and vibration impacts

The developer is required to obtain accurate information to assess and appropriately mitigate operational noise and vibration impacts from rail operations. The developer is required to obtain all available information which will enable a thorough assessment of actual or potential rail noise and vibration which could affect the development site. This includes but is not limited to:

- number of train events expected in a 15hr-Day (7am to 10pm) and 9hr-Night (10pm to 7am) period, in the typical busiest weekday. This information may be obtained from the relevant Sydney Metro Environmental Impact Statement (EIS) or for operational Sydney Metro sites from the Operational Noise and Vibration Review (available from sydneymetro.info). The assessment should include future operations as well as existing operations.
- the event noise and vibration levels from each train. This information may be obtained from the relevant Sydney Metro EIS or for operational Sydney Metro sites from the Operational Noise and Vibration Review (available from sydneymetro.info), but supplementary information should be obtained from measurements at the existing rail tunnel (if it is operational), or at a similar rail tunnel (e.g. other tunnel locations in the Sydney Metro network).
- location of noise/vibration sensitive Sydney Metro equipment. This information may be obtained from the relevant Sydney Metro EIS or for operational Sydney Metro sites from the Operational Noise and Vibration Review (available from sydneymetro.info). It will include stations where staff, tenants and customers are to be protected from noise and vibration impacts.
- location of noise/vibration generating metro infrastructure. This information may be obtained from the relevant Sydney Metro EIS or for operational Sydney Metro sites from the Operational Noise and Vibration Review (available from sydneymetro.info). For operational Sydney Metro sites, a site survey and inspection would identify the location and type of noise and vibration generating items, including substations and railway stations with outdoor public address systems. For Sydney Metro corridors in development where an EIS is not available the developer will need to make informed assumptions. Government announcements about projects may assist the developer in obtaining high level information about the number of trains to expect at maximum capacity and indicative location of tunnels and stations.
- for construction assessments of impacts on sensitive receivers (for example, staff in stations), the Interim Construction Noise Guidelines (2009) shall apply for operational noise impacts, the assessment shall reference the Noise Policy for Industry (2017) and any other guidelines or policies which relate to the specific development.

9.4 Stray currents and electrolysis

When designing developments above or adjacent to underground metro infrastructure consideration must be given to operational stray currents that may be present. The risk assessment must also consider the potential presence of stray currents.

Sydney Metro does not accept liability for the generation of stray currents from an operating electrified railway.

The potential effects of stray electrical currents and electrolysis in the electrified area of the metro network must be considered in accordance with T HR CI 12080 ST and T HR EL 12002 GU during the design of the development.

A suitable test program must be established during the early design phase to quantify a stray current signature for the development site prior to undertaking enabling works. Suitable stray current mitigation strategies must be integrated into the design of the development.

Following construction, stray current testing must be carried out to verify that electrolysis mitigation strategies are proven to be effective, which includes undertaking a comparison with the pre-development stray current signature. This

information must also be used to establish maintenance baselines for the life of the development.

10 Monitoring

Monitoring is undertaken to validate design assumptions for developments and to quantify that impacts being generated are within acceptable limits.

The structural performance of the metro underground infrastructure must be monitored as necessary during construction of the proposed development to verify predicted displacements, stress levels in structural elements and vibration levels. The monitoring regime must be developed by a qualified tunnel/geotechnical engineering consultant.

Monitoring plans must be submitted to Sydney Metro for review and approval prior to the commencement of construction. The Monitoring plan must include but is not limited to:

- All vibration-generating works from demolition through excavation and landscaping (e.g. vibratory rollers) should be considered.
- Activities should be nominated which require vibration/crack/movement monitoring and where the monitoring locations will take place.
- A response regime outlining the process to manage “Alert” (coming close to the limit) and “Alarm” (equal to or over the limit) and a contingency plan/s to prevent damage to Sydney Metro infrastructure. This should include the process for how the developer’s consultant will assess the monitoring results continually and submit monitoring assessment reports to Sydney Metro for review.

The tables below indicate the circumstances where various types of monitoring are required. These requirements must be provided as a minimum.

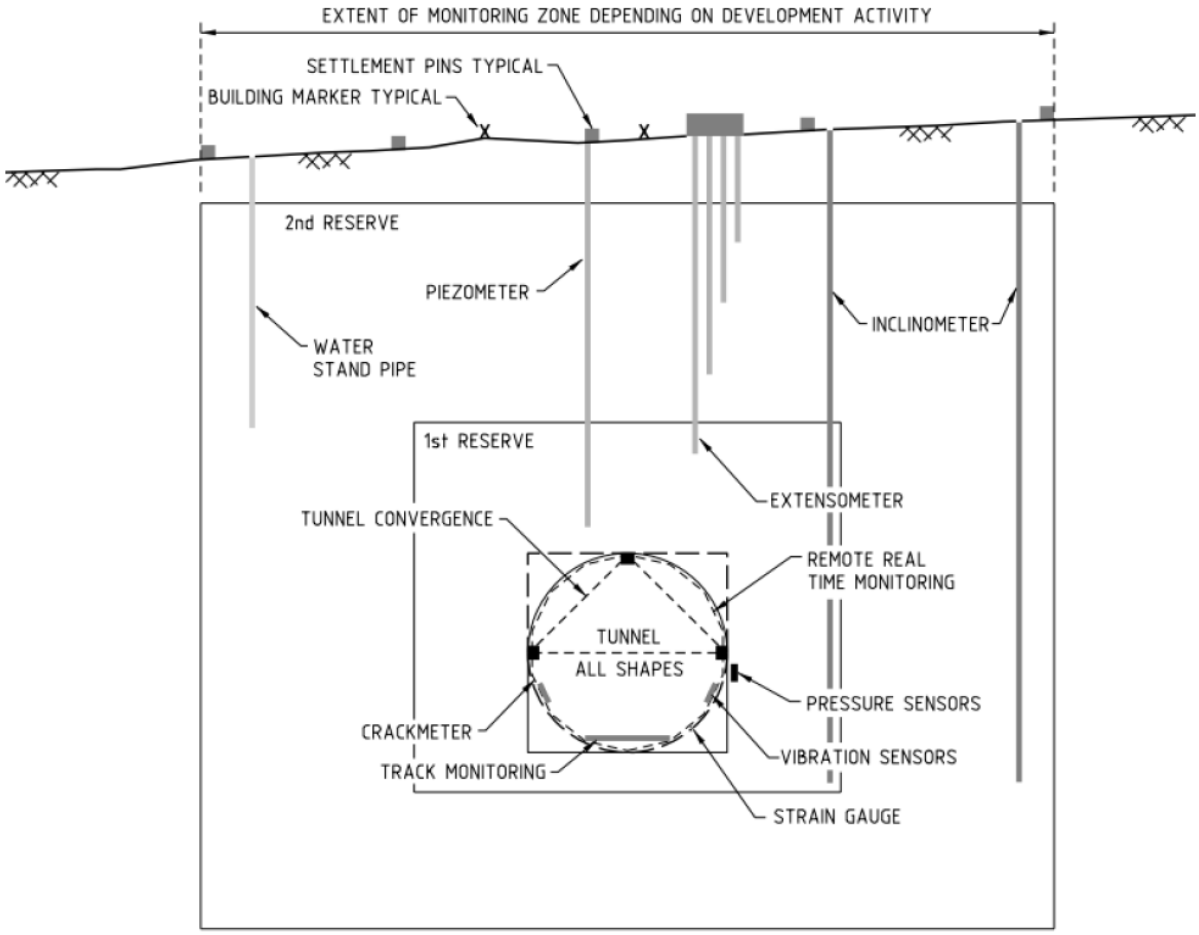
Figure 10.1 provides typical extents that monitoring must be provided in each case.

