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Contact: Rthna Rana

Reference: S05913/6
16 August 2013

Mr P McManus
Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001
peter.mcmanus@planning.nsw.gov.au

Dear Mr McManus

Modification Request for Sydney Adventist Hospital, Wahroonga Education Centre (MP10_0070 MOD 4)

Council's assessment of this modification is that it is a significant variation to the originally approved MP10_0070 and to the design of the Education Centre itself as indicated in MOD 3. Whilst the demand for a larger facility is supported, it is of concern that the infrastructure and connections around the enlarged facility has not been considered. Council is concerned that the application does not indicate its relationship to the overall site and adjacent buildings and open recreation and public domain spaces. The key issues are outlined below. Please see the attachment to this letter for a complete outline of issues that need to be addressed in this proposal including carparking, Scale, Built Form, Density, Resources, Energy and Water Efficiency, Landscape, Amenity, Safety and Security, Social dimensions, Aesthetics.

Car parking – the lack of clarity and the erosion of parking associated with the Education Centre needs to be addressed prior to any approval of the modification. Key issues are

- Variation and reduction of parking provision allocated to the Education Centre
- Additional parking should be provided in line with the substantial increase of the Education Centre to avoid the current issues of street parking and conflicts with the residential community.
- Location of parking area above ground needs to be relocated into a basement

Built form – the intensification of the built form with no address to its adjoining buildings, open spaces or public domain. Key issues are

- The increases of floor space in the absence of density context are placing ever increasing pressure site-by-site to achieve yields well beyond what is possible within the building controls and placing untenable pressure on the public domain.
- Superficially, Modification 4 may appear to seek variations that are compliant with the permitted height controls, approved modified floor space and, therefore, presented as relatively minor in context of the Estate landholding. The former is accepted, the latter fails to acknowledge the connectedness of individual sites with their relationship to the



Estate and beyond to the neighbourhood and fails to look at the relevance of the development framework that is being communicated across the Estate.

- The Concept Plan approved as MP10_0070 provided “an indicative master plan” containing information on the public domain structure, building types with inherent and described performance criteria, and a selection of landscape characters to be achieved in each of the urban precincts. These all generally recognised accepted best practice urban design principles. This has not been incorporated or considered in this modification.
- The pattern of proposed development for this part of the Wahroonga Estate has seen a deviation from building footprints and typology and thus the intent of the Approved Concept Plan.
- Both the current MOD 4 variation and the current development application submitted to Council DA0453/12 for nurses and key worker accommodation have not communicated a coordinated design response has occurred in the preparation of the development proposals. This is evidenced by a lack of spatial relationships being demonstrated between sites both in conflicts of public/private use of communal spaces at the interface of the residential and education precincts, and increased yield being sought without commensurate public domain/communal space being provided.
- The proposed building unacceptably affects the performance criteria of the built form and associated deficiencies arising from reduced space available to the public domain as approved under MP10_0070.
- Modification 3 has already seen a variation to building footprint (to be clarified) from that approved under MP10_0070. It needs to be demonstrated whether this resulted in an erosion of space that had been available for the public domain of the education centre and whether this space has been reallocated.
- The Approved Concept Plan proposes a new urban character of increased density set within a generous landscaped environment, with provision of a variety of spaces providing differing levels of communal or private engagement. The proposal has not achieved a desirable future character consistent with the objectives of the Approved Concept Plan.

Landscaped open space – the loss of direct access to any sizeable open space from the facility given the increase in floorspace and hence population. Key issues are

- The cumulative impact to public domain space in this MOD 4 application has not been considered. For example the provision of a north facing open space that provided an entry and spill-out area for the education centre is not possible with the proposed additional building footprint. There is no indication of where this space is replaced, particularly as the proposed variation is seeking to double the floor space and thus capacity of the Education Centre and hence need for outdoor recreation areas. This has a direct bearing on the response for the adjoining student residential site and connecting spaces to the Mixed Use Neighbourhood Centre that must be addressed.
- The new character for Precinct C of the Wahroonga Estate within the Approved Concept Plan is principally for an education and associated student residential precinct, a campus, all accommodated within slender building types (refer Part 8.4 of the EA Wahroonga Estate Redevelopment) in a landscape environment which is stated in Clause 8.6 as:

A ‘campus’ feel with high levels of pedestrian accessibility. Retention of existing vegetation together with avenue tree planting and larger areas of open lawn will provide a strong green structure within the wider forest setting. A number of key focal spaces related to the hospital, church and residential communities will be inter-linked by a strong network of paths and cycleways placing an emphasis on pedestrian movement.

