PROPOSED MIXED DEVELOPMENT

PRETORIA PARADE + COLLEGE CRESCENT HORNSBY

1 PURPOSE OF THIS REVIEW

Hornsby Shire Council has requested this review of urban design quality for a proposed mixed development which comprises a residential flat building and a place of worship.

The application for the proposed development has been made under Part 4 of the *EP and A Act,* and this assessment is required as part of the Council's submission to the Joint Regional Planning Panel as consent authority.

2 OUTLINE OF THE PROPOSED DEVELOPMENT

The proposed development occupies an L-shaped site which comprises two properties zoned *Special Uses A* that face College Crescent*,* and a further two properties plus a laneway off Pretoria Parade which are zoned *Residential D (High Density)* under the *Hornsby LEP 1994*.

A residential flat building ("RFB") with eleven occupied storeys is proposed at the site's western end next to the Northern Railway. That building would sit above basement parking which, due to sloping topography, would be visible as a two storey podium facing the site's southern boundary. Setbacks for this building would be approximately 4.5m from the Pretoria Parade boundary, more than 6m from the rail corridor boundary, and at least 10m from the southern boundary next to an RFB which is under construction. The proposed RFB and church would be separated by a courtyard approximately 20m wide which provides pedestrian access to the RFB's main entrance as well as vehicle access to garbage stores that are proposed adjacent to the main building entrance. The footprint measures approximately 51m by 25m, and the RFB's long axis is oriented NNE. Residential storeys typically accommodate ten apartments, predominantly with two bedrooms and corner configurations, and most with orientations that range from ESE through to NNW.

The proposed church and associated community-type facilities occupy the remainder of the site. With a height equivalent to four or five residential storeys, the proposed church has a compact rectangular footprint which measures approximately 38m by 30m. Average setbacks from Pretoria Parade and College Crescent are, respectively, of 2m and 6m. The southern facade is setback 3m from the boundary which faces an existing residential flat building. Within the proposed rectangular building form, the church auditorium has a diagonal orientation that presents a glazed entrance and foyer to the Pacific Highway corner.

External finishes for both buildings comprise a variety of metal and tile cladding, and painted concrete or masonry walls. The church entrance is identified by a prominent structural steel cross and trellis.

Landscaping comprises rows of canopy trees within road reserves along Pretoria Parade and College Crescent, a line of trees through the RFB's entrance courtyard, and clusters of trees around the communal open space which is proposed next to the southern boundary. Screen and amenity plantings are provided around the proposed church, surrounding the entrance courtyard to the proposed RFB, and along the RFB's street setback from Pretoria Parade. Species comprise indigenous trees, as well as hybrid and exotic species of shrubs and ground covers.

3 URBAN DESIGN CONSIDERATIONS

This assessment considers urban design matters which are specified or implied by the following State and local controls:

- State EPI's:
  SEPP No 65 – Design Quality of Residential Flat Buildings ("SEPP 65")
  Residential Flat Design Code ("RFDC")
- Local controls:
  Hornsby LEP 1994 re land use, site consolidation and FSR
  Hornsby DCP (High Density Multi Unit Housing) re master planning, detailed envelope and amenity ("the DCP")

Design Principles under SEPP 65 have provided a framework for this assessment and report, but have been condensed under the following four headings:

- Appearance:
  Scale
  Built form
  Aesthetics
  Landscape
- Activity:
  Visible activity along public frontages
  Activity and social interaction in communal areas
  Safety and security of publicly-accessible areas
  Pedestrian safety
- Amenity:
  Sunlight
  Privacy
  Private open space
  Communal open space
- Environment:
  Energy and water efficiency

The approach adopted for this assessment is consistent with the following planning principle that has been published by the NSW Land and Environment Court:

> Aesthetics: Weight to be given to expert opinion
> *Architects Marshall v Lake Macquarie City Council [2005] NSWLEC 78*

This assessment has been assisted by the following reference:

- Sunlight and shadow impacts:
  Phillips, R.O.: *Sunshine and Shade in Australasia,* AGPS Canberra 1975

4 CONTEXT

Contextual considerations are fundamental to any assessment of urban design quality.