Table 10.1 Minimum monitoring requirement for development activities near rail tunnels – In ground

Type of instrument	Deep open excavations	Foundation works – shallow or deep	New underground excavation or new tunnel
Inclinometer	Yes	Yes	Yes
Water standpipe	If required by Sydney Metro	If required by Sydney Metro	If required by Sydney Metro
Piezometer	Yes	If required by Sydney Metro	Yes
Extensometer	Yes	If required by Sydney Metro	Yes
Ground settlement markers	Yes	Yes	Yes
Building settlement markers	Yes	Yes	Yes

Table 10.2 Minimum monitoring requirement for development activities near rail tunnels – within existing rail tunnels

Type of instrument	Deep open excavations	Foundation works – shallow or deep	New underground excavation or new tunnel
Tunnel convergence	Yes	Yes	Yes
Tiltmeter	Yes	If required by Sydney Metro	Yes
Crackmeter	Yes	Yes	Yes
Vibration sensor	Yes	Yes	Yes
Rail track monitoring (distortion)	Yes	If required by Sydney Metro	Yes
Strain gauges in lining	If required by Sydney Metro	If required by Sydney Metro	If required by Sydney Metro
Pressure cells in lining	If required by Sydney Metro	If required by Sydney Metro	If required by Sydney Metro
Real time monitoring such as EL beams, optical prism laser scanning	If required by Sydney Metro	If required by Sydney Metro	If required by Sydney Metro



Note: instrumentation not to intrude into the first reserve unless agreed by Sydney Metro

Figure 10.1 Typical instrumentation layout

During construction of the Sydney Metro infrastructure it may not be feasible to grant access to tunnels for the purpose of installing monitoring equipment. If access to Sydney Metro infrastructure is not granted, then the developer and Sydney Metro shall determine an alternative monitoring location which can be used to represent or derive conditions in the tunnel.

Baseline data for each monitoring parameter must be established before commencement of development construction. The developer must provide as a minimum, three sets of monitoring data to establish a baseline prior to excavation.

The equipment that is used for remote monitoring (particularly for alarm or warning systems) must have proven reliability in similar applications.

Any alarm or warning system should have a visual and audible alarm system to activate and to stop all works as necessary and notify relevant personnel, such as the site manager, geotechnical consultant and nominated Sydney Metro representative.

Depending on the project complexity, physical inspections of existing metro infrastructure may be required on a regular basis during critical stages of construction. If necessary, these inspections should be undertaken jointly with the developer and Sydney Metro representative (including a representative from the metro operator as necessary).

11 Sydney Metro contact and information for developers

Sydney Metro has a dedicated email address for queries relating to development of land in or near Sydney Metro infrastructure. The contact details and information points are outlined in Table 11.1 below.

Table 11.1 Sydney Metro contact and information points

Activity	Detail
Sydney Metro email address	SydneyMetroCorridorProtection@transport.nsw.gov.au
Sydney Metro website	Sydneymetro.info
NSW Major Projects including Sydney Metro planning documents	https://www.planningportal.nsw.gov.au/major-projects

Appendix A – Sydney Metro infrastructure details

Metro North West Line

Sydney's Metro North West Line is the first dedicated metro line to be constructed for the metro and extends for 36 kms from Chatswood through to the north west. The Metro North West Line incorporates 13 km of track and rail infrastructure between Epping and Chatswood that has been modified and segregated to form part of the Sydney Metro.

This Guideline is relevant for the 28 km tunnel section of the Metro North West Line from Chatswood to Bella Vista and Metro underground infrastructure in other locations.

The following are key features of the Metro North West Line.

Epping to Tallawong

- 23 km of new track and rail infrastructure delivered through approximately 15 km of twin tunnels and 4 km of elevated structure, with the remaining 3 km of rail infrastructure provided at-grade with some sections in cutting.
- Eight new stations are located at Cherrybrook, Castle Hill, Hills Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Tallawong.
- The stations at Castle Hill, Showground and Norwest are contained within cut and cover concrete boxes, whilst stations at Cherrybrook and Bella Vista follow an open cut station configuration. Stations at Kellyville and Rouse Hill are elevated. Tallawong station is the only station that is at grade.
- The approximately 15 km of twin running tunnels have an internal diameter of approximately 6.2 m and an external diameter of approximately 7.0 m and have been excavated predominantly through shale and sandstone mostly using tunnel boring machines (TBMs). The tunnels are supported using a precast concrete segmental lining except for the mined tunnels between the Epping Service Facility and Epping Station where in-situ concrete has been used.

- There are 61 cross passages between running tunnels at approximately 240m centres. These cross passages have been mined and are supported using a permanent cast in-situ concrete lining.
- There are services shafts at Epping and Cheltenham area which are cut and cover structures. These shafts are supported using permanent cast in-situ concrete lining.
- Other structures includes nozzle enlargement at the ends of stations at Castle Hill, Hills Showground and Norwest. These have been mined and are supported using a permanent cast in-situ concrete lining.
- A 159 m long mined crossover cavern is immediately east of Castle Hill Station. The cavern has a span of 21 m wide and has a height that varies from 14 m to 17 m. The cavern is supported by a permanent cast in-situ concrete lining.

Epping to Chatswood (Existing ECRL)

- The 13 km length of existing track and rail infrastructure between Epping and Chatswood, previously known as the Epping to Chatswood Rail Link (ECRL), has been converted to form part of the Sydney Metro system.
- The underground infrastructure comprises twin single track tunnels with an excavation diameter of 7.2 m and four underground stations completed in 2008.
- The underground station structures at North Ryde, Macquarie Park and Macquarie University consist of large span platform caverns typically of about 19 m in span and 13 m in height, together with concourse caverns, access tunnels, adits, shaft and associated plant and equipment rooms. The station caverns have been excavated in mainly competent, horizontally bedded sandstone and shales permanently supported using composite linings consisting of rock reinforcement in the form of rock bolts and shotcrete.
- Epping Station comprises two platform caverns connected by cross passages and accessed through escalator tunnels, lift shafts and two large plant room ventilation shafts. This station is located beneath the existing surface station.
- The running tunnels were excavated by rock tunnel boring machines (TBMs) and underground stations and associated structures were excavated using roadheaders, rock hammers and rock saws. The running tunnel support consists of temporary primary support using rock bolts and shotcrete, and final support using unreinforced cast-in-situ concrete lining, nominally 200 mm thick. A section of the running tunnels was lined with shotcrete for construction reasons. The invert of the tunnel consists of precast reinforced segments with a floating track slab.

Sydney Metro – City & Southwest

The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro North West Line at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown.

Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

A future extension of Sydney Metro - City & Southwest is proposed from Bankstown to Liverpool.

This Guideline is relevant for the underground sections from Chatswood to Sydenham and Metro underground infrastructure in other locations.

The following are key features of this planned section of the metro system.

Sydney Metro – City

- The city section consists of a short section of surface track from Chatswood Station to the dive and portal structure then underground infrastructure that extends under St Leonards, Crows Nest, North Sydney and Sydney Harbour and then beneath the Sydney CBD to Central and Waterloo and through to Sydenham where the metro comes to the surface at a portal and dive structure at Marrickville.
- New stations will be located at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo. New underground metro platforms will be built at Central Station.
- Twin running tunnels of approximately 14 km in length (portal to portal) were excavated using TBMs and supported using a precast concrete segmental lining to create a watertight environment. The tunnels predominantly align through siltstone and sandstone, except below the Sydney Harbour where TBM tunnelling was required through marine ground sediments for a length of around 170 m.

- A total of 57 mined cross passages are located between running tunnels at regular intervals, with spacing of around 240 m centres. The cross passages were excavated using mechanical methods and supported using a tanked permanent lining, formed using cast in-situ concrete. A services shaft connects with a cross passage at Artarmon. The shaft is supported by permanent cast in-situ concrete lining.
- Waterloo Station, Barangaroo Station, Crows Nest Station and the underground metro platforms at Central Station are cut and cover box structures that contain island platforms. The station is typically 24 m in width and range from 200 m to 215 m in length. Pitt Street Station and Martin Place Station have binocular platform caverns that connect with two entrance and services shaft structures, whilst Victoria Cross Station has a single span cavern with an island platform, which also connects with two entrance and services shaft structures.
- At Martin Place Station and Pitt Street Station the platform caverns range in length from 193 m to 246 m and have spans of approximately 12 m with an approximate height of 11 m. At the Victoria Cross Station, the platform cavern is approximately 174 m in length and has a span of 23 m with a height of 13 m. All the caverns and adits were excavated using mechanical methods and supported using a tanked permanent lining, formed using cast in-situ concrete.
- A mined cross over cavern which is 226 m in length was constructed immediately north of Barangaroo Station. This cavern has an internal span of 23 m wide and a height that varies from 14 m to 17 m. The cavern will be supported using a tanked cast in-situ concrete lining.
- Mined tunnel enlargements that are up to around 17 m in length are provided to house tunnel ventilation equipment at either end of the Victoria Cross Station caverns, the northern end of the rail crossover at Barangaroo, the southern end of Waterloo Station and at the northern end of Crows Nest Station. The nozzle enlargements were excavated using mechanical methods and supported using a tanked permanent lining, formed using cast in-situ concrete.
- Dive structures and portal structures are located at Marrickville and Chatswood. A stabling yard is located at the Marrickville portal site.

Sydney Metro – Southwest (all infrastructure is at grade or elevated)

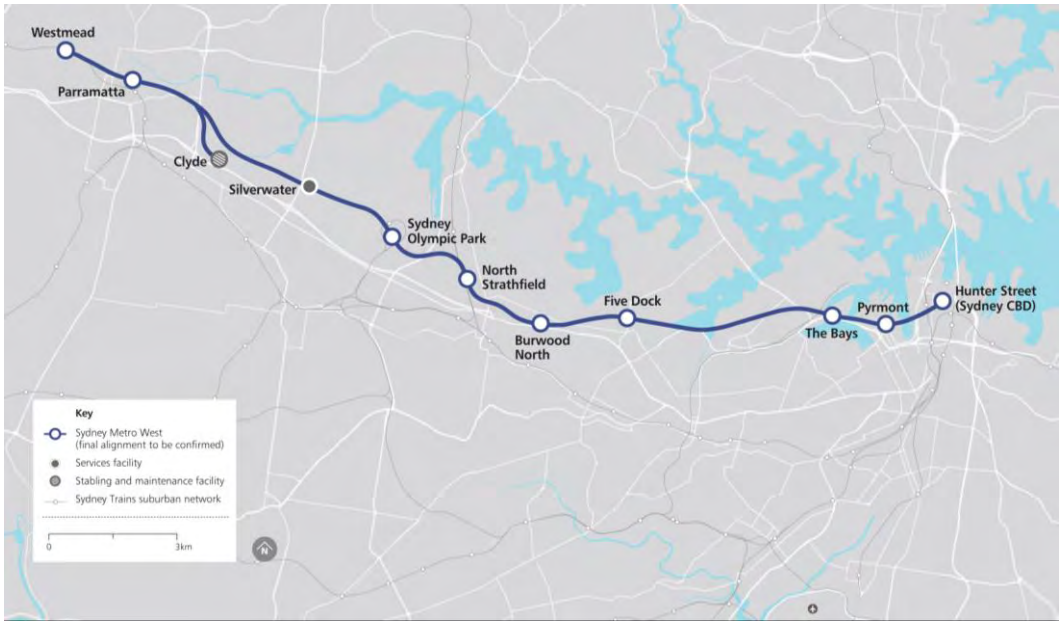
- This section of the metro is currently part of the T3 Bankstown Line, but will be converted to metro standards from Sydenham to Bankstown.
- The extension of Sydney Metro in the south west will involve upgrading the existing Sydney Trains operated T3 Bankstown Line and associated rail corridor from just beyond Sydenham Station through to Bankstown Station to enable the conversion to Sydney Metro operations.
- Eleven existing stations at Sydenham, Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Wiley Park, Punchbowl and Bankstown will be upgraded to improve accessibility for customers and meet the standards required for metro operations.
- Reference should be made to the Sydney Metro At Grade and Elevated Sections Corridor Protection Guidelines for protection requirements regarding Sydney Metro – Southwest.

Sydney Metro – West

The Sydney Metro - West project will support a growing city and deliver world-class metro services to more communities. This new underground railway will connect Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between the two CBDs, linking new communities to rail services and supporting employment growth and housing supply.

The locations of nine proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD. Further planning and design work is underway to determine the location of new metro stations at Pyrmont and in the Sydney CBD.

This Guideline is relevant for the entire Sydney Metro West alignment as it is all underground.



The following are currently key features of this planned section of the metro system.

Westmead to The Bays

- It is anticipated that tunnelling would occur from two Tunnel boring machine (TBM) launch and support sites at Westmead metro station construction site and The Bays Station construction site. Two TBMs would be launched from each of these construction sites to be dismantled and retrieved at the Sydney Olympic Park metro station construction site.
- Twin running tunnels more than 20 km in length would be excavated using TBMs and supported using a precast concrete segmental lining to create a watertight environment. The tunnels would have a circular cross-section with an internal lined diameter of about six metres and an excavated diameter of about seven metres.
- Cross passages would be provided between running tunnels at regular intervals, with a maximum spacing of around 240 m. The cross passages will be excavated

using roadheaders and rock hammers and supported using a watertight permanent lining, formed using cast insitu concrete.

- Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North and The Bays would be cut-and-cover stations.
- Five Dock would be constructed as a binocular mined cavern station.
- A dive structure and tunnel portal would be constructed at Rosehill within the Clyde stabling and maintenance construction site to provide for a future connection from the Clyde stabling and maintenance facility to the mainline tunnels. Underground connecting tunnels would be excavated by road header from the tunnel portal to the mainline tunnels.

