ETHOS URBAN

Attachment A - Liverpool Hospital Multi Storey Car Park SSD10388 – Response to Request for Additional Information

Issue	Proponent's Response
Department of Planning, Industry and Environment	
Details clearly illustrating any tree removal that has been undertaken on the development site and details of any offset planting.	Tree removal conducted under a separate planning approval pathway as part of infrastructure works that occurred previously (Review of Environmental Factors 1 and 2 – Infrastructure Works) means that the MSCP area of the campus does not require any tree removal. In total, 81 trees were removed as part of REF 1 & REF 2 Infrastructure Works. A total of 15 replacement trees are being planted as part of REF 2 where they don't impact the rail corridor. The current MSCP design includes 55 new trees, bringing the total replacement tree numbers to 70. We have reviewed planting opportunities and have added an additional 8 in the MSCP on grade car park and an additional 18 in and around the MSCP building and forecourt, for a total of 26 additional trees. See **Attachment C**. This totals to 96 replacement trees for 81 removed trees
Confirmation that the increased height of the carpark would not impact on the operations of the helicopter landing surfaces on the hospital site.	The Statement prepared by AviPro and included at **Attachment B** confirms that the height of the completed MSCP will be 35.7m and will be below the height of the Primary HLS. Therefore, the proposed development will not impact the operations of the HLS.
Liverpool City Council	
Adaptable Car Parking The proposal notes 2.8m expected floor-to-floor heights for the multi-storey car park. As previously mentioned, floor heights that would support adaptive reuse into habitable uses should be considered as part of a response to futureproofing. A floor-to-floor height of 3.5m is recommended by Council's Urban Design Team. A car park with 3.5m floor to floor heights, contrary to the applicant's claim, would not result in building height that breaches the 35m development standard at the site. Notwithstanding this, if this is not achievable for the entire building, the design should allow for partial retrofitting (i.e. for the ground level and the roof level).	The proposed development is a standalone building, purely for the purposes of a car park to support the expected future demand for parking at Liverpool Hospital. It appropriately replaces an existing multi-storey car park and at-grade car park to better serve staff, patients, and visitors at Liverpool Hospital. Further, given that hospital buildings are designed to suit the functional and operational needs of a range of health departments, it is not appropriate nor conducive for the MSCP to be designed for habitable purposes on a hospital campus. Accordingly, the proposed floor to floor heights have been designed at 2.8m in accordance with the relevant Australian Standards for car parks.

Issue	Proponent's Response
Traffic Planning The 'Traffic Impact Assessment' (TIA) submitted with the application has estimated traffic generation potential based on the survey of the existing car park in CP2. The trip generation rates are 0.54 and 0.38 trips per space in the AM and PM peak hours respectively. Based on these traffic generation rates the proposed additional 500 car parking spaces will generate approximately 270 vehicular trips and 190 vehicular trips in AM and PM hours respectively. The forecast additional traffic movements (and the redevelopment of the hospital) will have noticeable traffic impact on the access road to/from the car park. To minimise traffic impact of the car park, a local traffic management plan is to be submitted outlining traffic management scheme including signs and line marking, along the access road to/from the car park.	Noted. Regulatory signage and line marking will be included in the civil documentation package. Wayfinding signage is proposed as outlined in the Traffic Report.
The other traffic related conditions are provided in Appendix A.	HI will review the draft conditions issued by DPIE at the appropriate time.
Environmental Health Consideration The Department of Planning, Industry and Environment is requested to consider the representations made by Council's Environmental Health Section and NSW Environment Protection Authority when assessing adherence to the SEARs issued 27th November 2019 and State Environmental Planning Policy No. 55- Remediation of Land. Appropriate controls shall be incorporated into the design and construction of the proposed development to mitigate potential impacts on human health and the environment. It is strongly recommended that mechanical plant is selected in consultation with a suitably qualified acoustic consultant at the detailed design stage to ensure compliance with the assessment criteria. In addition, a Construction Environmental Management Plan comprising a Noise and Vibration Management Plan (NMP) shall be prepared for the proposed development prior to commencement of construction.	Noted. The appointed contractor will prepare a Construction Environmental Management Plan including a Noise and Vibration Management Plan in consultation with the acoustic consultant prior to the commencement of works on the site.
Urban Design Consideration - Context It is acknowledged that the proposed Multi-storey Car Park development is a purpose designed building to support the future car parking requirements of the hospital precinct. However, it is a strong preference that the design of the multi-storey carpark should have the capability to allow for retrofitting of the building for a different use, in the future. If this is not achievable for the entire building, the design should allow for partial retrofitting (i.e. for the ground level and the roof level) by increasing the floor to floor height to 3.5m at ground level and engineering the building to allow for other uses on the roof level (e.g. temporary activation/events, green roofs, terrace garden, sports court, etc.).	As discussed above, the proposed development is a standalone building, purely for the purposes of a car park to support the expected future demand for parking at Liverpool Hospital. It appropriately replaces an existing multi-storey car park and at-grade car park to better serve staff, patients, and visitors at Liverpool Hospital. Further, given that hospital buildings are designed to suit the functional and operational needs of a range of health departments, it is not appropriate nor conducive for the MSCP to be designed for habitable purposes on a hospital campus. Accordingly, the proposed floor to floor heights have been designed at 2.8m in accordance with the relevant Australian Standards for car parks.

