

APPENDIX 4

Mitigations Table



Mitigation Measures	
Issue	Mitigation Measures
Access	Implement the recommendations provided at Section 2 of the Accessibility Report at Appendix 12 prior to obtaining the Construction Certificate documentation to ensure compliance with the relevant standards.
BCA	Provide performance solutions or implement the measures provided at Section 4 of the BCA Compliance Report at Appendix 11 into the Construction Certificate documentation to ensure compliance with the relevant standards.
ESD	Implement the measures and achieve the sustainability targets identified within the Ecologically Sustainable Design Report prepared by Stantec at Appendix 18.
Net Zero	<p>Implement the measures and achieve the targets identified within the Net Zero Statement prepared by DSA Consulting at Appendix 20, as summarised below:</p> <ul style="list-style-type: none"> The project will be designed and operated to eliminate use of on-site fossil fuels by the following approaches: <ol style="list-style-type: none"> Domestic hot water (DHW): DHW will be provided by heat pumps with 100% electricity usage. Space heating: Building space heating will be provided with 100% electricity usage. Kitchen cooking: There are no kitchens served by gas within the project. The building Fabric will be designed to achieve a minimum of 10% better than the Section J Deem To Satisfy (DTS) requirement in the National Construction Code (NCC) 2022, reducing the overall building services energy on mechanical heating and cooling. The building will be constructed to a high level of airtightness to minimise unwanted air infiltration, improving thermal performance and energy efficiency while maintaining indoor comfort. Overall building air tightness test will be complete. The building services will be designed to meet and exceed NCC 2022 Section J requirements. The estimated energy consumption modelling based on section J JV3 profile for the proposed new expansion with the proposed fabric and PV panel will be undertaken once the detailed design is finalised to prove that the energy consumption will be more efficient than 10% Deemed to Satisfy (DTS).
Contamination	<p>Implement the recommendations within Section 14 of the Preliminary Site Investigation at Appendix 29, as summarised below:</p> <ul style="list-style-type: none"> Soil/Waste Classification Given the proposed development will comprise the construction of a six-storey basement car park / oncology over most of the site, a waste classification will need to be conducted on all materials to be disposed off-site. Based on the preliminary results obtained in the PSI most of the fill identified on site may be classifiable as general solid waste and the underlying fill may be classifiable as virgin excavated natural material (VENM). In absence of further TCLP testing, the fill surrounding Bore 302 is preliminary classified as Hazardous Waste. Further sampling and analysis is required to provide a final waste classification of on-site materials. Hazardous Building Material Survey Given the identification of PACM in No. 23 Urunga Parade shed, eaves and front fence it is recommended that a hazardous building material survey be undertaken on existing site structures prior to their demolition. Following demolition of site structures, it is recommended that a site inspection of the



Mitigation Measures	
	<p>footprint of the buildings be undertaken to visually assess for possible HBM impact from the demolition process or for other potential for contamination to be present in these areas.</p> <ul style="list-style-type: none"> • Unexpected Finds Protocol <p>As a matter of due diligence, it is recommended that an unexpected finds protocol (UFP) be included and implemented as part of the site management plan during earthworks detailing the process by which any unexpected finds of potential environmental concern will be managed.</p>
Parking and Traffic	<p>Implement the following recommendations contained within the Transport Impact Assessment at Appendix 21:</p> <ul style="list-style-type: none"> • Bicycle parking is to be provided in accordance with DCP requirements • Green Travel Plan is to be implemented on-site
Green Travel Plan	<p>Implement the Green Travel Plan at Appendix 23, as well as the management procedures at Section 6 of the plan which are provided below (with references to relevant corresponding section numbering within the report):</p> <p>6.1 Management</p> <p>There is no standard methodology for the implementation and management of a GTP. However, the GTP shall be monitored for the first five years, as required, to ensure that it is achieving the desired benefits. The mode share targets set out in Section 4 are used in this regard to ensure there is an overall goal in the management of the GTP.</p> <p>The monitoring of the GTP will require travel surveys to be undertaken with a focus to establish travel patterns including mode share of trips to and from the site and identify any progress toward the mode share target and objectives. It is anticipated that the first set of surveys shall be undertaken within the first six months of occupation to obtain the baseline mode share of the site.</p> <p>The implementation of the GTP will be the responsibility of the appointed Travel Plan Coordinator (TPC), who will be responsible for developing, implementing and monitoring the GTP.</p> <p>There are several key components to the development and implementation of a successful GTP. These include:</p> <ul style="list-style-type: none"> • Communication – Good communication is an essential part of the GTP. It will be necessary to explain the reasons for adopting the plan to promote the benefits of sustainable transport options. • Commitment – GTPs involve changing established habits or providing the impetus for people to choose an alternative sustainable travel mode other than car use. To achieve cooperation, it is essential to promote positively the wider objectives and benefits of the Plan. This commitment includes the provision of the necessary resources to implement the plan, beginning with the TPC. • Consensus – It would be necessary to obtain broad support for the introduction of the GTP from employees. <p>Once the GTP has been implemented, it is important to maintain interest in the proposed scheme. Each new initiative in the Plan will need to be publicised and marketing of the plan should be undertaken to increase the effectiveness.</p> <p>6.2 Remedial Actions</p>