- Documents submitted for the current proposed modification have not provided information regarding the interconnected pedestrian and landscape structure plan, how the subject site addresses this spatial network nor how the modification relates to this structure. The modification is localised and is seeking to double the existing floor space. Therefore, this places significant pressure on the spaces available for the public domain as the anticipated population using the facility would be significantly increased.

Should you wish to discuss any of the issues raised in this submission, please contact Rthna Rana on 9424 0991.

Yours sincerely



Antony Fabbro
Manager Urban & Heritage Planning

Modification Request for Sydney Adventist Hospital, Wahroonga Education Centre (MP10_0070 MOD 4)

Assessment of Parking by Traffic Engineer, Ku-ring-gai Council

The submission by MacroPlanDimasi is very convoluted when describing the quantity of parking previously approved under the various modifications. This is of concern as it makes it difficult to understand the progression of the matter since the approval of the original concept plan.

For example, this is what we can gather from the submission in terms of the parking associated with the Education Centre:

- Original Concept Plan approval: 119 spaces (originally 3,500sqm floorspace);
- MOD 3: 45 at-grade parking spaces (floorspace unstated);
- MOD 4: 33 car parking spaces (14 basement spaces, and 19 at-grade spaces) to cater for 6,975sqm floorspace.

It is unclear, therefore, how or why the number of parking spaces associated with the Education Centre have decreased even though the floorspace is proposed to increase substantially. There is no justification in the submission.

If parking were to be provided at the same rate as the MOD3 approval, there should be $6,975 / (3,500/45) = 90$ spaces associated with the Education Centre, which is still lower than the 119 spaces envisaged as part of the Original Concept Plan approval. Furthermore, these spaces should be accommodated in basement parking to minimise the extent of at-grade parking on the site.

Urban Design Assessment

for Ku-ring-gai Council by Hill Thalys, Architecture and Urban Projects

MP10_0070 MOD 4

The SAN, Education Centre, Precinct C Central Hospital Precinct

Report Date: 24.07.2013

INTRODUCTION

The site is a component part of what is known as Precinct C – Central Hospital that is located within a large land holding approved as Concept Plan MP07_0166 and final project approval MP10_0070 Wahroonga Estate under a Part 3A Major Projects application. The Wahroonga Estate is more generally known as land within The SAN, Sydney Adventist Hospital extended grounds.

Precinct C comprises three development sites: The Education Centre, student and ancillary worker accommodation, and the Mixed Use Neighbourhood Centre. The MOD 4 MP10_0070 application seeks a modification to the Education Centre which is currently under construction.

Supporting documentation submitted as a letter dated 28th June 2013 describing the proposed MOD 4 modifications raises several questions regarding floor space and clarity of active approvals.

The following is understood:

- MOD 3 to MP10_0070 (13th June 2012) approved alterations of shape and layout but not overall size of the education centre (School of Nursing);
- MOD 3 to Concept Plan MP07_0166 (18th June 2013) saw approval for an increase of floor space from 3,500m² to 7,050m² for the Education Centre yet the letter states:

Currently, the Education Centre is approved for a total of 3,500m². This modification is seeking to further expand the Education Centre by an additional 3,475m², totally [sic] 6,975m².

- MOD 4 is seeking the additional floor space to be allocated to a second stage of building:

We note that the design of the Education Centre has been previously modified (see MP 10_0070 MOD 3, granted 13 June 2012) to change its shape and layout but not its overall allowable size. The current modification seeks to increase the size of the Centre by a second stage of works that are generally located beside and above the existing approved Centre but set back further from adjacent external roads....

...This current modification request seeks to increase the size of the approved Education Centre to 6.975m².

The Applicant is asked to submit the 'shape' (which we have taken to mean building footprint) and 'size' (understood as building envelope) as approved under MOD 3 MP10_0070. Confusion arises because the Education Centre building footprint indicated on documents submitted 6th Nov 2012 under DA0453/12 for the adjoining student residential site shows a footprint for the Education Centre that is similar to that being sought in the MOD 4 proposal (at the time of review this was understood as an already approved footprint as construction was well underway on the site). Issues raised during review of DA0453/12 (the adjacent site) regarding variations of Concept Plan building footprints and their impact to the public domain are relevant to this being clarified.