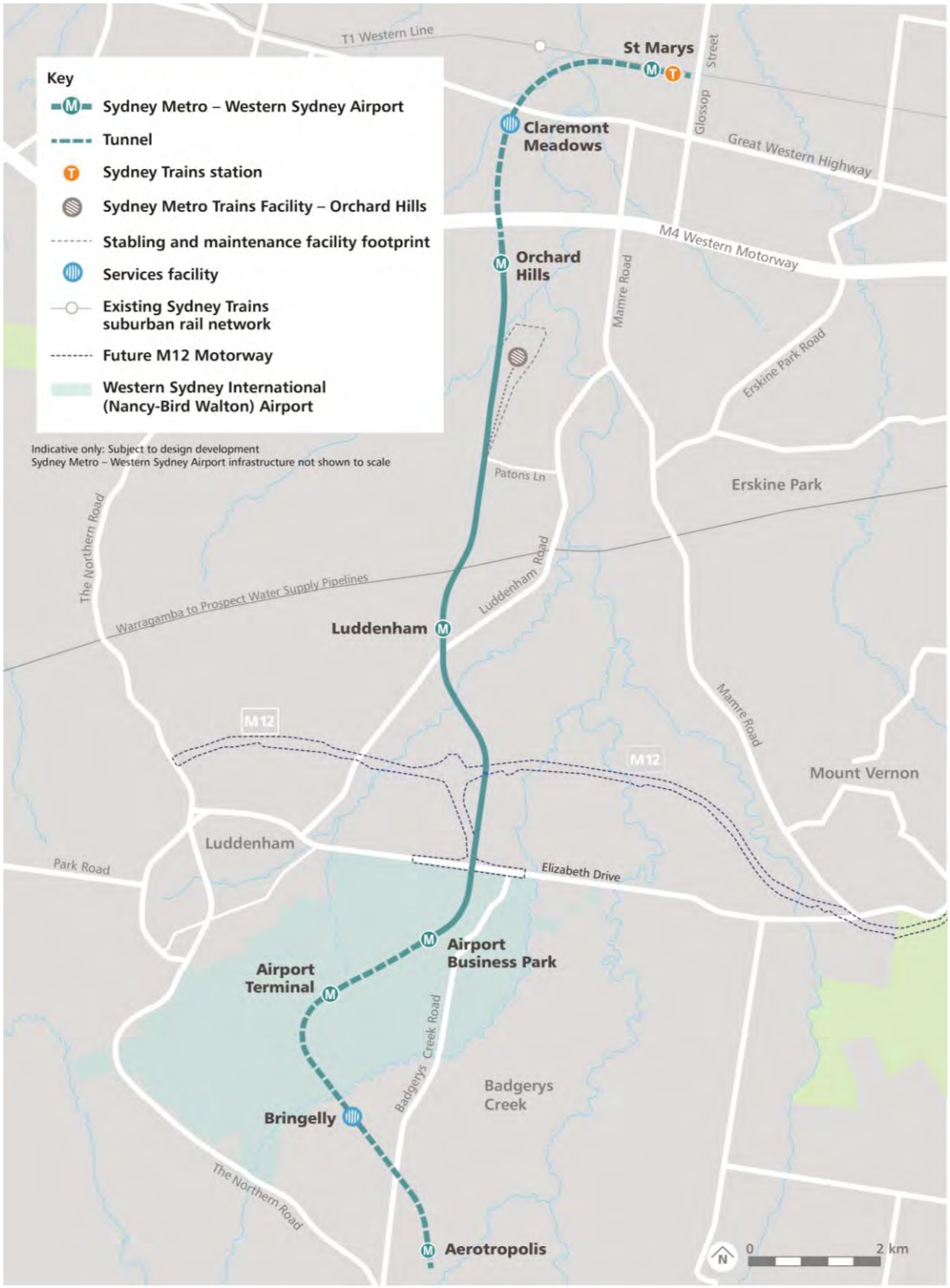
Sydney Metro – Western Sydney Airport

Sydney Metro - Western Sydney Airport will extend from St Marys in the north connecting to stations at Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and the Western Sydney Aerotropolis (the area proposed to be named Bradfield). The new metro railway line would include a combination of tunnel, surface and viaduct sections.

These Guidelines are relevant for the underground sections as shown below and Metro underground infrastructure in other locations.

The following are key features of this planned section of the Metro system.

- The new metro railway line would be approximately 23 kms in length.
- Twin running tunnel excavation is likely to be carried out using TBMs and supported using a precast concrete segmental lining to create a watertight environment. The tunnels would have a circular cross-section with an internal lined diameter of about six metres and an excavated diameter of about seven metres.
- Cross passages will be provided between running tunnels at regular intervals, with a maximum spacing of around 240 m. The cross passages will be excavated using roadheaders and rock hammers and supported using a watertight permanent lining, formed using cast insitu concrete.
- A stabling and maintenance facility would be required and will be located in Orchard Hills to the south of Blaxland Creek and east of the proposed project alignment with access via Patons Lane.
- A dive structure and tunnel portal would be required at any location where the rail line transitions from below ground to surface and is subject to design development.


Key
Sydney Metro – Western Sydney Airport
Tunnel
Sydney Trains station
Sydney Metro Trains Facility – Orchard Hills
Stabling and maintenance facility footprint
Services facility
Existing Sydney Trains suburban rail network
Future M12 Motorway
Western Sydney International (Nancy-Bird Walton) Airport
Indicative only: Subject to design development
Sydney Metro – Western Sydney Airport infrastructure not shown to scale
T1 Western Line
St Marys
Street
Glossop
Great Western Highway
Claremont Meadows
M4 Western Motorway
Orchard Hills
Mamre Road
Erskine Park Road
Patons Ln
Erskine Park
The Northern Road
Warragamba to Prospect Water Supply Pipelines
Luddenham Road
Luddenham
M12
Mamre Road
Mount Vernon
Park Road
Elizabeth Drive
Airport Business Park
Airport Terminal
Badgerys Creek Road
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Proposed future extensions would connect Sydney Metro - Western Sydney Airport with Tallawong in the north west, Macarthur in the south and Westmead to the Northeast.