Mitigation Measures

	<p>A continuous review should take place to identify if any possible remedial actions can be adopted, should the modal share targets be unlikely to be achieved. Alternatively, the assigned TPC could coordinate with agencies such as Council and/ or TfNSW to canvass any other initiatives that can be practically adopted.</p> <p>6.3 Consultation</p> <p>The results of the GTP will be communicated to the employees of the Hospital via newsletters and email, as required. Subsequent surveys can be undertaken annually for a minimum of five years to monitor the travel patterns to/ from the site. The results of the survey will be included in the annual reporting updates.</p>
Geotechnical	<p>Implement the recommendations provided within the Geotechnical Investigation at Appendix 26, in particular the following (with references to relevant corresponding section numbering within the report):</p> <p>7.5.1: Dilapidation surveys and monitoring: are carried out on surrounding buildings and pavements that may be affected by the construction</p> <p>7.5.4: Vibration induced by excavation plant: During excavation, it will be necessary to use appropriate methods and equipment to keep ground vibrations at adjacent buildings within acceptable limits. From current knowledge of site conditions and proposed works, and subject to the results of building condition surveys and on-site vibration trials (including vibration attenuation rates and dominant vibration frequencies of excavation plant), the standards, guidelines and limits outlined in Appendix F (of the Geotechnical report) are considered appropriate for management of ground vibration generated by the proposed works. Approximate buffer distances given in Table 6 should be maintained between various types of excavation plant and the foundations of the adjacent buildings, to reduce the likelihood of vibrations exceeding the Provisional Allowed Vibration Limit. Excavation process recommended to be implemented.</p> <p>7.5.5 Dust generation: monitoring of air pollutants (particulates – deposited matter) in accordance with the NSW Department of Environment and Conservation (DEC 2005) Approved Methods should be expected at the site. Dust suppression methods are to be incorporated into the earthworks contractor's construction methodology.</p> <p>7.5.6 Disposal of excavated materials and 7.6 Groundwater: as per the recommendations of the separate reports (by Douglas Partners).</p> <p>7.7 Excavation support: address the recommendations within relating to soil profile; fractured rock; fresh rock; and bater deterioration.</p> <p>7.8 -7.12: The design is to address the recommendations relating to anchors; retaining structures; footings; basement ground slabs; and mobile cranes.</p> <p>8. Geotechnical requirements for additional borehole investigation:</p> <ul style="list-style-type: none"> To confirm the rock quality assumptions and the subsurface profile/s for Basement Levels 5 and 6, additional deep cored boreholes will be required at the site. Borehole depths should be targeted considering the proposed footing dimensions, founding depths, the depth of influence of the footing on the subsurface profile and any local excavations such as lift pits, sumps, etc.