The previous approvals thus lead to questions regarding allocations of floor space in context of the urban outcomes approved under MP10_0070 and the cumulative impact of variations upon urban outcomes within the site, in relationship to Precinct C, adjoining Precincts and then beyond the Estate.

As an observation, the MOD 3 approval to increase floor space should be viewed in context of issues that have arisen on the adjoining student residential site whereby approved MP10_0070 building footprints (and building type) have been changed in DA 0453/12 in an effort to try to achieve approved Concept Plan densities. The resulting building types unacceptably affected the performance criteria of proposed built form and associated deficiencies arising from reduced space available to the public domain as approved under MP10_0070. This outcome indicated the approved densities could not be met under LEP height controls and Concept Plan approved building types.

Any modifications seeking increases to floor space should be viewed in this knowledge as the same difficulties may arise. There is a danger that multiple variations across the Estate could see approved floor space further increased from amounts that, to date, seem to indicate cannot be achieved within building controls designed to maximise positive urban outcomes. Furthermore, it would be undesirable for a situation to arise whereby accumulated unused floor space is thus used to justify future proposals that may see the Estate over-developed.

Each application is to provide a coordinated tally of floor space allocated by use, updated as it is used. This is to ensure previously used floor space is accounted for and procedural transparency is applied to available floor space by Precinct and related to the Estate. Rather than variations seeking an ever increasing amount of development, it may be beneficial to consider the possibility of seeking trade-offs whereby variations of floor space may be reallocated within the already approved, generous provisions of Concept Plan MP07_0166 and MP10_0070. There is growing concern that increases of floor space in the absence of density context are placing ever increasing pressure site-by-site to achieve yields well beyond what is possible within the building controls and placing untenable pressure on the public domain.

Car parking

Under the original Concept Plan, 119 dedicated car spaces were to be provided for the Education Centre, this evolved to become 9 dedicated spaces under the final project approval MP10_0070. The subsequent project variation (MOD 3) saw this increased to 45 dedicated spaces. The current modification (MOD 4) seeks a further variation from 45 to 33 dedicated car spaces.

Summary of MOD 4 proposal

Site area has not been supplied in documents submitted for this application.

The 3,475m² additional floor space is proposed to be accommodated over 5 levels and will comprise:

- a ground floor coffee shop, gym, and student common room
- clinical teaching rooms, tutorial rooms, teaching and research laboratories, across the remaining 4 levels and a roof top terrace area.
- Car parking for 33 spaces is to be accommodated as: 19 spaces proposed at-grade and 14 within a basement.

The Applicant's supporting letter has stated:

The Education Centre is a core hospital operation. It strengthens the hospital's function as a key health and education precinct and consolidates its pre-eminence as a focus for private investment in the health sector.

The combined educational and service role of the site is critical to the overall success of the Wahroonga Estate's urban renewal. It allows for future residents to live, learn and work at the site.
[our emphasis].

We agree wholeheartedly with these statements. Successful urban renewal recognizes the public focus of the Wahroonga Estate and the importance of implementing sound urban design principles to achieve these objectives.

Principle 1 - Context

Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area. Responding to context involves identifying the desirable elements of a location's current character, or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies.

Superficially, Modification 4 may appear to seek variations that are compliant with the permitted height controls, approved modified floor space and, therefore, presented as relatively minor in context of the Estate landholding. The former is accepted, the latter fails to acknowledge the connectedness of individual sites with their relationship to the Estate and beyond to the neighbourhood and fails to look at the relevance of the development framework that is being communicated across the Estate.

Background

The Wahroonga Estate is undergoing significant transition from a lower density medical and residential centre to a regionally significant hub of higher density health care, community, and mixed-use development.

Indeed, this urban transition has commenced with construction completed on the multi-deck hospital car park to the north-east of the subject site and Stage 1 of the Education Centre on the subject site within Precinct C being well advanced. Development Applications have been lodged for the residential component of Precinct C adjacent to the subject site and the Precinct D commercial component opposite Precinct C in Fox Valley Road. Other projects are in the pipeline including relocation of the existing school in preparation for the future Mixed Use component of Precinct C.

