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Innovation by Design

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NSW Architects Registration Board Nominated Architects: Terry Morris 3354 Garry Bray 3555

2 November 2010

Urbis JHD
Level 21
321 Kent Street
Sydney NSW 2000

Attention: Jennifer Cooper

Dear Jennifer

RE: SYDNEY ADVENTIST HOSPITAL
RESPONSE TO SUBMISSIONS LEADING TO PREFERRED PROJECT REPORT

We have reviewed the various submissions received relating to the recently lodged Environmental Assessment for the Sydney Adventist Hospital, Wahroonga.

The following is our response to various comments relating to Architectural design issues. As an appendix to these responses is a list of drawings where, as a result of submissions, clarifications have been added.

Documentation (refer to DGR 15)

- *The transition of the proposed development scale through the site and it's relationship with the local context, demonstrated through the provision of sections/elevations, photomontages from the prominent positions along the Comenara Parkway and Fox Valley Road*

A Visual Impact Study was issued as part of the Environmental Assessment that indicated the potential view impacts of the proposal. TAs indicated in the report, the importance of particular views assessed in the analysis was determined by the method described in the planning principle for views from Tenacity Consulting v Warringah [2004] NSWLEC. This visual impact study was comprehensive and its conclusions are sound. The montages below and additional site section drawings included as part of the Preferred Project Report submission should compliment this report and it's conclusions.

View from junction at Comenara Parkway and Fox Valley Road

View from Fox Valley Road

View from Comenara Parkway

The following clarifications have been made to the Architectural Drawings:

Overall Masterplan:

- A/EA-009 Overall Land Use Plan (New Drawing)
- A/EA-009A Pedestrian Movement analysis (New Drawing)

Concourse:

- A/EA-010 Concourse Fl Plan Level 1 (Existing RL & New RL added)
- A/EA-011 Concourse Fl Plan Level 2 (Existing RL & New RL added)
- A/EA-012 Concourse Fl Plan Level 3 (Existing RL & New RL added)
- A/EA-013 Concourse Fl Plan Level 4 (Existing RL & New RL added)
- A/EA-014 Concourse Fl Plan Level 5 (Existing RL & New RL added)
- A/EA-015 Concourse Fl Plan Level 6 (Existing RL & New RL added)
- A/EA-016 Concourse Sections & Elevations-Sheet 1 (Floor Levels Revised, Roof/Eaves RL added, Existing Clifford Floor Levels adjusted base on latest survey)
- A/EA-017 Concourse Sections & Elevations-Sheet 2 (Floor Levels Revised, Roof/Eaves RL added, Existing Clifford Floor Levels adjusted base on latest survey)
- A/EA-018 Concourse Sections & Elevations-Sheet 3 (Floor Levels Revised, Roof/Eaves RL added, Existing Clifford Floor Levels adjusted base on latest survey)

CSB Expansion:

- A/EA-030 CSB Expansion Fl Plan Level 1 (Existing RL & New RL added)
- A/EA-031 CSB Expansion Fl Plan Level 2 (Existing RL & New RL added)
- A/EA-032 CSB Expansion Fl Plan Level 3 (Existing RL & New RL added)

- A/EA-033 CSB Expansion Fl Plan Level 4 (Existing RL & New RL added)
- A/EA-034 CSB Expansion Fl Plan Level 5 (Existing RL & New RL added)
- A/EA-035 CSB Expansion Fl Plan Level 6 (Existing RL & New RL added)
- A/EA-036 CSB Expansion Fl Plan Level 7-10 (Existing RL & New RL added)
- A/EA-037 CSB Expansion Fl Plan Level 11 (Existing RL & New RL added)
- A/EA-038 CSB North Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-039 CSB West Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-040 CSB South Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-041 CSB East Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-042 CSB Section 5 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-043 CSB Section 6 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-044 CSB Section 7 (Floor Levels Revised, Roof/Eaves RL added)