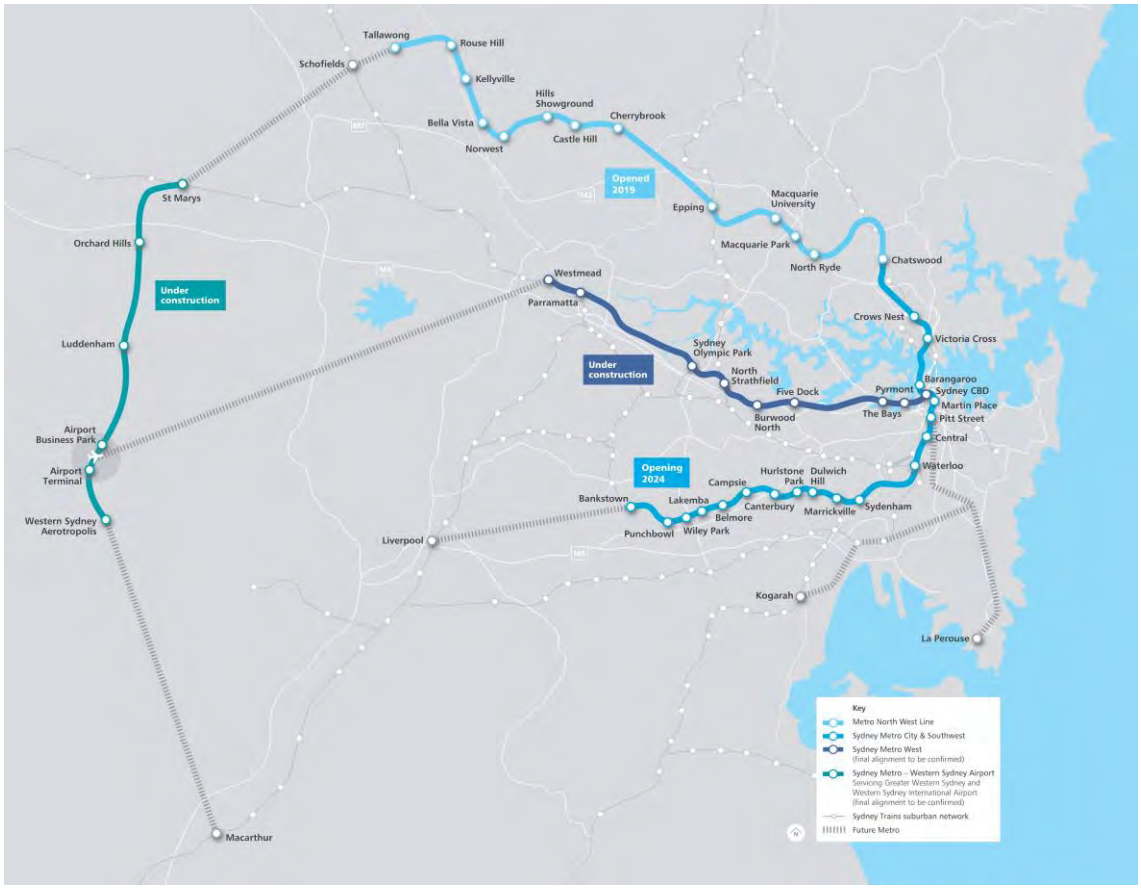

Figure A.1 Sydney Metro network – existing and future

It is intended that these Guidelines will be applicable to future Sydney Metro corridors located underground as they are announced. The Sydney Metro website [4]has further information about future Sydney Metro corridors.

[4] www.sydneymetro.info

Appendix B – Development application lodgement checklist

Where legislation requires referral or concurrence in relation to Sydney Metro rail corridors for proposed developments the developer must lodge the following documents as part of their development application package:

Item	Description	Check
Survey		
1.	Detailed survey plan prepared by a NSW registered surveyor, which accurately defines the boundaries between the development, the rail corridor (including first and second reserve), rail infrastructure and any Sydney Metro easements (including right of ways) or stratums, covenants and caveats.	☐
2.	Copy of the current land title including all easements (including rights of way), covenants and caveats.	☐
Architectural and Engineering Drawings		
3.	Geotechnical and structural reports/drawings that meet the Standards and requirements of Sydney Metro. The geotechnical report must be based on actual borehole testing conducted on the portion of the site that is closest to the rail corridor and include: • an analysis of the potential impact of demolition, excavation and operation of the development; • demolition and excavation induced vibration impacts on the rail corridor and rail infrastructure; and • potential loadings of the development on the rail corridor and rail infrastructure.	☐
4.	Structural design documentation for the development which demonstrates that: • the foundation design ensures that all loads from the development are transferred and induced effects on the underground rail infrastructure are acceptable to Sydney Metro; and • any deformation induced by bulk excavation will not have adverse impacts on the rail corridor, rail infrastructure or rail easements.	☐
5.	Cross sectional drawings showing the rail corridor (including first and second reserve), sub soil profile, proposed basement and/or foundation excavation and structural design of the development's sub-ground support adjacent to the rail corridor. All measurements contained within the cross sectional drawings must be verified by a registered surveyor.	☐
Engineering reports		
6.	Geotechnical investigation report with details in accordance with Section 7.1 of this guideline document.	☐

Item	Description	Check
7.	Impact assessment report with details in accordance with Section 7.2 of this guideline document.	☐
8.	Construction methodology for the development, including details of the structural support to be provided to the development and rail corridor during excavation and operation of the development. The construction methodology must not propose any rock anchors/bolts (whether temporary or permanent) within Sydney Metro's land or easements during construction or operation of the development.	☐
9.	Risk assessment report in accordance with Section 7.3 of this guideline document.	☐
10.	Noise, vibration and electrolysis studies and control measures in accordance with Section 7.6 if available otherwise these will be required prior to construction certificate.	☐
Additional Information (depending on impact assessment, or prior to construction)		
11.	Detailed ground and vibration monitoring plan including trigger levels, action plans and remedial measures, details of the instrumentation and baseline monitoring readings (refer to Section 10).	☐
12.	Construction schedule, construction management plan including sequence plan identifying impact.	☐
13.	Construction layout of equipment relative to metro infrastructure.	☐
14.	Final detailed Safe Work Method Statements (refer to Section 8).	☐
15.	Temporary safety plans and measures.	☐
16.	Temporary works plan, temporary access, vehicle, plant and equipment such as cranes (including mobile cranes) and stockpiling.	☐
17.	Rail related risk assessment and management plan.	☐
18.	List of machinery to be used during excavation/construction.	☐
19.	Groundwater control plans, environmental aspects including contamination.	☐
20.	Design loadings and certified drawings for construction related works that affect metro infrastructure.	☐
21.	Agreed interface activities plan with Sydney Metro.	☐
22.	If required by Sydney Metro, detailed dilapidation survey report in accordance with Section 7.4 of this guideline document.	☐
23.	If required by Sydney Metro, condition and dilapidation survey reports of all metro infrastructure affected by the development (refer to Section 8.2).	☐

Appendix C - Glossary

Abbreviation	Explanation
Alarm	Equal to or over the limit.
Alert	Coming close to the limit.
Competent Person	Refer to Appendix D for the process to determine a Competent Person. An individual who has the means and ability to undertake design, checking and verification activities to a recognised standard with the appropriate combination of technical knowledge, skills and relevant experience. A Competent Person will be required to provide a factual curriculum vitae, statement of qualifications, experience and supporting documentation that provides evidence of competence which will be subject to review and acceptance by Sydney Metro.
Designer	Competent Person responsible for undertaking a detailed design and analysis that demonstrates the effects of changed conditions on Sydney Metro Infrastructure arising as a consequence of a proposed Development. Competence definitions for Designer are set out in Appendix D.
Design Checker/Designer	Competent Person responsible for checking that a design is correct. Competent Person responsible for preparing a design solution to meet specified requirements. Competence definitions for Design Checker/Designers are set out in Appendix D.
Design Verifier/Design Checker	Competent Person responsible for independently verifying a discipline-specific design complies with relevant standards and is safe and fit for purpose. Competent individual responsible for checking that the design is correct. Competence definitions for Design Verifier/Design Checker are set out in Appendix D.
Developer	The person or organisation responsible for the new construction and/or alteration works.
Development	The term “Development” in this document means new construction and/or alteration works that change the existing asset configuration and could affect existing or future underground metro infrastructure. These works may include demolitions, alterations of existing structures, basements, foundations, anchors, temporary and permanent groundwater drawdown, pipe jacking, site investigations, tunnel and retaining wall constructions.