The Concept Plan approved as MP10_0070 provided “an indicative master plan” containing information on the public domain structure, building types with inherent and described performance criteria, and a selection of landscape characters to be achieved in each of the urban precincts. These all generally recognised accepted best practice urban design principles.

Concept Plan to Implementation

On a landholding of the size and with the ambitions of the Wahroonga Estate (65 ha 60% of which is available for development), there is an important design phase that must occur between the Concept Plan and before submission of each separate Development (Project) Application when such detail has been absent from an approved concept plan. It should form a consistent component of each submitted development application as it involves the Estate in its entirety and has been notably absent in applications reviewed to date – including the current application.

Before Development Applications are submitted, the Concept Plan needs to be further developed into a detailed, clearly communicated, coordinated development framework that is defined by site-specific urban and landscape *places* laid within a robust public domain structure^{**}. These *places* provide coherence to the overall Estate strategy, enable a three-dimensional understanding of the spatial requirements of a successful public domain and the relationship of built form to define it. It makes clear how the approved floor space has been tested 3-dimensionally against the performance criteria of the public domain rather than being abstract numbers on a page allocated to a site/precinct. It also allows for any proposed variations to occur within a clear understanding (applicant and consent authority) of their cumulative spatial and performance impacts. For instance, if a building footprint and envelope is changed (its shape and bulk increased or decreased) it needs to be clear how such a change affects the identified *places* - the quality, shape, sightlines and size of open space that remains and the type of impacts upon the relationship to other built form.

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In the case of the Wahroonga Estate, much of what would be technically defined as public domain (streets, cycleways, footpaths, open spaces, and communal landscape zones) is located within the private domain of the Sydney Adventist Hospital landholding.

Local, state and federal levels of government in Australia are increasingly recognising the importance of this stage of the design process as they move to redefine our cities, to design for future population demands and gain more understanding about what makes cities liveable and to provide more development certainty.

It formed the basis for a recent example, *Linking Canberra City to the Lake* (2013 Australia Award for Urban Design) as well as the original competition-winning scheme for Barangaroo (22 ha), and Sydney Olympic Park Master Plan 2030. It has been well established in other precincts around Australia such as Docklands in Melbourne (over 200 ha) and Southbank in Brisbane (17ha) as well as many international cities recognised for their high levels of liveability.

The Wahroonga Estate at 65ha is expecting to become a highly significant urban centre of regional importance and should be approaching its development with the same rigorous urban design considerations of public domain demonstrated elsewhere in Australia and internationally.

The applicant recognises this in their stated ambitions and it is worth noting that there are no constraints preventing the Wahroonga Estate from achieving world's best practice urban outcomes.

To date, this phase has been notably absent from submissions reviewed for Precinct C (two sites) and Precinct D. As previously stated to the applicant, without it, it will be very difficult to achieve a positive urban outcome for the Estate.

Review of MOD 4 proposal

The Applicant has recognised the importance of the Education Precinct (Precinct C) in achieving successful urban renewal. It is the Precinct that has the greatest direct relationship to the broader community to the south and west and is highly visible from The Comenarra Parkway and Fox Valley Road. It lays the foundations of defining the new urban character for this part of Wahroonga.

As commented previously, there is no sense of the site in context of an over-arching, framework that has spatially defined the public domain to create a hierarchy of landscape places and urban places. There is no communicated relationship of built form with the functional requirements of building typology and 3-dimensional definition of landscape space.

The question 'how does the modification impact upon the public domain' is not dealt with because there is no over-arching public domain response. Yes there is a localised landscape response but not a strategical response.

The MOD 3 approval to alter the footprint is to be submitted in order to assess the cumulative impact to public domain space in this MOD 4 application. At question is whether there could have been a north facing open space that provided an entry and spill-out area for the education centre that has been lost with the proposed additional building footprint. If so, where is this space replaced, as it must, given the proposed variation is seeking to double the floor space and thus capacity of the Education Centre. This has a direct bearing on the response for the adjoining student residential site and connecting spaces to the Mixed Use Neighbourhood Centre that must be addressed.

Rather, the application continues an approach taken in previous development applications (Precincts C and D) that results in a homogenous placement of built form that continues to eat into the space that had been approved as available for public domain infrastructure. There is no spatial or built hierarchy, no communication of the concept of destination, of connecting destinations and defining what happens along the journey.