The following issues or topics provide a significant background for this assessment:

- Visibility of site and future multi-storey development are primary urban design considerations:

  The site and multi storey development will provide prominent backdrops to an arterial road intersection which is a gateway to the Hornsby town centre, as well as to low density residential neighbourhoods which are located across the railway corridor to the west.
- Sloping topography has consequences for neighbours' amenity:

  Elevation of the subject site above neighbouring properties inevitably accentuates impacts of future development in terms of shadows, privacy and appearance.
- Existing site development does not significantly affect the amenity of residential neighbours:

  The existing church building has a modest scale and is setback a substantial distance from the immediate residential neighbour

  Consequently, it has minimal or no impact in terms of shadows, privacy or appearance.
- Surrounding development displays relatively consistent patterns:

  Residential flat buildings to the south of the site have seven or more storeys, setbacks of 10m or more from College Crescent, and generally setbacks of at least 6m from side and rear boundaries. The immediate neighbour has a street frontage which is densely landscaped.

  Northwards of Pretoria Parade, development comprises a mix of warehouses, office buildings, and podium-style residential flat buildings that are believed to satisfy the DCP's design requirements.

  To the west and beyond the rail corridor, low density residential neighbourhoods accommodate a variety of traditional dwellings which were constructed predominantly during the early-to-mid Twentieth Century.

  An established campus-style secondary school with buildings of up to four storeys is located to the east across College Crescent.
- Road and pedestrian access:

  Pedestrian desire lines extend from the subject site toward the town centre.
- Site amenity is limited by the following factors:

  Sunlight and solar access are complicated by the residential site's north-south axis and sloping topography.

  The site is exposed to noise from the rail corridor and the arterial road intersection.

5 DESIGN QUALITY ASSESSMENT

i Numeric compliance

Preliminary evaluation of the proposed development confirms significant non-compliances with numeric controls that have a direct bearing upon urban design quality:

- Storey height of the RFB significantly exceeds the DCP's eight / nine storey limit:

  The proposed development has a maximum of eleven occupied storeys.
- The RFB's street setback from Pretoria Parade is significantly less than the required 9m, and also is less than the permitted encroachments to 6m across 30% of the site's frontage:

  The street setback is approximately 4.5m.

- The RFB does not incorporate a stepped form:

  Facing Pretoria Parade, the lower two storeys do not incorporate a podium element (which may project up to 3m beyond the specified setbacks).

  The top-most storey does not incorporate additional setbacks of 3m for all facades.

  Proposed facades are substantially sheer vertical planes.
- The RFB is not sited an appropriate distance from the boundary next to the eastern residential neighbour:

  Levels 1 to 10 are sited between 6.3m and 6.9m from that boundary.

  Based upon half of the building separation that is specified by the RFDC, levels 5 to 8 would require setbacks of 9m, with 12m for levels 9 and above.

  The RFDC allows reduced separations if sunlight and privacy would not be compromised.

In order to justify the scale and scope of proposed numeric non-compliances, the residential flat building needs to demonstrate a very high standard of urban design quality.

ii Appearance

The church and associated community facilities

Scale and bulk of the proposed church building are satisfactory:

- Height is equivalent to four or five residential storeys:

  This is approximately half of the maximum building height that is permitted for high density residential development.

  The proposed church would provide an appropriate scale transition between the arterial road intersection and a taller residential building to the west.
- The building form provides well-articulated resolution of "big box" accommodation requirements:

  At street level, major rooms include the auditorium and meeting hall which are essentially large rectilinear rooms.

  Skewed orientation of the auditorium and foyer not only promote visibility of indoor activity, but they influence the layering of street facades which would incorporate varied alignments and heights.

  Layered or stepped facades provide effective shadow modelling which would significantly reduce the scale and bulk of what otherwise would have been a large "box-like" building.

The church's street facades are satisfactory in terms of architectural treatment:

- Detailed composition directly complements the building's well-articulated forms, and contributes to facades that are well-animated:

  A variety of materials accentuate the layered composition of street facades.

  Significant contrasts are provided by curtain wall glazing and horizontally-proportioned windows that are framed by prominent sun-shades.

  The structural steel cross and portico provide distinctive signature elements.

The residential flat building

Scale and bulk of the proposed residential flat building are excessive:

- Building heights specified by the local controls indicate the strategically-desirable scale and character for future development:

  The proposed building is two or three storeys taller than the maximum which is specified by the local controls (noting that the DCP refers inconsistently to maxima of eight and nine storeys).

