QUEEN RD & WILLIAM ST, FIVE DOCK

BUILT FORM TESTING

PLANNING PROPOSAL - DEC. 2024

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Projected Design Management

Audax Urban

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EXECUTIVE SUMMARY

Audax Urban has been engaged by DPG 37 Pty Ltd to conduct built form testing and analysis of the potential visual and overshadowing impacts of a proposed alternative reduced tower setback to the edge of podium for the property located at 78 -79 Queens Rd & 2-8 Spencer St, Five Dock (henceforth the subject site). The purpose of this report is to provide an independent assessment of the proposed alternative setbacks with regards to the acceptability of the overall built form, overshadowing and visual impacts.

This report has been prepared in support of a Planning Proposal application for the subject site, which aims to modify aspects of the applicable controls on the site with the purpose of delivering a mixed-use building comprising ground level retail and residential uses above. The development will consist of approximately 134 dwelling units, including 15% affordable housing, along with ground level retail activation and public domain improvements. The proposed massing will be distributed across the site in the form of a low-rise 5 storey podium (18.2m) generally built to the property boundaries and a 20-storey tower toward the southern end of the site. The proposed built form is generally guided by the strategic vision for Five Dock and more specifically, the Parramatta Road Corridor Urban Transformation Strategy (PRCUTS) Kings Bay precinct.

To arrive at the findings presented in this report, Audax Urban has reviewed the built form testing conducted by Projected Design Management (Refer to Appendix 1), in the form of compliant massing envelopes (3m setback above podium) compared against the proposed alternative 1m tower setback above podium. This investigation has also included a site visit and a review of the aims and objectives of the Kings Bay Precinct Master Plan report by Group GSA and the applicable built form controls in *Canada Bay Development Control Plan* (CBDCP) *Part K – Special Precincts* to ascertain Council's desired future character for this sector of the Kings Bay Precinct.

This independent urban design analysis has concluded that the difference in the visual impact between a 3m and 1m setback above podium is negligible for the scale of a 20-storey tower or more. The response to 'human scale' is maintained by the continuous datum line of the podium level independent of the scale of the tower above. The overshadowing effects of the proposed reduction in the eastern and western setbacks are similar with regards to the proposed public park at 129-153 Parramatta Road and 53-75 Queens Road, Five Dock (SSD-73228210) also known as the Daicorp Site.

Similar overshadowing of the 1m setback when compared to the 3m setback is achieved through the modulation, sculping of the tower form and by maintaining key alignments when compared to the DCP envelope controls. The reduction in the east and west setbacks from 3m to 1m has a negligible effect in the way the overall massing is perceived, and it is therefore acceptable with regards to the streetscape response. The alternative 1m setback has a similar visual impact as the CBDCP envelope, and it achieves a similar contextual fit with the evolving surrounding context. The built form testing has also demonstrated that the pattern of overshadowing has similar, if not less, impacts than that of the envelope predicated by the Kings Bay Precinct Master Plan.

STRATEGIC OVERVIEW

The overall vision for the precinct according to the Kings Bay Precinct Master Plan report by Group GSA, is that the Kings Bay Precinct "will be a new residential and mixed use urban village on Parramatta Road, with an active main street and strong links to the open space network along Sydney Harbour". As part of the vision for this precinct, the Precinct Master Plan sets out the urban design principles for the precinct and site. These principles in turn informed key elements of the masterplan including the requirement for:

> *"New parks and linkages are provided to compliment the existing open space network and help to create an active and permeable neighbourhood".*

As part of the creation of the networks of parks and linkages, the master plan required an 8m land dedication for the purpose of "public domain widening along Williams Street". "The proposed arrangement of land" was to be dedicated to Canada Bay Council" to ensure:

> "the provision of significant public domain enhancements. Among proposed improvements, public domain enhancements and new roads and accessways will be required to be dedicated to Council…"

The above is a key consideration as part of this analysis because the land dedication eroded significant width reducing the available depth of the site. The width being a critical dimension on an L-shaped site. While the dedication delivers a positive urban outcome for the precinct, it does at the expense of the development flexibility of the site. The longer edge of the site or panhandle where the tower is supposed to be located according to the precinct master plan becomes narrower in depth. This burdens the site as it limits the flexibility and constrains the available depth at the most appropriate location for the placement of the taller built form on site.

According to the Kings Bay Precinct Master Plan, the "upper level setbacks of the Kings Bay Precinct "have been designed to moderate the perceived height of buildings from the street". This approach, will

> "minimise the visual impact of taller buildings and enhance the comfort of visitors on the street. The design will minimise overshadowing of main streets and public open spaces, and will facilitate good separation between higher-rising buildings in the precinct, enhancing the access to sunlight, privacy and air flow for more residents."