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It is strongly preferred that the Multi-Storey Car park building incorporates adequate measures to reduce the urban heat island effect (i.e. by providing a peripheral landscape planting zone along the building edge with pergolas/trellises at the roof top level of the car park building). This would help increase the overall green cover within the city centre and help mitigate the adverse effects of urban heat island.	The MSCP does not propose to construct pergolas/trellises on the roof. Substantial tree planting is proposed across the campus that will mitigate the urban heat island effect.
Urban Design Consideration - Sustainability The intent of the main works SSDA application to achieve a 5 star – Green Star rating is supported. However, it is strongly recommended that photovoltaic technology is incorporated as part of the design on the roof levels of the car park building. This will not only provide shade to the hard surfaces/parked vehicles while generating clean energy from renewable sources, but also help in mitigating the impacts of urban heat island effect.	The MSCP will incorporate sustainable materials and ESD strategies where possible. In particular, the open nature of the façade will enable free air circulation which will reduce the need for mechanical ventilation, providing an overall more sustainable outcome.
The design intent of directing stormwater runoff to the landscaped areas on ground level is supported, however, in times of adequate rainfall, the water saturation level within the natural ground is quite high and will not allow any further water percolation. It is in these times that the additional runoff can be captured within the detention tanks and can be utilised during months of scarce rainfall.	Wicking beds which have a storage volume at the base, provided by a saturated sand layer, are included in lieu of traditional detention tanks which are not supported by the hospital.
The revised design to future proof the needs of electric vehicles by providing electric charging points to 25 car parking bays is supported. This will be highly utilised in the near future and encourage the use of green technology.	Noted.
Landscape The incorporation of trees within the car parking bays is supported. However, since the design of the proposed Multi-storey car park building is adding another level of car parking, it is highly recommended that some additional trees are provided/incorporated within the car parking bays on ground level.	The proposed tree planting in the MSCP on grade car park has been located to maximise the shade benefits of the additional trees by planting in an east/west aligned row. It is further noted that additional 8 trees will be planted in the on-grade car park as part of the MSCP development.
It is also recommended that peripheral planting zone on the roof top level is incorporated within the building design that will allow for green roof coverings on pergolas/trellises at the roof level.	
The revised planting palette is supported. Ensure that the proposed trees/vegetation is provided with adequate soil volume to maximise the growth potential.	Sufficient soil volume has been provided for all trees and vegetation.
The landscape plans show climbing vegetation to be grown on trellises on ground level, on the building façade, under the building overhang. Ensure that the proposed vegetation will receive adequate sunlight (i.e. under the building overhang) and has access to top up irrigation to support plant growth during peak summer months.	Vegetation will receive northerly sun and irrigation from roof water to a wicking bed system with top up irrigation in extended dry periods.
The intent to provide top up irrigation to the proposed plants and vegetation through recycled water network is supported. It is highly recommended that storm water runoff is captured in detention tanks and the water is utilised for irrigation during the peak summer months.	Wicking beds which have a storage volume at the base, provided by a saturated sand layer, are included in lieu of traditional detention tanks which are not supported by the hospital.