This approach is considered to be an unacceptable deviation from the stated and inherent performance criteria as approved under Concept Plan MP07_0166 and MP10_0070 and inconsistent with the stated objectives of this current application as it is unlikely to result in a positive urban outcome. Of greatest concern has been the continued implication that the adjoining development sites will pick up the public domain deficiencies identified in each submitted scheme. And when the adjoining site application is submitted, the public domain provision has been inadequate or further reduced.

As a result, there are no identifiable distinct urban *places* or distinct landscape *places* being proposed because there is no established detailed public domain structure for the Wahroonga Estate.

History of the residential site of Precinct C, and commercial site Precinct D and the current submission proposed as MOD 4 supports the opinion that this approach is untenable in achieving positive urban outcomes.

The applicant is advised that a detailed development framework plan for the Wahroonga Estate is to be submitted before future development applications will be considered for urban design review. The Framework Plan is intended to take the Concept Plan to a level of detail that enables each individual development application to be presented as an unambiguous piece of a collectively understood cohesive whole.

The development framework plan is to leave no doubt as to the hierarchical spatial dedication necessary to make specific, identifiable urban and landscape places that will possess qualities specific to their use and desired character across the Estate as approved under Concept Plan MP07_0166 and MP10_0070.

It will provide the owners (SAH) and Council with certainty over the implementation of the significant development that is to occur over the Estate and provide confidence that positive urban outcomes may be achieved on completion.

Applications submitted as isolated sites devoid of contextual relationships are unacceptable.

The new character for Precinct C of the Wahroonga Estate within the Approved Concept Plan is principally for an education and associated student residential precinct, a campus, all accommodated within slender building types (refer Part 8.4 of the EA Wahroonga Estate Redevelopment) in a landscape environment which is stated in Clause 8.6 as:

A 'campus' feel with high levels of pedestrian accessibility. Retention of existing vegetation together with avenue tree planting and larger areas of open lawn will provide a strong green structure within the wider forest setting. A number of key focal spaces related to the hospital, church and residential communities will be inter-linked by a strong network of paths and cycleways placing an emphasis on pedestrian movement.

This is the context by which this review will be tested.

Documents submitted for the current proposed modification have not provided information regarding the interconnected pedestrian and landscape structure plan, how the subject site addresses this spatial network nor how the modification relates to this structure. The modification is localised and is seeking to double the existing floor space. Therefore, this places significant pressure on the spaces available for the public domain as the anticipated population using the facility would be significantly increased.

The space between the education centre and residential site was identified as being deficient in DA0453/12, the additional floor space being sought in this application places even more pressure to provide adequate space and amenity for the prospective student population. This has not been addressed.

It cannot be stressed often and strongly enough that the success of this significant urban renewal lies in the laying down of a robust public domain plan – open space, landscape, pedestrian, cycleway, and vehicle structure plan in which proposed development is able to unambiguously and appropriately respond and define the public domain both horizontally (at ground level) and vertically (through internal planning decisions) and expressed built form.

To the east of the subject site and addressing Fox Valley Road (separated by student and ancillary worker residential accommodation) will be a new neighbourhood centre, which combined, has the potential for creating a lively village hub.

As such, the quality of public domain, communal and private spaces, building types, quality of landscape in particular are critical to achieving a positive outcome for the precinct, and thus establishing what will become a new urban character for the community into the future.

Modification 4 has sought to expand the building facilities for the School of Nursing (which is supported by the University of Sydney's intention to expand their teaching facilities at SAH). In principle this can be supported where public domain considerations demonstrate the site has provided the public domain infrastructure required to support the increase. This has not been demonstrated.

Modification 3 has already seen a variation to building footprint (to be clarified) from that approved under MP10_0070. It needs to be demonstrated whether this resulted in an erosion of space that had been available for the public domain of the education centre and whether this space has been reallocated.

The pattern of proposed development for this part of the Wahroonga Estate has seen a deviation from building footprints and typology and thus the intent of the Approved Concept Plan that has been unsatisfactory.

DA0453/12 for the student and worker accommodation on the adjacent site also sought to vary building typology and footprints which resulted in an erosion of public domain space that has not been consistent with the objectives of the campus character.

Both the current MOD 4 variation and DA0453/12 have not communicated a coordinated design response has occurred in the preparation of the development proposals. This is evidenced by a lack of spatial relationships being demonstrated between sites both in conflicts of public/private use of communal spaces at the interface of the residential and education precincts, and increased yield being sought without commensurate public domain/communal space being provided.