The CBDCP was adopted by Council on 28 March 2023 and consists of three sections in Part K – Special Precincts. Figure K20-21 Built Form Envelope - Section G (east) stipulates that a 3m upper level setback applies above a maximum street wall height of 18.2m. Page K320 of the controls titled "*Street wall heights and upper level setbacks*" further defines the proportion, scale and visual enclosure of the public domain" to provide "a level of consistency across the precinct" Part K also states that "Upper level setbacks lessen the visual impact of taller development and help create a more unified, human-scale streetscape environment".

The following sections of this report will test and discuss the ability of the proposed 1m setback to meet the aims and objectives of the 3m setback including the moderation of the perceived height, minimisation of visual impact, reduce overshadowing and facilitate good separation.

PROJECT REVIEW

The project team's alternative proposed setback consists of the reduction of 3m to 1m of the upper-level setback applicable above the maximum street wall height of 18.2m. The alternative setback has been proposed after extensive built form testing by Projected Design Management (Henceforth, PDM) and based on a series of well-defined aims and principles. These principles have been observed as part of the formulation of a base case for the alternative setbacks that in turn reconfigure the massing and typical layout of the tower to achieve several basic performance criteria. This will also form the basis for the Architectural Design Competition at a later phase of the process after the Planning Proposal stage. These principles included:

Orientation and Placement – The alternative setback of 1m aims to reorient the tower form to maximise the number of units that can achieve solar access in excess of the minimum ADG requirements. The project team aims to achieve a majority of units receiving 5 hours or more of solar access as the tower form will face an unobstructed northern aspect over the Five Dock Leisure Centre and the Barnwell Park Golf Club.

Built Form Separation and Maximisation of Adjacent Development Potential – The design of the tower and reduction of east and west setbacks aims to maximise the development potential of the adjacent site at 10-12 Spencer St (Henceforth, No 10 -12) and other nearby development to the west. The aim is to sculpt and reorient the built form to increase apertures towards the north and away from neighbouring properties to the west thus minimising privacy and overlooking concerns. This requires the increase in the frontage to the north to then minimise the length and extent of active facades to the west. Core areas and blank walls can be located closer to the common boundary to the west. This in turn would maximise the redevelopment potential of No.10-12 as they will be able to attach their future redevelopment to the common boundary wall up to the podium height. It is important to note that any future redevelopment of No. 10-12 is not likely to surpass the podium level due to the quantum of development derived from the size of the land holding. Their likely lower built form height will further reduce any privacy concerns between the two sites.

Reduce Appearance of Bulk and Scale – The built form testing demonstrates that the form of the tower maintains a tall and slender proportions even with the inclusion of a reduced 1m setback to William Street. The provision of a continuous podium height is effective in reinforcing the pedestrian level's 'human scale' at 1m or 3m setback. As the testing shows (refer to pages xx - yy of Appendix 1), the appearance of bulk and scale of a 20-storey tower above the podium is very similar. In both cases, the built form relationship between the podium and the tower is consistent.

Sculpted Elevations to Emphasize Verticality – The aim was to maintain an elegant proportion to the tower form. The testing has shown the effectiveness of sculpting the tower corners to mitigate the perception of large and continuous elevations. Sculpting the corner of the tower façades accentuates the tower's slenderness ratio and verticality. This achieves a similar built form outcome as the deeper 3m setback.

Maximise Solar Access and Outlook – The aim was to provide 100% north-facing or dual aspect units. Increasing the tower's frontage facing north helps to capture northern exposure allowing greater solar penetration deep into the tower facade. This also maximises views toward the north, which are valuable outlooks over the Five Dock Leisure Centre and the Barnwell Park Golf Club.

Maintain Continuous Street Wall Height and Active Frontages – another aim of the reduced setback is to maintain a well-defined and continuous street wall height. As shown in the side-by-side built form testing (Refer to appendix A), the height of the podium is consistent along the William Street and Queen Road's frontages. The other important aim is to maximise the active frontages. The ability to widen the tower in the east-west direction, is to compact the quantum of development on the north-south axis. This in turn

allows the location of the building core to be strategically located to allow a consolidated and shared vehicle access for the neighbouring site at No. 10-12. The consolidation of vehicle crossings will increase the length of the active frontages once both sites redevelop. This is a positive outcome.

The following section of this report discusses the built form testing, which has arrived at sympathetic urban design response for the site -one that achieves the key principles and aims listed above and that achieves the orderly redevelopment of the subject site.

TESTING AND REVIEW OF ALTERNATIVE SETBACKS

The built form testing of the alternative 1m setback has considered the impacts of the reduced 1m setback to the interface with William Street as well as the impacts to No 10-12. The alternative proposed setbacks and separations to the common boundary anticipate No 10-12 to build fully to the common boundary up to the podium height.