Abbreviation	Explanation
Infrastructure SEPP	State Environmental Planning Policy (Infrastructure) 2007
IV	Independent Verification
Metro underground infrastructure	For the purpose of assessing the effects of adjacent proposed developments, underground metro infrastructure includes, but is not limited to, the following: • running tunnels and interconnecting cross passages • station caverns and adits • crossover caverns • station boxes and shafts • nozzle enlargements • ventilation shafts and • dive and portal structures.
MIC SEPP	State Environmental Planning Policy (Major Infrastructure Corridors) 2020
NSW	New South Wales
Qualified Person	A person who is registered as a professional engineer or an architect or a surveyor under any law relating to the registration of engineers or architects or surveyors, as the case may be, and who under law is allowed to practice of carry on the business of a professional engineer or architect or a surveyor.
SEPP	State Environmental Planning Policy
Stratum	A right to use for a specific purpose land owned by others. The easement can be limited in either height or depth or width or all. This is also referred to as easement land.
Substratum	Land owned by Sydney Metro which is below surface level.
Support Zone	Zone where tunnel supports are located. Tunnel support can comprise permanent concrete linings, rockbolts and anchors, ground improvement measures such as grouted zones, rock pillar stich bolts, steel sets, lattice girders, brick lining, cast-in-situ lining, shotcrete lining and waterproof membranes.
SWMS	Safe Work Method Statement
TBM	Tunnel boring machine
Temporary works	Mobile cranes, scaffolding and other items which may exert temporary loading.

Abbreviation	Explanation
TfNSW	Transport for NSW
Underground Structures	Any engineering works below the surface of the ground
WSA SEPP	State Environmental Planning Policy (Western Sydney Airport) 2020

Appendix D – Competent Person

The tables below are based on the Sydney Metro Competency Management Plan and are provided to indicate the levels of competency that would be acceptable to Sydney Metro.

Minimum competency levels

Role	Straightforward /Low risk	Moderately complex Moderate risk	Complex/ High risk	Extremely complex/Very high risk
Engineering assurance	Level 3	Level 3	Level 4	Level 4
Design verifier	Level 2	Level 4	Level 4	Level 4
For Design Checker	Level 1	Level 2	Level 3	Level 3
Designer	Level 1	Level 2	Level 2	Level 3
Technical Manager	Level 2	Level 2	Level 2	Level 2

Levels of Complexity and Risk shall be approved by Sydney Metro.

Competence Levels

Four competence levels are identified from Level 1 – the most junior to Level 4 – the most experienced. Criteria and definition of each level is described below.

Level	Description
Level 1 – Qualified practitioner (supervised)	The Qualified Practitioner possesses basic knowledge of at least 80% of the systems within the practice area, including the principles around functional analysis, design, acceptance and application. They shall have received formal education and will work under the supervision of a designated Practitioner at a greater level of proficiency. Minimum requirements are discipline specific tertiary degree or equivalent Industry Certification within the Australian Qualifications Framework (AQF) and five years general work experience relevant to the discipline.
Level 2 – Experienced practitioner	The Experienced Practitioner possesses the basic knowledge of a Qualified Practitioner, with additional detailed knowledge and understanding of one or more practice areas. Knowledge must include safety implications and key functional aspects, failure mechanisms across multiple modes of operation and use, and lifecycle considerations such as maintainability, availability and reliability. They shall have had direct experience of applying their knowledge in a number of projects, preferably including in the rail sector. Minimum requirements are as a Qualified Practitioner, with additional five years' experience relevant to one or more practice areas, and evidence of relevant continued professional development equivalent to the requirements of Engineers Australia Continuing Professional Development (CPD) requirements or equivalent professional body.
Level 3 – Senior practitioner	The Senior Practitioner possesses the knowledge and experience of an Experienced Practitioner, with additional experience supervising or guiding less experienced practitioners, and/or a leadership role in the area(s) of practice. Minimum requirements are as an Experienced Practitioner with additional five years' experience relevant to one or more practice areas, with Chartered professional accreditation such as Chartered Professional Engineers (CPEng), as conferred by Engineering Australia or ability to demonstrable equivalent level of relevant and continued professional development.
Level 4 – Expert practitioner	The Expert Practitioner possesses the technical knowledge, experience and accreditation of a Senior Practitioner, with additional substantial experience applying domain knowledge across a range of comparable projects and a demonstrable record of successfully leading other engineers or practitioners, of managing technical risk, and leading safety in engineering practice in their area or specialisation. The Expert Practitioner will have established a recognised profile within a relevant industry association. Minimum requirements are as a Senior Practitioner with additional five years' experience relevant to one or more practice areas, and evidence of relevant, continued professional development or maintaining professional accreditation.

Annexure C: Community Engagement Review

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27 May 2025

Chris Gough
Senior Partner
Storey & Gough Lawyers
"Harrisford", 182 George Street,
Parramatta NSW 2150
chrisgough@sglaw.com.au

Dear Chris,

Hyecorp Property Group (Hyecorp) - Application to develop 16-24 Lord Street and 21-27 Roseville Avenue, Roseville Application number SSD-78996460 (Application) - Response to EIS on Exhibition (EIS) – Community Engagement Review

The purpose of this independent peer review for the Eastside Roseville Resident Action Group Inc is to explore whether the engagement process for the Application produced the outcomes that might be expected in line with the scale of the development's impacts as per the Undertaking Engagement Guidelines for State Significant Projects, DPHI March 2024.

It is a review of the engagement undertaken to support the Application that was prepared by Urbis based on the consultation that has been conducted by Gyde and Hyecorp.

I acknowledge that I have reviewed the Expert Witness Code of Conduct and AI Practice Note and have endeavoured to comply with these throughout this matter.

About PlanCom Consulting and Margaret Harvie as the reviewer

PlanCom has specialised in Planning and Community engagement professional services since 2007. The company was established by Margaret Harvie and Julian Ardas who came from backgrounds as senior managers for international consulting environment and engineering firms. Julian Ardas is a Registered Environmental Assessment Practitioner (REAP).

Margaret Harvie has been involved in developing engagement plans and engaging communities to fulfill the requirements of State Significant Developments (SSD) and State Significant Infrastructure (SSI) (and their former equivalent) for 25 years. As a Fellow for the International Association for Public Participation (IAP2), which is the peak membership organisation for community engagement and an International Association of Public Participation (IAP2) international trainer, Margaret has both a professional and personal commitment to quality community engagement and this includes that "public participation seeks out and facilitates the involvement of those potentially affected or interested in a decision" (IAP2 Core Value 2).

Margaret has reviewed engagement plans and outcomes for numerous projects, mostly for compliance and auditing and to suggest improvements to help proponents improve their practice.