Therefore, the urban design questions for context concern whether the increased density being sought has impacts to the public domain. If so, has adequate consideration been given to the spatial relationships, to the amount and type of public and communal spaces being proposed? The submitted documents do not lend support to this having been achieved.

The Approved Concept Plan proposes a new urban character of increased density set within a generous landscaped environment, with provision of a variety of spaces providing differing levels of communal or private engagement. The proposal has not achieved a desirable future character consistent with the objectives of the Approved Concept Plan.

While the use of the site and the building typology used is appropriate to the overall context, the building itself appears to be isolated from the immediate surrounding context and unconnected from Precinct C and the Estate.

The applicant is also requested to include a north point on all plan drawings.

Principle 2 – Scale

Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings. Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing transition proposed bulk and height needs to achieve the scale identified for the desired future character of the area.

Adjacent to the site to the west are three single-storey cottages that are being retained on the R2 zoned land. The subject site permits buildings of (14.5m) and (20.5m) equating to 4 and 6 residential storeys or the commercial equivalent of 5 storeys as proposed.

Generous setbacks have been provided in the application that satisfactorily addresses the transition between the two land use zones.

LEP height of buildings is satisfied. Building bulk is satisfactory as a stand-alone object devoid of context.

However, as a building within a context set to provide a focus for educational activity on the site, scale is not satisfied in terms of unacceptable impact upon public domain space that is inconsistent with the approved Concept Plan.

Principle 3 - Built Form

Good design achieves an appropriate built form for a site and the buildings purpose, in terms of building alignments, proportions, building type and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook. The built form is a response to both the regulatory controls and the neighbouring built fabric.

Building type is appropriate for intended use. Ground floor functions create a relationship with outside spaces. Provision of the communal functions at ground level is supported particularly where a physically and visually active interface between inside and outside is achieved.

Proposed built form is well articulated and makes clear three-dimensional expression of the differing internal functions proposed.

The arrangement of glazed 'boxes' articulated around the central solid clad element provides a strong architectural expression of built form.

Composition of massing and building elements has been considered, is appropriate to the intended use and could be supported if the public domain response was adequate and energy and resources are adequately addressed.

However, the public domain space for this building has been eroded such that the shape of the site seems to have dictated the maximised building form with the public domain becoming the spaces left over after desired yield has been achieved.

The submitted documents have not communicated that adequate consideration has been made to the relationship of building alignments with those of the proposed neighbouring student residential buildings within the precinct or to buildings in the neighbouring Hospital Precinct. Rather, the documents communicate that the education centre as an object has been considered in isolation of its relationship to other built form and to the public domain places.

The additional entry at the north-east corner is supported in principle but needs to be placed in context of what the entry relates to beyond the site. There appears to be no designated footpaths along the Hospital Ring Road linking this entry to the neighbouring student residential site nor to the adjoining Hospital Precinct which may be expected to draw significant pedestrian traffic.

There is no information submitted for the façade address to The Comenarra Parkway as this was subject to a previous approval. Such information is required in context of understanding the public domain response for the site and impacts of proposed modifications upon the overall open space/public domain strategy.

Principle 4 - Density

Good design has a density appropriate to its site and its context, in terms of floor space. Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.

In principle, proposed density can be supported as giving the Education Centre a greater focus and definition as a *place* within the Wahroonga Estate. However, this needs to be balanced with the relationship to public domain as commented on throughout this report.

The additional facilities that are proposed by the increased density would be expected to attract students and researchers alike marking the facilities as of regional significance and could be supported only where adequate and commensurate provision of open space and other public domain infrastructure is demonstrated and coordinated within the Estate. This has not been adequately demonstrated.

Density needs to be further considered in context of the provision of student accommodation on the adjacent site and implications to provision of sufficient accommodation to support the proposed increased facilities of the Education Centre and thus provision of adequate public domain to achieve desired urban character. This has not been addressed in documents submitted.

Height controls have been observed and are supported.

Principle 5 - Resources, Energy and Water Efficiency

Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient electrical and mechanical services, soil zones for vegetation and re-use of water.

The long axis of the building is sited north-south creating heat loads along the long western, and to a lesser extent, eastern facades, with consideration also required for the northern floor to ceiling curtain wall.