Issue	Proponent's Response
Safety The intent to comply with Crime Prevention Through Environmental Design (CPTED) principles in the design and detailing of the car park is supported.	Noted.
Amenity It is acknowledged that the incorporation of Public art within the façade of the Multi-storey Car Park building has not been prioritised by the Arts Working Group, however, it is a strong preference that the northern façade of the proposed carpark building facing Liverpool Boys High School and Liverpool Girls High School should incorporate some elements of public art. The development of campus wide public arts strategy is supported, and it is recommended that the Arts Working Group engage Council's Public Arts Officer at the early stages of development of the campus-wide public art strategy, to achieve an optimal design outcome.	Noted. A representative on the Arts Working Group is in direct consultation with Council's Public Arts Officer. However, a separate session can be organised with Council to discuss the Arts Strategy. The project is also currently reviewing the Northern Façade to include elements of art.
City Economy Consideration Council is encouraged by the plans for wayfinding inside the development. However, it is considered appropriate that the development also contribute to wayfinding in the CBD. Accordingly, a condition should be applied to any consent that requires the applicant to provide signage or an equivalent dollar contribution to wayfinding in the CBD. An example of this can be found in Condition 107 of DA-926/2018.	The proposed development is on an existing hospital campus site that is not changing location. Accordingly, it is not considered appropriate that HI provide further wayfinding throughout the Liverpool CBD.
Transport for NSW	
Construction Traffic Management During construction, the applicant has identified that some 230 parking spaces across the campus will be temporarily unavailable. The displacement of parking is in intended to be mitigated by providing additional parking compounds at the Bigge Street/ Campbell Street car park and Liverpool Westfield. Detail has not been provided at this stage but can be included in the final construction management plan.	Temporary parking at the Bigge Street/Campbell Street car park and Liverpool Westfield has already been made available, noting that some of the 230 parking spaces are already unavailable on campus as a result of construction works under separate approvals. Both of the above are existing car parks and therefore there will be no additional impact to the surrounding road network. This detail will be included in the final Construction Traffic and Pedestrian Management Plan which will be prepared by the principal contractor prior to the commencement of works on the site.
It is requested that prior to Construction Certificate, the applicant be conditioned to prepare a detailed Construction Management Plan and Construction Traffic and Pedestrian Management Plan (CTPMP) sub-plan. These plans should include a strategy to manage parking demand related to the hospital throughout the construction of the Multi-storey Car Park and be approved by the Certifying Authority in consultation with Liverpool City Council.	Noted. The appointed contractor will prepare a Construction Traffic and Pedestrian Management Plan in consultation with the traffic consultant prior to the commencement of works on the site.
NSW Environment Protection Authority	
Regarding noise, the EPA's comments on the environmental impact statement have been adequately addressed. The operational and construction noise conditions recommended in EPA's submission remain appropriate.	Noted.

Issue	Proponent's Response
It is noted that the RtS and revised NVIA have reduced the amount of out-of-hours construction works proposed. These are to be carried out from 1pm to 3pm on Saturdays only, for concrete finishing and installation/erection of a stationary crane. The EPA considers the scope of these proposed out-of-hours works to be reasonable, based on the justification and assessment of impact, and recommends the application of all reasonable and feasible noise mitigation and management measures, including those in Sections 10.6 and 10.7 of the NVIA.	Noted.
The EPA has no further comment regarding contamination.	Noted.
Environment, Energy and Science Group	
Conservation of biological diversity EES previously advised the EIS and BDAR include differing information in relation to vegetation that is proposed to be removed and sought clarification as to whether the SSD will result in the removal of 0.26ha of planted native vegetation. Appendix A of the RTS confirms the reference to removal of 0.26ha of vegetation is an error and the proposal does not require the removal of trees (page 2).	Noted.