Approach and focus

While the merits of the development are not my focus it is undoubtedly a significant development in terms of its bulk and the number of people that it will bring into the area. There is no question about the level of impact and change this will bring and it is my experience that such developments are watched closely by local residents interested in the effective management of the changes such developments bring to the community.

While my expertise is in engagement, I work alongside Social Impact Assessment (SIA) professionals with community engagement being a key data source to the SIA. The "Social Impact Assessment Guideline, DPHI February 2023" talks about the need for primary data sources. Where there is a need for detailed impact assessment it asks for "primary data collection and targeted consultation" (section 4.6). It goes further to say that "Additionally, primary data should be grounded in people's reports of their actual experiences, views and perceptions and informed by details of the project".

The comments below relate to the community engagement; however, I believe that the social impact is fundamentally flawed because it has been based on inadequate engagement. This puts into doubt the validity or the completeness of the findings in that document as they relate to assessment of community perspectives on the impacts for the SIA.

In addition, "The Department expects proponents to consider the core values and public participation spectrum of the IAP2 when developing their engagement strategy.", page 8 Undertaking Engagement for State Significant Projects. There are some fundamental ways that the engagement falls short of the IAP2 Core values.

Overview of the findings

Never in my 25 years have I seen a high impact development in inner Sydney including the North Shore attract such little public attention in the engagement period. My conclusion is that the engagement process has been inadequate on many fronts and does not meet the requirements of the NSW government guidelines nor the expectations of our practice as community engagement professionals.

The low participation rate would indicate that people were unaware of the opportunity to participate. As a result, the data collected is inadequate and is neither representative of the range of views in the community nor does it reflect a full understanding of the impact or people's ability to express concerns about impacts. I have outlined below each of the methodologies and the limitations of these in relation to practice that I would consider appropriate in community engagement.

As mentioned above the fact that the SIA for this proposal and EIS has relied on the community engagement for its primary data also brings these aspects of the Application into question.

The methods and resulting participation

In this section I will expand on each of the engagement methods. While each of the methods are sound, the issue is with their orchestration as part of the engagement, raising some fundamental issues.

1. Flyers	
About the application of this method	This is the primary and in fact the only way that people could learn about the project during the consultation period. That is, while there were other opportunities through the survey and the Community Drop-in sessions they were only directed to these means of engaging through the flyer. It is therefore central to effective engagement that this communication not only reached but was read and understood by community members.
The content of the flyer	It is frequent criticism that people missed the communication because they thought that it was a sales document and is packaged up with the supermarket specials information. Conscious of this criticism as engagement professionals we take every effort to ensure that our communication is clear about what we are proposing and what we want from the public. There are multiple issues in review of this particular flyer: • The front page 'advertises' Hyecorp as "an end-to-end developer building luxury residential developments from the ground up, on Sydney's lower North Shore". I

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	think most would read that as advertising to attract sale of units in the development; it you are not interested in that market you would quickly discard it. This is further endorsed by the page "the proposal includes" talking about what the development offers. This page is easier to read than other pages in the flyer due to dot points and use of icons. • The visual on the front is deceptive and could be viewed as 7 rather than 9 storeys, this is further confused by no mention in the text that it is a 9 storey development • No map to show people the exact location and the extent/size of the site. • There is no indication of the timing and that an application for the development is about to be submitted to DPHI, nor is there any indication that a scoping report has been submitted and it available on the DPHI website. • The reference to the survey is hidden in the second sentence of the third paragraph of the 'Have your say' section. At the very least the invitation to complete the survey might have been bolded to encourage participation. • While it does state there will be submissions to the proposal it is not clear that there is opportunity to influence any aspect of the proposal.
About the distribution	There has been questions from the community around the extent of the distribution (1,355 flyers) and this concern has been supported by the community group (ERAG) survey of potential recipients in the catchment area that was identified by Hyecorp. Their results indicated lack of awareness of the flyer prior to information sessions. It would be of value if the proponent can provide the third party (letterbox distributor) map showing the date and movement of that delivery person (this is a standard validation that occurs for consultants to present to clients and to recheck when there is a question about distribution from a resident).
Resulting participation	The participation of just five people for the drop-in session and 24 people for the survey I believe speaks to the issues raised above. That is, I suggest that participation levels are a direct result of people not being aware that this was a proposal and therefore they did not have any reason to consider the opportunity to participate.

2. Drop-in information sessions	
About the application of this method	The only opportunity for face-to-face communication with the proponent was the one drop-in session. I am suggesting that the low level of participation is a direct reflection of the fact that people had not read the flyer and if they had they had not fully understood the scale of the that the proposal and its implications. That is lack of information led to poor engagement outcomes. As mentioned previously the scale and impact of the proposal should have resulted in more participation.
Information provided	Based on Appendix D of the Engagement Outcomes report it appears that the information boards at the drop-in information sessions simply duplicated the information in the brochure. Attending may have offered participants little more than what they know already although it would have been the opportunity to meet the proponent face to face. Ideally additional information might have included elevation plans and the like but there is no indication that such information was available.
Accessibility of the session	While the one information session did extent to after core work hours to 6.30pm in a nearby location, accessibility would have been enhanced if there was more than one session and at least one session being conducted in the adjoining Scout Hall or church

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	facilities. Also it is the norm to provide a session for online participation of people not able to get away from childcare or work duties or who are out of Sydney at that time.
Promotion	The flyer to promote the drop-in session was distributed "first week of March" meaning that this may have been as late as 8 March. I suggest that this gave people little time to plan to attend a drop-in session on 12 March. The flyer pointed to the survey that I understand was live on 8 March, to avoid people getting upset about not having access to a promised survey it is reasonable to assume that the distribution of the flyer was not prior to 8 March.

3. Survey	
About the application of this method	The survey seemed to be poorly promoted and only available for a short period from just 8 March – 24 March. I believe publicity of the survey was from 8 March. In addition, it was not made clear that there was a deadline for receiving responses of 24 March.
Promotion of the survey	The original promotion via the 1,355 brochures did not produce high levels of participation in the drop-in sessions nor the survey. Given the small numbers attending information sessions Hyecorp, to get more survey responses, redistributed the same flyer to 200 residences surrounding the site (not clear on the exact extent of the distribution). This was on around the 18 March just 6 days before the survey closed. This was redistribution of the same Hyecorp brochure with small font to point to the survey. This does not seem to equate to real effort to promote the survey and encourage participation. It is just more of the same of what I call poor communication. Again no indication that the survey would close on 24 March, some who may have seen it and planned to come back to complete the survey may have missed the opportunity.
Design of the survey	While the survey did ask about negative aspects of the development and about positive aspects in what seemed to be balanced questions the percentage outcomes were heavily weighted to positive outcomes. Questions leaning to the positive about (1) Aspects of living in Roseville, (2) Does your housing meet your current/ future needs and (3) important parts of the proposal offered multiple choice responses leading to responses as high as 68% (Aspects of living in Roseville -Close proximity to public transport) and as low as 18% (Does housing meet your current and future needs? - I can find an access housing in Roseville easily). In contrast "Concerns about the development" offered participants a single response. The top 2 highest responses were therefore only 21% ((1) Replacement of homes with apartments (2) Lack of support infrastructure: schools, roads and transport capacity). On a quick review of the document with the positive questions having considerably higher percentages one could think the community sentiment is weighted to the positive. It in fact has more to do with survey design. The multiple choice topics in the "Concerns about the development" also did include items that are positives rather than concerns, ie. Welcome housing diversity in the area, support for quality design and builds. Traffic and transport which would seem to be an obvious area of great concern for current residents was not in the multiple choice list of concerns and there was also had no mention of heritage. My conclusion is that the survey used for the consultation report and as primary data for the social impact led respondents away from expression of issues of concern and this resulted in skewed reporting.