Clifford Refurbishment:

- A/EA-050 Clifford Refurbishment Floor Plan Level 4 (Existing RL & New RL added)
- A/EA-051 Clifford Refurbishment Floor Plan Level 5 (Existing RL & New RL added)

Multi-Deck Carpark:

- A/EA-070 Carpark Floor Plan Level 0 (Existing RL & New RL added)
- A/EA-071 Carpark Floor Plan Level 1 (Existing RL & New RL added)
- A/EA-072 Carpark Floor Plan Level 2 (Existing RL & New RL added)
- A/EA-073 Carpark Floor Plan Level 3 (Existing RL & New RL added)
- A/EA-074 Carpark Floor Plan Level 4 (Existing RL & New RL added)
- A/EA-075 Carpark Floor Plan Level 5 (Existing RL & New RL added)
- A/EA-076 Carpark Elevations North & South (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-077 Carpark Elevations East & West (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-078 Carpark Sections 1 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-079 Carpark Sections 2 (Floor Levels Revised, Roof/Eaves RL added)

Shannon:

- A/EA-090 Shannon Floor Plan Level 0 (Existing RL & New RL added)
- A/EA-091 Shannon Floor Plan Level 1 (Existing RL & New RL added)
- A/EA-092 Shannon Floor Plan Level 2 (Existing RL & New RL added)
- A/EA-093 Shannon Floor Plan Level 3 (Existing RL & New RL added)
- A/EA-094 Shannon Floor Plan Level 4 (Existing RL & New RL added)
- A/EA-095 Shannon Floor Plan Level 5 (Existing RL & New RL added)
- A/EA-096 Shannon Floor Plan Level 6 (Existing RL & New RL added)
- A/EA-097 Shannon Floor Plan Level 7-11 (Existing RL & New RL added)
- A/EA-098 Shannon Floor Plan Level 12 (Existing RL & New RL added)
- A/EA-099 Shannon North Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-100 Shannon East and West Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-101 Shannon South Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-102 Shannon Section Sheet 1 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-103 Shannon Section Sheet 2 (Floor Levels Revised, Roof/Eaves RL added)

Education Centre:

- A/EA-110 Education Centre Floor Plan Level -1 (Proposed RLs reviewed, Boundary lines added, Fire Egress from Plant room added, Projection of racked seating in Lecture Theatres above added)
- A/EA-111 Education Centre Floor Plan Level 0 (Proposed RLs reviewed, Boundary lines added, Proposed Landscaping added, Deletion of Deck extension to the South)
- A/EA-112 Education Centre Floor Plan Level 1 (Proposed RLs reviewed, Boundary lines added, Proposed Landscaping added)
- A/EA-113 Education Centre Floor Plan Level 2 (Proposed RLs reviewed, Boundary lines added, Proposed Landscaping added)
- A/EA-114 Elevations (Projection lines of Store & Plant Rooms at -1 Level added, Proposed RLs reviewed, Proposed Landscaping added, Proposed parking RLs and associated Retaining walls added, Profile of Comenarra Parkway added.)
- A/EA-115 Sections (Section EDUC/04 added, Projection lines of Store & Plant Rooms at -1 Level added, Proposed cut to land added, Proposed RLs reviewed)

Stage 1A CSB Expansion:

- A/EA-131 CSB Expansion1A Fl Plan Level 1 (Existing RL & New RL added)
- A/EA-132 CSB Expansion1A Fl Plan Level 2 (Existing RL & New RL added)
- A/EA-133 CSB Expansion1A Fl Plan Level 3 (Existing RL & New RL added)
- A/EA-134 CSB Expansion1A Fl Plan Level 4 (Existing RL & New RL added)
- A/EA-135 CSB Expansion1A Fl Plan Level 5 (Existing RL & New RL added)
- A/EA-136 CSB Expansion1A Fl Plan Level 6 (Existing RL & New RL added)
- A/EA-137 CSB Expansion1A Fl Plan Level 7-10 (Existing RL & New RL added)
- A/EA-138 CSB Expansion1A Fl Plan Level 11 (Existing RL & New RL added)
- A/EA-139 CSB 1A North Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-140 CSB 1A West Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-141 CSB 1A South Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-142 CSB 1A East Elevation (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-143 CSB Section 5-6 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-144 CSB Section 7 (Floor Levels Revised, Roof/Eaves RL added)