- The proposed building does not incorporate adequately-stepped forms:

  The penthouse levels have minimal setbacks from facades below.

  Northern, eastern and western elevations incorporate sheer vertical facades that rise up to nine storeys without stepping (notwithstanding "horizontal" articulation that is provided by balconies)

- In relation to context:

  The eleven storey building height is four storeys taller than immediate neighbouring buildings to the south, but in reality the proposed building would appear almost six storeys taller than these neighbours due to the effect of sloping topography.

  In terms of appearance, this dramatic and abrupt scale transition does not indicate a sufficient degree of consideration or compatibility as required by SEPP 65, and either as required or implied by the DCP.

  In relation to the low density residential neighbourhood which is located to the west, visual impacts of the proposed residential flat building would be softened by distance and partially-screened by existing trees along the rail corridor's perimeters.

  Nevertheless, visible height and width of the western elevation would be evident as a ridgetop backdrop to the low density neighbourhood, which in terms of scale would be dramatically incompatible with that neighbourhood.

  Although residential flat buildings of up to eleven storeys occur in the Pound Road precinct immediately north of the subject site, those buildings are visually-associated with the Hornsby town centre rather than the subject site, and consequently do not justify an eleven storey development immediately next to residential buildings of two to seven storeys.

- With regard to articulation:

  The proposed northern, eastern and western facades would be visible from surrounding roads and / or neighbourhoods, but these facades do not incorporate stepping or articulation that would be sufficient to disguise or soften the impact of sheer vertical walls which are up to nine storeys high.

  Although balcony elements provide some degree of relief, visually-prominent corners of the building facing the north-east and the north-west would be exposed as sheer vertical planes without screening or shadowing by balconies.

  Viewed from Pretoria Parade, the building does not incorporate any podium element with a pronounced step that would reduce the scale of sheer vertical walls.

  The top-most storey incorporates minimal additional setbacks from storeys below, and also displays a "block-form" profile which would accentuate the building's overall scale and bulk.

Design of residential facades tends to accentuate overall scale and bulk of the proposed eleven storey building:

- Top storey facades appear near-identical to middle-storey facades:

  Facades repeat the "visually-heavy" character of masonry walls that are punctured by relatively small windows.

There is no attempt to introduce a light-weight character that would reduce apparent scale and bulk of the upper storeys, for example by curtain wall glazing, a visible roof with over-sailing eaves, and metal-framed pergolas or sunshades.

- Several elements of the proposed design contribute to a "heavy-weight" or "top heavy" character:

  Masonry parapets which conceal the top storey roof.

  Masonry balustrades to upper storeys.

  Vertical repetition of identical window shapes within the eastern and western facades.

  Depth of blade columns on balconies (when viewed from the side).

  Dark colours applied to the top storeys.

- Lower storey facades employ token variations that do not create a podium appearance or visibly disguise the scale of sheer vertical walls.

  Balcony balustrades and some walls have tile cladding, but the alignment of upper and lower storey walls remains identical.

Residential facades do not incorporate elements that would enhance the amenity of dwelling interiors:

- Design of facades does not provide an "environmental filter" to block western sun or noise from the arterial road and rail corridor.
- Facades demonstrate no response to these environmental considerations, and incorporate a somewhat random mixture of design elements:

  For example, L-shaped "slot" windows are proposed for a portion of the western elevation, and would reduce heat-gain from summer afternoon sun.

  However, those windows are not applied consistently or deliberately across the entire façade and in a manner that demonstrates a considered response to the site's environmental constraints.

  West-facing balconies do not incorporate screens for sun-shade or deflect railway noise.

Landscaping

Landscaping of the residential street frontage does not provide appropriate greening:

- Trees are confined to new or existing street trees within the road reserve.
- Basements which extend to the street frontage, combined with the shallow setbacks, restrict landscaping opportunities to mass-planted beds of ground covers and small shrubs.
- Overall, the Pretoria Parade frontage lacks the degree of greening which is anticipated by the DCP's requirements for setbacks of 6m to 9m, and which has been achieved by neighbouring developments in Collage Crescent.