Issue	Proponent's Response
Site Landscaping EES recommended the Planting Palette in the LDR be amended to be consistent with the SEARs for this SSD, as the SEARs state the EIS must include landscape architectural drawings which include: • details on the native vegetation community (or communities) and native plant species that once occurred in this location • specification that any landscaping will use a diversity of local native species (trees, shrubs and groundcovers) from the native vegetation community or communities that once occurred in this location to improve biodiversity. Appendix A of the RTS states amended Landscape Plans have been prepared and native plants that are endemic to the Liverpool area will be used within the proposed landscape design where appropriate to microclimatic conditions (page 3). EES notes the Indicative Planting Palette in the revised LDR and Landscape Plans includes non-local native and exotic species and the Landscape RTS states "the opportunity to include any plants grown from local provenance of the Georges River district is highly constrained by the very urbanised nature of the site, its microclimate and the project's multi-staging timeframes". It is unclear why the urbanised nature of the site should constrain the use of local native provenance species. EES recommends the proponent engages a suitably qualified bush regenerator to provide advice on sourcing and using local native provenance species that are appropriate for the site and to revise the Landscape Plan and Planting Palette accordingly. Attention is drawn to Development Consent (dated 29 November 2019) for the Qantas Flight Training Centre which is located at 297 King Street Mascot (SSD-10154), an urbanised site, which includes a condition (B45(a)) that requires the species to be planted on-site to include a diversity of local provenance plant species.	These comments are contrary to the comments received from Liverpool City Council. At present, the proposed MSCP landscape scheme combines native and exotic species that best match the local conditions and the site's functions. It is noted that while the sourcing of local provenance species is possible, this has several practical and performance issues associated with the suitability for these species to perform in urban landscape and the required landscape management. Further, there are practicality issues of timing planting material growth at a level appropriate with the staging of works. While some grass alternatives will do well in heavy shade, they do not generally respond well to any significant foot traffic which could be expected in this location and the use of synthetic turf has been limited to the most shaded areas and will have organic infill rubber so as to reduce the generation of heat. It is recommended that the existing planting palette is retained.

Issue	Proponent's Response
EES recommends the following conditions are included in the consent: • Landscaping for the project and replacement tree plantings shall use a diversity of local native provenance species from the vegetation community that once occurred in this locality (rather than plant exotic or non-local native species). • A suitably qualified bush regenerator is engaged to prepare and implement a revised Landscape Plan and Planting Palette. The Landscape Plan shall include details on: – the location of landscape areas and tree plantings – the native vegetation community (or communities) that once occurred in the locality – a list of local provenance species to be used in the landscaping – the quantity and location of plantings – the pot size of the trees to be planted – the area/space required to allow the planted trees to grow to maturity – plant maintenance regime. The planted vegetation must be regularly maintained and watered for 12 months following planting. Should any plant loss occur during the maintenance period the plants should be replaced by the same plant species. • The proponent must commence sourcing local native provenance plant species particularly trees and/or growing local provenance trees as soon as possible, so the trees to be planted are advanced in size to assist improve the urban tree canopy and local biodiversity EES recommended the RTS considers whether there are any other more natural alternatives to using synthetic turf in shaded areas of the site. In response, Appendix A indicates the areas proposed to have synthetic turf are appropriate given the expected use and degree of shade in the area (page 4). While it is preferable to use natural treatments, the issues with shading and expected use are noted where synthetic turf is proposed.	• This is contrary with LCC submission and has not be raised within the MW submission. At present the MSCP landscape works combines native and exotic species that best match the local conditions and the site's functions • The sourcing of local provenance plant species is possible however it has several practical and performance issues relating to it. Principally, a) the lack of suitability of many local provenance species to urban landscapes and landscape management (it should also be noted that the soils to be employed cannot readily match local bushland conditions which are hard to replicate) and b) the practicalities of timing planting material growth at a level appropriate to transfer to the hospital landscape with staging of the works. In general, local provenance species that need to be kept in a nursery in pots beyond a certain level of growth because of delays to a stage or project do not tend to thrive. • It is recommended that the existing planting palette is retained. • While some grass alternatives will do well in heavy shade, they do not generally respond to any significant foot traffic which could be expected in this location, the use of synthetic turf has been limited to the most shaded areas and will have an organic infill not rubber and therefore not generate as much heat
Tree Protection EES noted two Gleditsia triacanthos are proposed to be retained and protected during construction. The EES submission drew attention to the NSW Department of Primary Industries website (DPI NSW Weedwise) which indicates *Gleditsia triacanthos* is an invasive exotic tree species which spreads rapidly from seed. EES advised the proponent should clarify if seed from *Gleditsia triacanthos* could potentially spread to the Georges River and if so, EES recommended the two trees are removed from the site - unless it can be demonstrated that these trees are a non-invasive variety. In response, Appendix A notes the two *Gleditsia triacanthos* are located outside the scope of works under this SSD and that these trees provide a high level of amenity and any removal and replacement of these trees would be considered under the hospital's ongoing maintenance contract (page 5).	Noted. These trees are outside scope of this SSD application. It should be noted that these trees are currently potentially impacted adversely by the widening of the covered walkway and we are awaiting arboricultural advice from the current contractor. In reviewing the as built drawings it appears that these were specified in 1993 as a non-invasive cultivar.