Stage 1A Multi-Deck Carpark:

- A/EA-150 Carpark 1A Floor Plan Level 0 (Existing RL & New RL added)
- A/EA-151 Carpark 1A Floor Plan Level 1 (Existing RL & New RL added)
- A/EA-152 Carpark 1A Floor Plan Level 2 (Existing RL & New RL added)
- A/EA-153 Carpark 1A Floor Plan Level 3 (Existing RL & New RL added)
- A/EA-154 Carpark 1A Floor Plan Level 4 (Existing RL & New RL added)
- A/EA-155 Carpark 1A Floor Plan Level 5 (Existing RL & New RL added)
- A/EA-156 Carpark 1A Elevations North & South (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-157 Carpark 1A Elevations East & West (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-158 Carpark 1A Sections 1,2,5,6 (Floor Levels Revised, Roof/Eaves RL added)
- A/EA-159 Carpark 1A Sections 2,3,4 (Floor Levels Revised, Roof/Eaves RL added)

Staged Clifford Refurbishment:

- A/EA-180 Clifford Refurbishment Stage 1A Floor Plan Level 4 (Existing RL & New RL added)
- A/EA-181 Clifford Refurbishment Stage 1A Floor Plan Level 5 (Existing RL & New RL added)
- A/EA-182 Clifford Refurbishment Stage 2 Floor Plan Level 2 (Existing RL & New RL added)

Materials and elevational treatment

- A/EA-211 Materials Board
- A/EA-212 Façade study
- A/EA-213 Site Sections (New Drawing)
- A/EA-214 Long Term Masterplan Concept (New Drawing)
- A/EA-215 Complete PPR Masterplan

Future Planning (refer to DGR 20

- *Show due consideration to future expansion and how the inevitable future development may be executed in a manner that is orderly and beneficial to the site*

A drawing has been attached as part of the PPR submission indicting a possible future long term development strategy.

- *Consider future planning and innovative ways of providing garden and open space to users of high rise buildings, such as rooftop gardens.*

As discussed in the Landscape Architects response, rooftop gardens have been discussed and considered in the development that forms this EA, but the strategy for this development ios to utilize existing and new ground level gardens and amenity. Future phases, however, may incorporate landscaped roofs and terraces.

- *Provide services that address sustainable energy and water usage, particularly in light of the inevitable future pressures on, and greenhouse impacts of these systems.*

The strategy for delivery of the buildings, as discussed in our ESD consultants response is to provide services that are benchmarked against current best practice in Australia.

Streetscape (refer to DGR 2,3,10)

- *Provide documentation to show the relationship between the future development under the Wahroonga Estate Redevelopment Concept Plan Approval and this hospital proposal*

Refer to Drawing xxx that has combined the two separate projects into one drawing.

- *Provide plans at a scale suitable to understand the overall layout of the buildings…1:400 may be suitable*

The plans lodged as part of the EA are to a suitable and industry standard scale of 1:500

- *Resolve conflict between indications that the temporary car park to be constructed in the North East corner of the site at Stage 1A[256 spaces] as being in place until the completion of the hospital [2020],*

and the Wahroonga Masterplan that indicates this area to be occupied by the proposed residential and school uses at that time.

SAH and ACA have an agreement that the SAH will have use of the area of the temporary car park for 12 months from start of construction of the Car Park Structure. Once the car park structure is completed the site will revert to ACA ownership and wil be developed as per the Wahroonga Masterplan Concept Plan. There is therefore no conflict between the two uses.