The perception of height, bulk scale of the tower is greatly assisted by the podium or street wall height. The comparative analysis shows that the consistency stablished by the podium height achieves similar streetscape whether the setback above podium is 1m or 3m. As Figure 1 below shows (refer also to Appendix A DWGs yy-xx), the podium level provides continuity in the pedestrian experience, such that the difference in the perceived scale of the tower above is negligible.

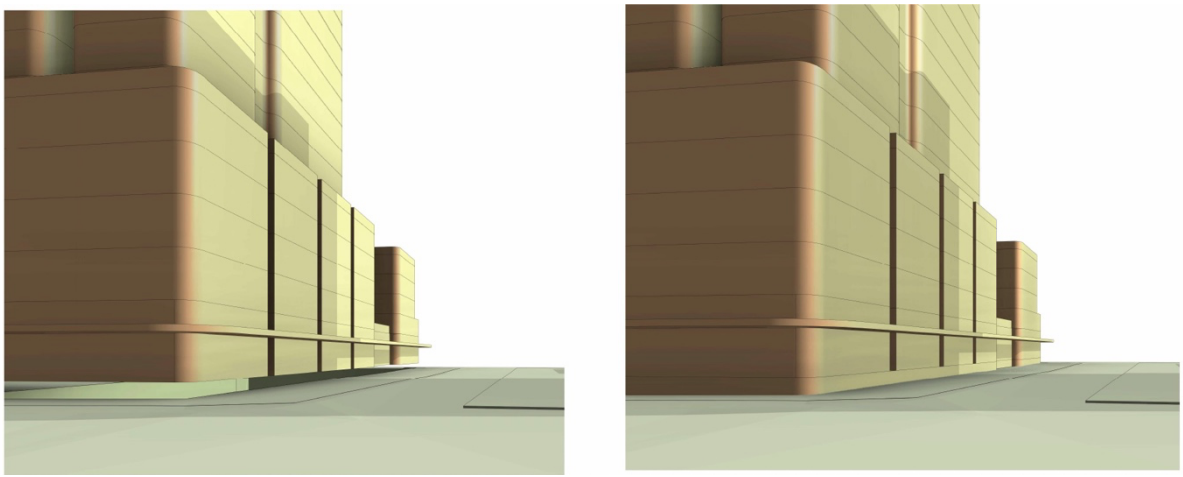

Figure 1 - Built Form Testing: Compliant 3m setback (left) - Reduced 1m Setback (right) – Source: PDM

In terms of bulk and scale, the continuous datum of the podium helps to break down the overall massing as perceived from the public domain. The height to street width ratio is another factor that assists this particular location as the tower does not face another tower across the street. It faces a future publicly accessible park. This lessens the 'sense of enclosure' that would

normally be experienced with 20-storey tower development on both sides of the road. The continuity of the podium level is very important in this location as it will provide visual containment to the future park to the east across William Street.

The ground level presentation and activation can be benefited by the consolidation or sharing of service and vehicle entrances. The future DA on the subject site at a later stage can include an easement to achieve this.

BUILT FORM

As shown in Figure 1, the potential tower form behind the 1m setback can achieve a similarly harmonious relationship with the podium as that of a 3m setback envisioned by the CB DCP.

The two well-articulated and sculpted building forms have almost the same appearance when compared side by side in the case of a 1m or 3m setback. The testing confirms that a difference of 2m is almost imperceptible for a tower of 20 storeys. Both towers appear to be tall and slender built forms; however, the tower with the reduced 1m setback has greater number of north facing units per level and therefore it has a better environmental performance and sustainability index.