Mitigation Measures

	<ul style="list-style-type: none"> Following the completion of additional deep cored boreholes, the geotechnical model adopted in this report, the design parameters and advice must be reviewed and confirmed by Douglas. <p>9. Geotechnical review: A geotechnical review of the design drawings be undertaken to ensure that the geotechnical requirements of the Geotechnical report have been incorporated in the design.</p> <p>10. Geotechnical requirements during construction: Geotechnical and environmental aspects that are discussed in this report and which will require input during construction are summarised below:</p> <ul style="list-style-type: none"> Vibration monitoring during excavation including foundation construction. Inspection during pile construction for excavation support/shoring by a geotechnical consultant to provide validation that the founding conditions are consistent with the design. Inspection of excavations to be made by an experienced engineering geologist or geotechnical engineer during the course of bulk excavation work at maximum excavation depth intervals of 1.5 m in the soil profile and 2 m within the underlying bedrock. Inspection during anchor construction by a geotechnical consultant to provide validation that the shaft conditions are consistent with the design bond stress. Inspections during foundation construction by a geotechnical consultant to provide validation that the bearing pressures and site conditions encountered are consistent with the foundation design. Spoon testing or coring may also be required should high bearing pressures be required (i.e. Class I Sandstone). Working platform assessments for mobile crane lifts. <p>Notwithstanding the above-mentioned items, the developer and the building contractor should also be aware of any conditions in the development consent that require professional input during design and construction.</p>
Heritage	<p>As indicated in the Statement of Heritage Impact at Appendix 32, the proposal has mitigated its impact to the heritage item at No. 366 Crown Street located within the subject development site, and the heritage listed landscape item in the vicinity ('Moreton Bay Fig' at Beatson Park to the west) in the following ways:</p> <ul style="list-style-type: none"> By retaining the significant form and scale of the heritage item at No. 366 Crown Street. By sensitively siting the extension to the rear outside of significant view corridors towards heritage items. By stepping down the height of the extension to reduce its visual dominance. By locating the basement well outside the curtilage of any heritage impacts. By introducing new soft landscaping to help soften the built form.
Noise and Vibration	<p>Implement the recommendations provided within the Noise and Vibration Impact Assessment at Appendix 24, in particular the following (with references to relevant corresponding section numbering within the report):</p> <ul style="list-style-type: none"> 5.1.1 General Mechanical Equipment <ul style="list-style-type: none"> Where possible, locate plant as far away from possible noise sensitive receivers as practical to minimise the aggregate noise level.

Mitigation Measures

- Select low noise mechanical equipment.
- Acoustic louvres or solid barriers may be required, surrounding plant items on the rooftop or adjacent to noise sensitive receivers. This mitigation will likely be driven by internal noise criteria within the residential spaces of the proposed development.
- Where possible, locate noisy plant within an enclosed plant space.
- Carpark exhaust is to be included in the mechanical assessment. Carpark exhaust fans are typically located in a plant room in a basement allowing for sufficient ductwork to allow for acoustic internal lining or an attenuator for supply and exhaust to meet environmental noise criteria.

- 5.3.3 - Install an acoustic barrier to the location shown in Figure 4 of the Report. The barrier shall be at least 2.1m tall, when measured from the driveway elevation. The barrier will be constructed from a material with a surface density no less than 17kg/m² such as a lapped and capped timber fence and be free from any air gaps. The minimum extent of the barrier has been presented in Figure 4.
- 5.4 – Achieve the minimum recommended glazing selection for the façades of the proposed development is presented Table 5-9 of the Report.
- 6.3.4 - In order to satisfy the design criteria, a 2.4m high Class A hoarding is required to be erected around all sides of the construction site. The hoarding is to be constructed from a material with a surface density no less than 10kg/m² such as 20mm plywood and be free of any gaps that would impact the acoustic integrity of the barrier.

Furthermore, continuous long-term internal noise monitoring is recommended within affected Ward areas of the existing hospital (where feasible) in order to manage the construction noise levels. The noise monitor(s) is to provide real-time SMS and email alerts to the relevant parties including the acoustic engineer, site manager and project manager on any noise triggered event as determined by the acoustic engineer.

Where noise criteria are being exceeded or in response to valid complaints, noisy construction works are to cease until the noise levels are below the trigger threshold. The contractor is to apply reasonable and feasible mitigation measures as detailed in Section 6.5 to reduce noise levels below the trigger threshold.

- 6.5.1 Noise
 - If a process that generates significant noise levels cannot be avoided, the amount of noise reaching the receiver should be minimized. Two ways of achieving this are to either increase the distance between the noise source and the receiver or to introduce noise reduction measures such as screens.