- *Improve activity and Fox Valley Road streetscape by providing a separate and visually distinct entry gate from Fox Valley Road, close to the bus stop area for pedestrians linking to the concourse*

The main entry to the hospital will be via the area of the existing entry however the junction will need to be upgraded with the retention of the signalized traffic lights with a new left out lane to Fox Valley Road. It is intended that a new feature entrance "gateway" be provided.

Additionally the cars currently parked on the hospital side of Fox Valley Road will be removed so the entry will be free and visually unencumbered. Entry gates or the like will form part of a future application for signage however any structure or signage cannot create visual obstruction to the safe flow of traffic in and out of the hospital.

The new "gateway" entry will need to be clearly signed to ensure easy direction along with the directional and way finding signage throughout the hospital. This will form a critical requirement for the development and will all be subject to a separate signage application.

- *Create visual connection for the greater community along Fox Valley Road utilizing Bethel House museum building by locating it closer to Fox Valley Road, linked with access from the concourse; possibly within the Village Green where the Green can create an appropriate cartilage and public setting for it.*

The hospital broadly speaking, provides two types of functions, one for inpatients and one for outpatients. The San Clinic is an outpatient or day patient clinic providing services for a range of specialties and is accessed from the arrival podium and concourse at Level 3, while the second group of outpatients or day patients access Level 2 of the new Clinical Services Building from the Arrival podium. This second area for outpatients is the Cancer Center of Excellence and will provide day services for Radiation Oncology and Day Infusion. This area of the hospital will provide outside access to a Cancer Healing Garden and forms part of a group of buildings formed by the Jacaranda Lodge and the relocated Bethel House museum forming the completion of this group. This is an important composition of buildings as Bethel House symbolizes the beginnings of the hospital, the Cancer Center is a modern function of today's hospital, and the Jacaranda lodge is a place of rest and completion.

Public access will be available to Bethel House via the footpath network from the arrival podium, the Cancer Center garden and footpath between Stage 1B and Jacaranda Lodge

Therefore we feel the location of the repositioned Bethel House is clear and succinct and appropriately positioned.

- *Relocate services and inactive uses such as the fire center, oxygen tanks, fire water tanks to locations where they do not visually intrude on the landscape or streetscape, tanks should be placed underground with appropriate markings.*

The main access to the Hospital will be from Fox Valley Road from the same area as the existing signalised intersection. The main entry boulevard will lead to the proposed new arrival podium and entry Concourse however from the entry the left hand turn leading to the Accident and Emergency Department

will be maintained for ambulance's. This road will be visually screened with the aim as stated in the Landscape Design Proposal to "The significant boundary planting is to be retained and enhanced with additional planting over time. Low visual quality rockeries and low retaining walls are to be replaced with discrete structures concealed planting. The aim is to provide a more distinctive and consistent visual identity"

This screening also applies to the Oxygen Tank and the Fire Center. The position of the Fire Center has been established in consultation with the Fire Brigade to provide the most optimal position from the point of view of safety and immediate access. The Fire Service require that the Fire Centre be accessed immedialtly and is a safe place to both ascertain the extent of any incident and also manage the response to that incident. Furthermore by locating these services at this location, space is available to provide a lay by area for both the Fire Center and the Oxygen Tank delivery without affecting the flow of ambulances to and from the Accident and Emergency department.

Although the site gives the impression of large open spaces surrounding the core hospital buildings, the "Core" area is in-fact quite restrictive with limited space available for the hospital support infrastructure. Morris Bray have issued drawing Drawing 009 which clearly notates areas where buildings and services defined as "core hospital use" can be located. In order that the space available for new buildings is maximized, the fire water and oxygen tanks have been located in one area.