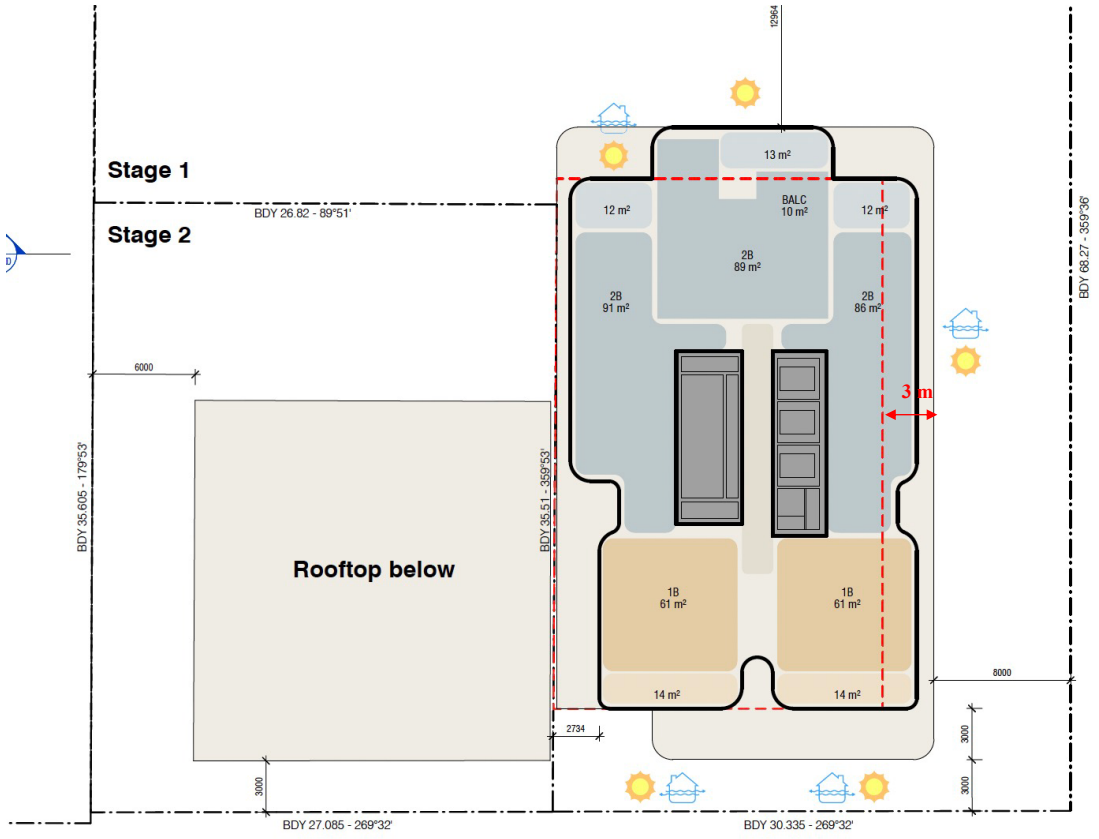

Figure 2 Typical Plan showing 3 north facing apartments where only 2 are possible within the 3m setback - Source: PDM

OVERSHADOWING

As shown by the overshadowing testing on page xx of Appendix A, the compliant (3m) and the alternative reduced setback (1m) cast similar shadows to the future publicly accessible park on the Daicorp Site when compared side by side. The testing confirms that the overshadowing cast by a difference of 2m on the eastern setback to William Street is almost imperceptible for a tower of 20 or more storeys. The park on the Daicorp Site achieves similar areas of solar access between 11-2 pm during mid-winter, which are the preferred lunch time hours during winter. The alternative proposed setback is therefore a reasonable outcome.

FACILITATE GOOD SEPARATION

Another finding of the built form testing is that the alternative setbacks can achieve a sympathetic built form on the site and maximise streetscape opportunities and appropriate separation for the neighbouring property to the west at No. 10-12.

Any future development on that lot is not likely to reach its allowable height and will have a smaller scale and height. No. 10-12 can easily continue the ground-level interface and consolidate the activation on the ground plane for this section of the street, if allowed to build to the common boundary with the subject site and share vehicle access. This enhances the potential for No. 10-12 to push its redevelopment to the east along the common boundary and then provide and continue the required lane way to the west, which is a positive outcome. The provision of a 1m setback above a continuous podium offers the same or similar visual relief for a tower of this scale when seen from the future laneway as a deeper 3m setback. This is a reasonable outcome considering the benefit of a wider north facing façade and the potential for the laneway to the west to be realised.

As the proposed tower on the subject site will face an open park to the east, there are no issues with regards to separation due in that direction. The reduced setback to 1m is therefore a reasonable outcome.

CONCLUSIONS AND RECOMENDATIONS

The rigorous built form testing has compared the upper-level setback predicated by the controls (3m) side by side with the alternative proposed reduced setback (1m) from several vantage points in the vicinity of the site.

The following findings summarise the outcomes of the built form testing:

- The 1m setback above the street wall height is as effective as the 3m setback in reducing the perception of bulk and scale for a 20-or-more storey tower.
- The continuity of the podium level is sufficient regardless of the setback above street wall height in the provision of 'human scale' as seen from the public domain and surrounding main vantage points.
- The sculpting of the tower's corners is as effective as a deeper setback in the reduction of the appearance of bulk and scale.
- The sculpted corners also assist in mitigating overshadowing impacts.

In summary, the independent built form testing has concluded that a reduced 1m setback can achieve a reasonable urban design outcome and meet the objective of the controls.

Appendix A – Please refer to the attached PDF titled 'Built Form Testing' by Projected Design Management.

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