Landscape design of the residential courtyard is not satisfactory:

- A row of trees is proposed, but conflicts with the location of basement parking beneath which does not provide any area of deep soil.
- In general, location of the basement limits the opportunities for street-level landscaping to mass-planted beds of ground covers and small shrubs.
- Due to the absence of effective or viable canopy plantings, the residential courtyard is an open area that would be visually-overwhelmed by facades with sheer vertical planes of eight to ten storeys.

Landscaping of the eastern residential boundary is satisfactory:

- Informal clusters of medium-to-tall trees provide appropriate treatment for this residential boundary:

  They would contribute to visual amenity of dwellings (existing and proposed) as well as amenity of the proposed communal open space (noting, however, that location of this communal area is unlikely to prove attractive for residents' recreation).

iii Activity

The church and associated community facilities

Facing the arterial road intersection, the proposed church would reveal an appropriate level of visible indoor activity:

- Substantial glazing of the entrance reveals the main foyer that would provide a milling space for the congregation or for visitors to events in the church auditorium.
- Visibility of the entrance and foyer are assisted by skewed orientation of these areas across the arterial road intersection.
- Facing Pretoria Parade and College Street, side walls without windows are acceptable:

  Location of the meeting hall and amenities facing those street frontages is unavoidable, but walls without windows are limited to approximately half of each street frontage, across dimensions of 15m to 20m.

  Extent and proportions of facades without windows at street level are not excessive, noting size and scale of the glazed main entrance, and also recognising the character of this busy main road location.

The residential flat building

Entrances to the residential flat building are not satisfactory in terms of their prominence or design character:

- Entrances facing the courtyard and Pretoria Parade are relatively small and narrow:

  The courtyard entrance is a small single storey opening, hemmed between garbage stores and blade walls.

  Although highlighted by a two storey portal structure, the Pretoria Parade entrance is less than 2m wide and provides access to a gun-barrel hallway which has a uniform width along its 35m length.
- Both entrances and related foyers would not encourage people to congregate:

  In locations which are visible from Pretoria Parade, or

  In adjacent communal spaces that should provide a focus for resident recreation.
- Perhaps more-importantly, the courtyard entrance would not provide adequate safety or security:

  Height and length of blade walls and planters that flank the proposed entrance provide significant opportunities for concealment.

  Direct visual-surveillance of this entrance and its approaches would not be available from any ground level dwelling.

Communal areas around the residential flat building are not satisfactory:

- Areas include the entrance courtyard and a communal open space within the southern boundary setback:

  Both spaces suffer from limited "ownership" and inadequate levels of accessibility.
- The entrance courtyard is an unsecured area that is open to Pretoria Parade:

  It appears to have the dual function of providing access for the removal of garbage, hence is not secured along the street frontage.

  This area partly-adjoins one ground level dwelling which has its primary orientation toward Pretoria Parade and therefore would not provide effective passive surveillance of the courtyard.

  The courtyard has no substantial territorial markers that highlight private or communal ownership, and due to the absence of effective surveillance from ground floor dwellings, is likely to attract activity that would not be compatible with residential amenity.
- The communal open space to the south of the proposed building has a remote location:

  This open space is located two storeys below the lowest residential level.

  It has indirect access from the proposed bike path or from the basement carpark.
- Amenity of both spaces would be poor:

  Both are located immediately next to sheer vertical walls eight to ten storeys high.

  Visual impacts of tall walls (abutting the courtyard in particular) would not be screened by canopy trees.

  Both areas would be substantially overshadowed during midwinter.

  Consequently, neither space would be inherently attractive for residents' recreation.

Location and design of pedestrian and vehicle entrances do not provide satisfactory safety for pedestrians:

- Residential entrances are located to the west of basement ramps:

  Residents walking to the town centre would need to cross the driveway.
- Residential and church basements are accessed via the same ramp:

  At certain times, this would result in a significant volume of cars exiting the basement.
- The exit ramp is flanked by a wall:

  Drivers of exiting vehicles would not have satisfactory sightlines to detect pedestrians who might be leaving the residential building via the southern footpath along Pretoria Parade.