These tanks will be screened by landscape and the boundary planting referred to above so their impact on Fox Valley Road will be minimal. They are also located at what will become the service side of the hospital while the public perception of the hospital will be from the arrival boulevard, arrival podium and concourse, the arrival forecourt and the village green. Refer to drawing 009 identifying the extent of Core hospital space available on the site.

Design (refer to DGR 3,6)

- *Design building elevations in an interesting way to present their bulk and scale in an aesthetic manner, breaking down the monolithic structures into smaller components through façade articulation*

The hospital campus is made up of a collection of buildings developed over its 108 year old history of the site. It is much like an archaeological layering of the time expressed in built form.

This proposal will add another layer to the campus as a 2010 addition to the collection of buildings and because of this diverse collection of architectural styles the idea of the introduction of the loggia element is to create a unifying element to give an order and a unification of the different styles. This loggia will be viewed at eye height while the various buildings will project out and above this element.

The loggia will form a continuous base incorporating the San Clinic, Concourse, the existing and new CSB buildings and ultimately the Shannon wing.

The proposed extension not only incorporates this device but also includes the primary façade of the hospital which is open and transparent to the concourse, will engage with the surrounding landscape and embody biophilic design principals of the natural world. The concourse will also create a sense of arrival and will incorporate an expression the Mission of the hospital and the five principals of Caring, Uniting, Educating, Sharing and Healing.

The existing CSB building is a broad fat building housing the operating theaters on the top level and any extension of theaters by the very nature of the existing building, sets up an integrated perimeter race track, and therefore a continuation of the broad fat building. With this in mind the design of the façade has been articulated with the surface treatment of fenestration and solar shading elements to provide an interesting level of detail that will not create a monolithic building outcome. The facades have been designed with close collaboration with the ESD consultant, as indicated in their report. The location and size of windows,

use of horizontal and vertical louvers to break up the façade introduces shadows and interest in the elevational treatment. Our 3d interpretation indicates this in more detail.

The Shannon wing reflects contemporary hospital design with a long thin building form maximizing the exposure to natural light to the benefit of the patient rooms.

The façade treatment is vertical in its nature and the surface treatment is articulated to create a rhythm and pattern of an otherwise repetitive room layout.

The Education Center has maintained the same language of the main hospital with the use of a vertical pattern expressed in an articulated plan layout accommodating the range of functions in the center.

- *Reconsider the height and blank façades of the Education Center as they are not compatible with the character of the surrounding low density residential area, and does not provide an adequate interface*

We have reviewed the façade details of the Education Center and have attached amended drawings in this submission.

- *Utilise innovative design techniques such as light wells, atria and recessing portions of the façade to provide landscaped terraces giving access to natural ventilation and outdoor spaces to upper floor levels particularly to internalized waiting areas and patient rooms*

The planning form has primarily been generated from the existing Clinical Services Building. As the existing CSB building is a broad fat building housing the operating theaters on the top level and any extension of theaters by the very nature of the existing building, sets up an integrated perimeter race track, and therefore a continuation of the broad fat building.

This layout is important to continue from an operational point of view so to help the deep plan the planning of elements around the perimeter that require natural light will take priority. Also the façade adjacent the Radiation Oncology bunkers has been cut back to enable internal gardens and natural light to penetrate deeper into an area where patients are stressed and where an engagement with nature will plan an important role.

The connection to outdoor spaces from the Concourse was a basic requirement of the hospital with strong links to the Village Green and the new Forecourt and Arrival Podium with the landscaped space beyond.

The ward wings of CSB and Shannon have all patient rooms with natural light however the idea of balconies and operable windows for natural ventilation was not incorporated in the design as a response to infection control, staff demands for patients rather than building management and occupational health and safety.

- *Provide details required by the conditions of consent in relation to internal design of accessible toilet facilities, evaluation of the slip resistant floor materials, lift specification, door schedule, tactile ground surface indicators, lighting levels, décor, signage, hearing augmentation facilities, furniture/counter fitout and the like*

The Hospital layouts are required to meet the standards of AS 1428 Part 1 and Part 2, the NSW Health Facility Guidelines and the BCA. In addition to the layouts the NSW Health Facility Guidelines also set the standards for slip resistant floor materials amongst other standards for materials to ensure the hospitals infection control standards are met.