Smaller window openings are proposed in the exposed facades of the central aluminium clad more solid component. Shade protection and/or appropriately rated glazing will be required to protect these openings. It is unclear in submitted documents what protection has been provided.

Likewise, the proposed glazed curtain wall elements have no physical solar protection indicated and no detailed information has been provided regarding the glazing selection. Section J Energy Efficiency provisions of the BCA will need to be demonstrated.

Internal amenity of low eastern and western sun into tutorial spaces through floor to ceiling glazed walls will be problematic where light and heat loads are not adequately addressed.

Landscape zone is minimal and there is no information submitted that details provisions for water harvesting and re-use.

The ground level western terrace area will also require solar protection for that space to be functional during the summer months.

Dark colours may be aesthetically appropriate but consideration will be required to address the impact upon energy loads for cooling and use of appropriately insulated cladding material to counter the increased heat load of dark colours.

Natural light is provided to the common lift lobbies and is supported. It is assumed that, being a clinical teaching facility, internal patient comfort will require the use of mechanically controlled air and temperature. Internalised Teaching Clinics will rely solely on artificial lighting as well as air and temperature control.

It is noted that service rooms (banks of WCs, stairs) occupy the prime north-east corner of the building and may have been better located to the west so that the superior amenity this orientation offers is given to habitable rooms rather than service rooms.

Principle 6 - Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain.

Generally, the proposed landscape area provides small areas of planting interspersed by paved access paths. There is no demonstration of:

A 'campus' feel with high levels of pedestrian accessibility. Retention of existing vegetation together with avenue tree planting and larger areas of open lawn will provide a strong green structure within the wider forest setting...

The pedestrian network has not been adequately documented - how the open spaces work in relation to building entry, provision of bicycle parking, connections to adjoining sites and precincts as stated elsewhere.

No ground levels have been provided to gain an understanding of the relationship of internal ground floor levels to outdoor spaces, paths, roads and adjoining sites.

As previously stated, a holistic presentation of open space and public domain would enable an understanding of the variation in terms of impact upon the public domain strategy.

No detailed information regarding deep soil zones or water harvesting and re-use was submitted.

Principle 7 - Amenity

Good design provides amenity through the physical, spatial and environmental quality of a development. Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts, and service areas, outlook and ease of access for all age groups and degrees of mobility.

Planning layout is rational with clear sightlines along corridors and clearly arranged internal functions.

The lift lobbies are generous, light and provide a vertical visual connection of 'entry' from ground floor through to Level 4 by the use of voids and is supported.

As stated in Principle 5 - Resources, Energy and Water Efficiency, further information is required to demonstrate adequate amenity is achieved to all rooms that are oriented to west in particular, east and lesser extent to the north with control of sun light and heat along glazed curtain walls.

Internal communal amenity is supported with provision of a Student Common Room, Gym and Coffee Shop with small outside terrace area. These areas generally acquire light from two sources and is supported.

Access to the Level 3 Tutorial/Study Areas is via Research Lab or what appear to be fire stairs. It is unclear as to whether this is intentional. Flexible use of fire stairs to provide alternate access is encouraged where possible, but needs to ensure entries are defined spatially, visually clear and pleasant to use.

Principle 8 - Safety and Security

Good design optimises safety and security, both internal to the development and for the public domain.

This is achieved by maximising overlooking of public and communal spaces while maintaining internal privacy, avoiding dark and non-visible areas, maximising activity on streets, providing clear, safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces.

Safety and security is generally satisfactory with appropriate passive surveillance, clear sightlines and clear building entries.

As previously stated, outdoor open spaces for students have not been adequately considered in context of an over-arching public domain strategy. Internal amenity of communal spaces is supported.

Principle 9 - Social dimensions

Good design responds to the social context and needs of the local community in terms of lifestyles, affordability and access to social facilities.

The proposed variation is supported on grounds of achieving desired social outcomes in the provision of additional high quality education and research facilities for the hospital.

Principle 10 - Aesthetics

Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of the development. Aesthetics should respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contribute to the desired future character of the area.

Proposed aesthetic is of a modern, slick, medical facility presenting as clearly defined architectural massing and arrangement of materials. It is consistent with the changing architectural character for the Wahroonga Estate and is supported.

As previously stated, care will need to be taken to ensure the aesthetic drivers are not outweighing considerations of internal amenity and energy demands where large areas of floor-to-ceiling glazing is proposed.