  Furthermore, existing motorists would be likely to concentrate upon traffic conditions in Pretoria Parade and west-bound vehicles, and consequently would not to detect the presence of pedestrians travelling east along the street footpath.

iv Amenity

Boundary setbacks at the south-eastern corner of the proposed RFB are not sufficient:

- Setbacks for proposed apartments on the fifth storey and above would be less than half of the distance separation that is specified by the RFDC.
- Proposed balconies and bedroom windows do not provide screening that would offer reasonable levels of privacy:

  Proposed dwellings 6, 9 and 10 (on the typical storeys on level five and above), as well as dwellings in the neighbouring residential building, would be affected.

The RFB would not provide satisfactory sunlight to a reasonable proportion of the proposed dwellings:

- Approximately 45% would receive two hours sunlight or more during midwinter:

  That proportion is considerably less than the 70% which is specified by the RFDC.

  The proposed development does not appear to provide any compensatory measures that are specified by the RFDC, such as exemplary energy efficiency.
- Primary reasons for poor solar penetration of dwellings are:

  The long north-south axis of the proposed building.

  Limited articulation of the proposed eastern elevation which results in windows that face ESE, and overshadowing of balconies to units 9 and 10 by the northern-most tier of balconies that are attached to unit 6 (note that dwelling references are according to the typical floorplan).

  An excessive number of dwellings per floor: ten dwellings are proposed for typical storeys, while the maximum to provide satisfactory sunlight would be between six and eight.

The proposed development as a whole is likely to significantly reduce the amount of sunlight that currently is available to neighbouring residential flat buildings:

- Shadow diagrams submitted with this application are not adequate to determine the extent of additional shadows or the impacts of those shadows in relation to existing living rooms:

  Shadow diagrams do not indicate nett additional shadows.

  Diagrams do not identify neighbours' living rooms or balconies.

  The diagrams do not depict the neighbouring residential flat building which currently is under construction.
- Notwithstanding stepping of the southern elevation, at midday during midwinter the proposed residential flat building would be likely to overshadow the lower four or five storeys of the neighbouring apartment building that is under constriction.
- Height of the proposed church and proximity to the southern boundary would be likely to overshadow two or three storeys of the existing residential neighbour at midday during midwinter:

  Extent of overshadowing would be accentuated by the proposal to plant clumping bamboo along this boundary.
- Precise estimation of shadow impacts is complicated by sloping topography:

  Extent and impacts of shadows requires detailed consideration to confirm whether the proposed development would be contrary to RFDC guidelines or local solar access controls.

v Environment

Proposed landscaping incorporates a range of indigenous, native hybrid and exotic species:

- The species list should be reviewed by a technical expert to identify any weed or nuisance species, and to confirm adequate drought-tolerance.

Energy and water–efficiency measures have not been reviewed as part of this design quality assessment:

- However, as noted previously, proposed facades do not reveal special consideration of sunlight and shade:

  On that basis, energy efficiency is unlikely to achieve an exemplary standard.

vi Summary of concerns

The majority of significant urban design concerns relate to the proposed residential flat building. Most concerns relate directly to height of the proposed building and / or size of proposed floorplates and footprint.

The following concerns may be solved by reduction in height and / or floorplates, together with increases for some setbacks and accentuated articulation for floorplates, cross-sections and building forms.

Appearance:

- Height of the proposed residential flat building is excessive in terms of scale and the prevailing local controls:

  A compliant height of eight or nine occupied storeys would be relatively-compatible with the scale of immediately neighbouring residential flat buildings.
- Building forms accentuate scale and bulk of the proposed residential flat building:

  Increased stepping of upper storeys, particularly for side elevations, requiring reduced dimensions for upper storey floorplates in particular.
- The residential flat building's landscaped setback from Pretoria Parade is inadequate in terms of character and the local numeric controls:

  Doubling of the proposed setback is necessary, with the majority of that setback to remain as deep soil (ie the basement must be setback as well).

  Consequently, north-south dimensions of the proposed building need to be shortened, unless the proposed southern boundary setback can be reduced without resulting in non-compliance with local numeric controls or the RFDC's separation requirements.

Activity:

- Location of the RFB's principal communal open space in the heavily-shaded southern setback, at a level which is substantially lower than any occupied residential storey, is unacceptable in terms of amenity and safety:

  A satisfactory alternative is likely to be achieved if the building's footprint is reduced and the street setback is increased.