Physical methods to reduce the transmission of noise between the site works and residences, or other sensitive land uses, are generally suited to works where there is longer-term exposure to the noise. Practices that will reduce noise from the site include:

 - Increasing the distance between noise sources and sensitive receivers.
 - Reducing the line-of-sight noise transmission to residences or other sensitive land uses using temporary barriers (stockpiles, shipping containers and site office transportable can be effective barriers).
 - Constructing barriers that are part of the project design early in the project to introduce the mitigation of site noise.
 - Installing purpose-built noise barriers, acoustic sheds and enclosures.
- 6.5.2 Screening
 - On sites where distance is limited, screening of noise may be beneficial or even the only way to reduce construction noise impacts on the nearby receivers. Below, screening options for various situations have been introduced. Constructing and utilising these screening methods should be taken into account already during the planning stages.

Mitigation Measures

- Temporary buildings: One option to introduce screening is to position structures such as stores, storage piles, site offices and other temporary buildings between the noisiest part of the site and the nearest dwellings. Due to shielding provided by these buildings, some of the noise emission from the site can be reduced. If the buildings are occupied, however, sound insulation measures may be necessary to protect site workers inside the buildings.
 - Hoarding: Another way of implementing screening is to build hoarding that includes a site office on an elevated structure. This option offers superior noise reduction when compared with a standard, simple hoarding. The acoustic performance is further enhanced when the hoarding is a continuous barrier.
 - Partial building structures: On some sites, partially completed or demolished buildings can be used as noise shields for certain equipment. A noisy, stationary plant can be placed in a basement, the shell of which has been completed, provided reverberant noise can be controlled. Where compressors or generators are used in closed areas, it is also necessary to ensure that the exhaust gases are discharged directly to the outside air and that there is good cross-ventilation to prevent the build-up of poisonous carbon monoxide fumes and to allow an adequate air supply to maintain efficiency when operating the equipment.
 - Earth mounds and embankments: Where constructing noise barriers and using partial building shells is not practical, a worthwhile reduction in noise can be obtained by siting the plant behind and as close as possible to mounds of earth, which may effectively screen any noise sensitive areas from the plant. These mounds can often be designed into the construction schedule or site arrangement for future landscaping.
 - Long, temporary earth embankments can provide quite an effective noise screen for mobile equipment moving, for example, on a haulage road. When the earthworks are complete, the earth mounds should be removed, if possible, with smaller quieter excavators. A noise barrier like this may be a more reliable method of noise control than the imposition of restrictions on throttle settings. Where earth noise barriers are not practical due to lack of space, consideration should be given to the possibility of constructing temporary screens from wood or any equivalent material in surface density.
 - Equipment operating 24h: When it comes to water pumps, fans and other plant equipment that operate on a 24-hour basis, they may not be an irritating source of noise during the day but can be problematic at night. They should therefore be effectively screened by either situating them behind a noise barrier or by being positioned in a trench or a hollow in the ground. Again, generated reverberant noise must be minimised and adequate ventilation should be ensured.
- 6.5.3 Crane (diesel operated)
An appropriate silencer on the muffler and acoustic screen around the engine bay are recommended to attenuate the noise emission.
 - 6.5.4 Reversing and warning alarms
 - Community complaints often involve the intrusive noise of alarms commonly used to provide a safe system of work for vehicles operating on a site. Beeper reversing alarm noise is generally tonal and may cause annoyance at significant distances from the work site.
 - There are alternative warning alarms capable of providing a safe system of work that are equal to or better than the traditional 'beeper', while also reducing environmental noise impacts. The following alternatives should be considered for use on construction sites as appropriate:
 - (a) Broadband audible alarms incorporating a wide range of sound frequencies (as opposed to the tonal frequency 'beep') are less intrusive when heard in the neighbourhood.
 - (b) Variable-level alarms reduce the emitted noise levels by detecting the background noise level and adjusting the alarm level accordingly.