Issue	Proponent's Response
Urban heat island effect EES recommended the SSD replaces any removed trees at a ratio greater than 1:1 and requested details on how many trees were previously removed from the site as part of the separate Infrastructure works. In response, Appendix A states the previous application removed approximately 40 trees in the vicinity of the multi storey car park (MSCP). It is unclear how many trees are proposed to be planted as part of this SSD as the RTS documents include different information: • the RTSADA states "the amended proposal will include an additional 8 trees at the on-grade car park" and "accordingly total of 30 trees will be planted as part of the multi storey car park application" (section 5.5, page 15,). • The revised LDR appears to show 41 replacement trees are proposed to be planted as part of the project compared to 24 trees in the previous LDR (LDR, page 14). The proponent needs clarify the total number of trees previously removed from the site which formed part of the separate Infrastructure works and the total number of trees to be planted by this SSD so that trees removed on the site are replaced at a ratio greater than 1:1. It is recommended the following condition is included in the consent: • *Trees previously removed from the SSD site as part of the separate Infrastructure works will be replaced at a ratio equal to or greater than 1:1.*	Tree removal conducted under a separate planning approval pathway as part of infrastructure works that occurred previously (Review of Environmental Factors 1 and 2 – Infrastructure Works) means that the MSCP area of the campus does not require any tree removal. In total, 81 trees were removed as part of REF 1 & REF 2 Infrastructure Works. A total of 15 replacement trees are being planted as part of REF 2 where they don't impact the rail corridor. The current MSCP design includes 55 new trees, bringing the total replacement tree numbers to 70. We have reviewed planting opportunities and have added an additional 8 in the MSCP on grade car park and an additional 18 in and around the MSCP building and forecourt, for a total of 26 additional trees. This totals to 96 replacement trees for 81 removed trees.
Flood The RTS acknowledges the issues previously highlighted by EES on lead time for evacuation, inherent risks for a shelter-in-place strategy at the MSCP and the development of an appropriate evacuation plan in consultation with local council and the NSW State Emergency Service. The EES concurs with the SSD subject to the consideration of these issues and the development of an appropriate emergency management and evacuation plan for the MSCP by the proponent.	Noted a Flood Evacuation Management Plan will be developed in consultation with Liverpool City Council and the SES.
Civil Aviation Safety Authority	
CASA has reviewed the information provided and has no objections to the amended proposed Multi Storey Car Park development. CASA notes that the maximum height of the proposed car park building has been revised to RL 35.7m. The Aviation Flight Path Report advised that the height of the Primary Helicopter Landing Site is RL 42.71m and the height of the Secondary Helicopter Landing Site is RL 34.70.	Noted.