  Communal recreation facilities such as a pool or gym are likely to reduce the proposed dwelling yield.
- Dual entrances to the RFB which are small and narrow, and the associated long narrow entrance hallway, are not acceptable in relation to amenity, encouragement of social interaction, or safety:

  A wider entrance from Pretoria Parade, plus a variable width entrance hallway that is flanked by communal facilities, would reduce the size or number of proposed dwellings.

Amenity:

- Sunlight to proposed dwellings is not satisfactory:

  Reasons relate to siting and design of residential floorplates.

  In particular, unsatisfactory sunlight is due to inadequate articulation of the eastern elevation, and an excessive number of dwellings on each of the typical floor levels.
- Sunlight to neighbouring dwellings is likely to be compromised:

  Shadow diagrams submitted with the application are not satisfactory to determine the number of dwellings which would be affected.

Documentation is not adequate to precisely confirm shadow impacts of the proposed development, and design measures that might achieve a satisfactory outcome.

- Unsatisfactory privacy would be achieved for neighbouring dwellings near the south-eastern corner of the proposed residential building:

  Separation between unscreened windows and balconies is not adequate for dwellings on the fifth storey and above.

  The proposed development is sited too close to the eastern boundary of properties that are zoned residential.

6 CONCLUSIONS + RECOMMENDATIONS

In terms of exterior architecture, the proposed church displays satisfactory design quality:

- In general, the stepped alignment and treatment of proposed facades demonstrates a considered response to a "big box" accommodation brief.
- Location and orientation of the building entrance and gathering spaces provide an appropriate level of visible indoor activity facing a busy arterial road intersection.

However, the proposed church would have two impacts which require careful consideration, and which may require redesign:

- Proximity to the southern boundary combined with height of exterior walls and boundary landscaping will result is some degree of overshadowing for neighbouring dwellings:

  Comprehensive revised shadow plans are necessary to describe the precise extent of impacts upon residential neighbours to the south, and to determine whether those impacts would be consistent with prevailing local controls.

  As a consequence, redesign of the building form and boundary landscaping might be necessary.
- The location and design of basement access is likely to compromise the safety of pedestrians using the southern footpath in Pretoria Parade.

The proposed residential flat building is unsatisfactory for a number of reasons:

- Height and setbacks do not satisfy local numeric controls or state guidelines:

  These non-compliances have a direct bearing upon the evaluation of urban design quality according to design quality principles that are specified by SEPP No 65.

  The proposed residential flat building would need to demonstrate exemplary design quality in order to justify the scale and extent of these non-compliances.
- The proposed residential flat building does not demonstrate satisfactory design quality according to the majority of SEPP 65's design quality principles:

  In terms context, the proposed development does not demonstrate appropriate consideration of established built form patterns or environmental constraints which affect the subject site and its immediate residential neighbours.

  Scale of the proposed eleven storey building is excessive in terms of the current built form context, and also according to desired character which is anticipated by the local numeric controls.

  Proposed built form and aesthetics neither mitigate nor reduce scale impacts of the proposed eleven storey building, and these aspects of the proposed development would tend to accentuate both scale and bulk.

  Landscape is inadequate, primarily in relation to deep soil plantings along the street frontage and around the communal courtyard which adjoins the main street frontage.

Amenity of the proposed development is unsatisfactory in terms of sunlight and provision of communal open space with adequate sunlight, safety and a central location which is accessible directly from residential lobbies.

In terms of dwelling amenity, privacy of certain apartments at the building's south eastern corner would not be satisfactory due to proximity to neighbours.

Safety and security of communal areas are unsatisfactory.

In light of the preceding concerns, density of the proposed development is excessive noting characteristics of the subject site and its immediate surrounds, as well as desired character for future development which is indicated by the local controls.

- Consequently, on the basis of urban design quality alone, there is no justification for the extent of variations to local controls that are proposed in relation to height, form and setbacks.

In relation to the purpose of *SEPP No 65* and objectives of the applicable local controls, the proposed residential flat building demonstrates unsatisfactory design quality:

- Deficiencies in design quality are significant, and on this basis alone, approval of the development application in its current form would not be warranted.
- Design quality assessment considers that proposed height and floorplate dimensions are contextually-excessive.
- Consequently, the proposed residential flat building represents an overdevelopment of the subject site.