Mitigation Measures	
	<p>(c) Non-audible warning systems (e.g. flashing lights, reversing cameras) may also be employed, providing safety considerations, are not compromised.</p> <p>(d) Proximity alarms that use sensors to determine the distance from objects, such as people or structures, and generate an audible alarm in cabin for the driver.</p> <p>(e) Spotters or observers.</p> <p>The above methods should be combined, where appropriate.</p> <ul style="list-style-type: none"> • Implement the Noise & Vibration Monitoring Strategy at Section 6 of the Report.
Community	<ul style="list-style-type: none"> • Consider the areas of concern raised by the public during the initial community consultation period, as summarised at Section 5 of the Engagement Report at Appendix 36. • There will be opportunities during the assessment of the SSD for the community to provide more feedback during the notification and exhibition process. The applicant will prepare a Response to Submissions report to address all issues raised during the assessment process. • Feedback received from the community during assessment, and if approval is granted, during construction and operation, will be considered and responded to accordingly.
Safety	<p>Implement the recommendations of the CPTED Report at Appendix 15 which are as follows:</p> <p>Access and Surveillance</p> <ul style="list-style-type: none"> • Personnel access to the site is via staff and public access points with a pass swipe for staff. All vehicular access is monitored via CCTV and boom gate systems • 1.8m perimeter fencing is provided. and are in good condition. Vehicular access via boom gate and pedestrian access turnstile to be installed • Low glare security lighting is provided and will be extended to new facilities • The primary facility will be operating 24 hours, seven days a week with constant medical staff increasing passive surveillance <p>Territorial Reinforcement and Target Hardening</p> <ul style="list-style-type: none"> • Appropriate warning signs and wayfinding map will be displayed at key entry points to assist with way finding and territorial reinforcement • CCTV system installed on site. Passive surveillance will also be provided by 24/7 staffing requirements of the hospital. • No window barring will be provided. Ground level shopfront façades will be provided with appropriate glazing and secure doors. This will meet standard retail/commercial requirements. <p>Management and Maintenance</p> <ul style="list-style-type: none"> • Graffiti will be removed as soon as practicable, should there be an occurrence
Construction	<p>Implement the following recommendations at Section 5 of the Construction Traffic Management Plan at Appendix 22 (with corresponding numbering within the report):</p> <p>5.1 General Management Measures</p>

Mitigation Measures

Several management measures have been proposed to facilitate the construction works while maintaining safe environment for road users and minimise construction impacts on the surrounding locality.

This includes, but not limited to the following management measures:

- Minimising major delivery and truck volumes during the network peak hours and school pick-up/ drop-off hours
- Provision of traffic controllers to manage the interface between trucks, pedestrians, cyclists, and general traffic near the site access
- Installation of hoarding and traffic devices to create separation between construction works and road users
- Maintaining pedestrian paths and traffic flow past the site
- Maintaining bus service operation in the vicinity of site
- Installation of traffic signage to provide advance warning and inform road users of the changes in road conditions
- Encourage workers to travel to/ from site via public transport and active transport.

5.2 Traffic Guidance Scheme

A Traffic Guidance Scheme (TGS, previously referred to as Traffic Control Plan) has been prepared and designed in accordance with TfNSW Traffic Control at Works Sites manual. The TGS plan is provided in Appendix B.

Traffic controllers would be assigned on-site to manage and assist truck movements associated with construction works, and assist in finding a suitable gap in traffic and pedestrian movements to allow trucks to enter and/ or exit the site. However, temporary holding traffic on public road is not expected.

Advisory road signage would be installed on the surrounding streets to warn drivers approaching the site location of trucks entering and exiting the site.

All advisory signage would be installed in accordance with AS 1742.3 *Manual of Uniform Traffic Control Devices – Traffic Control Devices for Works on Roads* and the TfNSW *Traffic Control at Worksites Manual*. Signage would be installed and maintained throughout the construction works, as required. Signage would be removed during out of hours when no works are being undertaken.

5.3 Monitoring of the Plan

Monitoring of this CTMP will be undertaken by the Contractor during weekly inspections of construction activities to monitor conformance with the requirements of relevant guidelines and this Plan. Weekly inspections will focus on the following key issues:

- Safe movement of traffic, including traffic entering and exiting the work site and traffic at key areas impacted by the works
- Visibility of signage and barriers
- Safe work and driving environment
- Safety of pedestrians, cyclists and properties around the work site
- Impacts on the surrounding public transport services.