Certainly the evaluation of the slip resistant floor materials, lift specification, door schedule, tactile ground surface indicators, lighting levels, décor, signage, hearing augmentation facilities, furniture/counter fitout and the like will take place in the measure of time that would be normal and expected during the

Development and documentation stage of the building and would be required to be done before the issuing of the Construction Certificate.

- *Reconsider to design to address concerns with Planning for Bushfire Protection, flora and fauna and earthworks*

A comprehensive evaluation of the concerns for Bushfire Protection has occurred during the development of the design which has influenced the space available for the "core " hospital functions, the position of the carparking structure and the surrounding surface carparks. There has been an attempt to disrupt as little as possible the surrounding bush land and the existing flora and fauna while still the required setbacks for safety.

- *Reconsider the design to address the non-compliance of the clinical services building with the APZ requirements*

The Clinical Services Building expansion has been designed to be wholly within the APZ setback identified on the drawings.

Drawings 031 to 034 show the planning of Stage 1B with a notch in the planning between grid lines C1 and C2 and CH. There is a free standing structure sitting in this notch that visually completes the corned however this free standing structure is not attached to the Class 9 building. This is best seen on drawing 035 where the freestanding building is clearly separate to the main building. This is acceptable and does not encroach the APZ requirements.

- *Show how the proposal, particularly the left over spaces and placement of services around the buildings, are in line with the principles of* Crime Prevention through Environmental Design

Safer-by-design principles have been incorporated into the overall design of the proposed alterations and additions. Clear sightlines are provided to and from the main entry to the hospital, achieving natural surveillance of the entry and adjoining internal and external areas, including the arrival podium and associated car parking.

The Concourse is provided predominantly of glass and contains active uses,
which will facilitate a high level of surveillance over the village green and pedestrian circulation areas.

The multi-deck car park and the adjoining at-grade car parks will continue to be controlled by boom gates, providing improved security for vehicles parked on site, particularly for extended periods.

Clear circulation and movement between the major building activities which will have the maximum number of people occupying spaces is an important contribution to crime prevention.

- *Resolve design aspects such as the bunkers protrusion and flat roof that is an anomaly in the overall design*

Bunkers are always best located away from the public areas as by their very nature are 1.2 meter thick concrete walls and roof to contain the radioactive nature of the function. In the proposed design the bunkers are located at Level 2 and will essentially be partly buried as the ground level along the long southern edge is at Level 3. The roof level of the bunker is flat an at approximately sill level of Level 3.

A internal space between the bunker edge and Level 3 façade have been created to bring natural light into Level 2 and into Level 3 so we believe the bunkers site will within the composition of the building and the flat roof expression is in keeping with the flat roofed nature of the other buildings in the ensemble.

- *Include the infrastructure of underground parking levels as part of the substantial building foundation works.*

The arrival podium in at Level 2 with the carpark projecting two levels above the arrival podium so the perception of the carpark will be low in scale.

The balance of the carpark will be below arrival podium level for another two levels with the lowest level essentially as a basement.

A clear identification of access and where to park is important when arriving at the hospital for strangers and then the walking movement from car park to hospital entry needs to be clear and unambiguous and this as been achieved with the arrival podium and forecourt acting as an orientation space.

Basement parking would be expensive, environmentally more expensive to operate and the clarity of orientation would not be as clear.

DECCW Response

- *DECCW also requests that a commitment be included stating that there will be no additional impacts on the E2 zoned bushland area as a result of the proposal.*

We would confirm that there will be no additional impacts on the E2 zoned bushland area as a result of the proposal.

The final proposal is a balanced consideration of all the issues.