Resulting Participation	Of the 29 responding to the survey it is understood that only 5 are site neighbours. The participation of immediately impacted residents is important for the consultation process and vital to the primary data source for the social impact assessment. It was noted on page 25 of the SIA that "this response rate is unlikely to provide a representative sample, and the findings are not considered valid or reliable". For the purpose of the SIA it would be of value to link the participation to the social locality map on Page 9 and indicate how many participants were from the primary locality.

4. Website	
About the website webpage	A webpage about the project is the core baseline information for the community, it supports the stated "intent to continue with ongoing consultation". It is how people expect to be able to get access information at any time and track the project through various application, assessment, design and construction stages. The current webpage information that was reinstated a few days before the end of the submission period has the tone of selling the proposal to potential buyers. As per the images on the brochure the height looks to be mostly 6 storeys and with one image that looks to be 8 storeys. It does mention that the project is in "Planning" and does have provision to "register to sign up for general project updates".
Access to webpage information about the project	Webpage information about the project was not available for over a month in the prime time when interest in the project was growing. The Hyecorp site remained live but with no reference to this project from what I understand was a period from around 16 April until 25 May. The current webpage as per the one that was up prior to 16 April does not give timing for the project. It fails to direct people to the DPHI Major Projects website or give information about the submission process and deadline.
Access to ongoing information	A webpage available throughout all project stages would be the minimum requirement in these times. A webpage would most usefully include elevations and plans for the ongoing reference of residents and would direct people to the DPHI major projects website. This allows them to see the details of the application and reinforces the independence of the approval process through NSW Government. Removal of website information for a time does not help to build for trust with residents that there will be consistent ongoing consultation through future stages including through potential changes to design and into construction. Note the Gyde Engagement Outcomes report page 14 states "Continued engagement will take place with stakeholders and the community during public exhibition process of the SSDA as well as during future stages of planning development process." The SIA on page 4 also recommends approval should be subject to ongoing consultation to inform the community through stages of development.

5. Email - community@hyecorp.com.au	
Way to contact proponent/ make comment	There was no report on the number of emails received nor the content or issues raised in those emails. Given this was one of the only ways offered to communicate with the project (if interested stakeholders missed the drop-in session) it would seem vital that there is proactive monitoring and response to these emails.

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Ease of access for the diversity of people in the community

The situation	There were access challenges as a result of quite limited time that information was available and limited means of participation. A larger issue was the lack of the information to address the needs of Non-English Speaking Background (NESB) community members. Statistics offered and the analysis in the SIA gave inadequate attention to the fact that there are a large number of people who may not speak English or for who English is a second language. The SIA notes that 42.6% of people in the whole Ku-ring-gai area were born overseas but neglects to address what this mean for the social composition or the implications for modifying engagement to suit their needs. Of significance is that according to the 2021 census data only 66.2 % in the more targeted Roseville census area speak English at home with 18.4% speaking Mandarin or Cantonese at home. The Undertaking Engagement Guidelines for State Significant Projects requires that "engagement should be tailored to enable people with disabilities, culturally and linguistically diverse communities and Aboriginal and Torres Strait Islander communities to participate".
What might have helped	It is noted that other SSDAs for projects within the Ku-ring-gai LGA translated information into Chinese. To ensure that engagement is accessible as engagement professionals if we know that we have non-English speakers we need to ensure that especially those impacted such as near neighbours understand what is proposed and the impacts. Options include: • Translating information or providing access to interpreters • Presenting information in different ways including conversations (that is not just that one format which was the flyer) • Doorknocking to speak to each of the immediate residents to alert them to the information in the flyer and explain the implications, this way special needs for access would be identified.

Trust in the process

Page 8 of the SIA has a reference to "Liverpool City Council policy" as one of the items in preparation of the scoping study. While it may seem minor, lack of attention to detail in the use of cut and paste material has the community questioning whether the documents are uniquely developed considering their situation and needs or just templates used across projects in Sydney.

Overview of the approach and suggestions for improvement based on DPHI guidelines

Engagement is about innovation to maximise participation. When participation results are not what we need as engagement professionals (in this case for the report in the EIS) or commensurate with the impact we need to ask ourselves has the message been received. It is important to confirm that the non-response is by the potential participants' choice and not for reasons that we need to address to allow for full participation.

The Undertaking Engagement Guidelines for State Significant Projects 3.5 says *"The Department encourages proponents to use innovative approaches to engagement to enable participation from a broad spectrum of community members. This can include the use of multiple channels such as traditional print, in person and digital. Digital forms of engagement through the major projects website and other platforms such as social media, private websites and online meetings will continue to be increasingly important.*

The Department also encourages proponents to maximise engagement through current and emerging platforms. Innovative engagement methods may include video, infographics, animations, digital visualisations, online forums and virtual consultation events or spaces. Consideration should be given to the need for translators and interpreters where appropriate."

When engagement professionals do not get the response expected or needed we look for new ways to engage. In this situation I would suggest that what might have been called for was:

- Door knocking at least the 20 or so adjoining neighbours and leaving a calling card with a phone number for those not home.
- Advertisements in local papers or as posters in the shops.
- Popups stall at the local shops.
- a "Dear Neighbour" letter to tell people about the exhibition, letters are a way to get attention when "brochure" style information is being ignored.
- More attention to informing of the deadlines and the urgency to get information and participate.

Conclusions

The engagement process for this project was inadequate for the purpose of the EIS as per the Engagement Outcomes Report. As this same engagement underpins the SIA I suggest that the validity of this work is also put in doubt.

There was simply a lack of participation and therefore available data from the community to assess the community's views on the proposal and a lack of input to help shape the future of this proposal.

The engagement, in my professional view does not meet the requirements of the NSW government guidelines. In particular

- It was not **open and inclusive** in that is did not seek out participation of all groups
- It was not **easy to access** in that the information provided was not clear about the proposal, the impacts and the deadline.
- It was not **relevant** in that the survey did not seem to give adequate opportunity for people to express negative concerns
- It was not **timely** in that it felt rushed with the engagement periods being very truncated.
- It was not **meaningful** in that there was limited opportunity for direct contact between the proponent and the community.

What most strikes me is that the members of ERAG do not seem to have had any opportunity to develop a relationship or have any conversation with the proponent, despite emails that I understand have been sent to reach out. It seems that there have been no attempts to explain or provide answers to their questions or potentially try to address their concerns.

Any questions on this submission, please contact me by email: margaret@plancom.com.au or mobile telephone +61 411 590 859.

Regards

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