5.4 Site Inspections and Record Keeping

A daily inspection before the start of the construction works would be carried out to ensure that conditions accord with those stipulated in the Plan and prevent any potential hazards. Any issues and identified risks would be recorded and dealt with, as they occur.

Mitigation Measures

5.5 Hazard and Incident Register

A hazard and incident register relating to safety, environment and process during the construction phase shall be maintained by the Contractor as part of the Site Work, Health and Safety (WHS) Management Plan. The Site WHS Management Plan shall detail the responsibilities specific to all stakeholders involved in the construction phase, including:

- The principal contractor
- Construction Manager
- Site Supervisor
- Work Health and Safety (WHS) Manager/ Coordinator
- Workers, sub-contractors and visitors.

Hazards are to be either addressed by the worker who first observes it, or if that is not reasonably practicable and safe, then it must be reported to the Construction Manager or Supervisor. This shall apply to all workers including contractors and sub-contractors. All injuries are to be reported in the Injuries Register which shall be kept in the site office or with the primary first aid kit. A copy of the page shall be forwarded to the WHS Team within 24 hours of the injury and, where required, it shall be accompanied by a completed Incident Report Form.

As soon as is reasonably practicable, an Incident Report Form shall be submitted to the WHS Team for any near miss, damage or environmental incidents. The WHS Team shall then deal with all matters accordingly.

5.6 Worker Induction Training

All construction workers employed at the site by the Contractor shall be required to undergo a site induction training.

The induction shall include nominated truck haulage routes to and from the proposed work site for site personnel and construction vehicles, along with standard environmental, WH&S, driver protocols and emergency protocols. This training would be the responsibility of the Contractor.

5.7 Vehicular Access

Protocols must be in place to ensure the following:

- Truck drivers shall radio the site personnel on approach to the site to ensure access to the site is available.
- General vehicular access along all public roads would be maintained at all times.
- Trucks would enter and exit the site in a forward direction. No reversing movements in/out of the site would be permitted.
- Truck drivers would not queue on public roads on approach to the site.
- Any materials loaded on the trucks would be fully covered to avoid spillage. Similarly, vehicle loads would be covered when hauling to/ from the site.
- Any material spill onto the road would be rectified by qualified site personnel using appropriate equipment, subject to suitable WHS provision.

5.8 Nominated Haulage Routes



Mitigation Measures	
	<p>Protocols must be in place to ensure the following:</p> <ul style="list-style-type: none">• Site induction shall include procedures for entering and exiting the site.• Truck drivers would adhere to the designated truck routes.• Truck drivers shall be aware of pedestrians and cyclists surrounding the vicinity of the site.• Truck drivers shall be aware of existing sign posted speed limits.• Road safety is promoted and truck drivers shall obey the NSW road rules at all times.• Truck drivers are not driving under the influence of drugs and alcohol.
Waste	<p>Implement the Waste Management Plan at Appendix 30 specifically:</p> <p>Demolition and Construction</p> <p>Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or otherwise unsuitable for reuse or recycling.</p> <p>Waste storage during demolition, excavation, and construction works is to be stockpile excavated and reusable materials, as well as the placement of skip bins for the separation of demolished and excess building materials for recycling. A skip bin (or bins) for residual waste and/or contaminated material will also be made available at the site for disposal where necessary. Skip bins may require alternative placement across C&D operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.</p> <p>A waste storage area shall be designated by the demolition and construction contractor and shall be sufficient to store the various waste streams expected to be generated during operations. Waste storage areas will be kept clear to maintain vehicular access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons.</p> <p>Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.</p> <p>This WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service provider). Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or building manager. A logbook that records waste management and collection will be maintained on site, with entries including:</p> <ul style="list-style-type: none">• Time and date of waste collections;• Description of waste type and quantity;• Waste/processing facility that will receive the waste; and• Vehicle registration and company name of collection contractor.



Mitigation Measures

	<p>Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.</p> <p>Operational Waste</p> <p>Medical waste: Mobile bins, trolleys and waste bags will be utilised in conjunction with sharps containers to manage medical-related waste as defined in Table 5. Detailed management requirements under relevant regulations and standards (refer Appendix B of WMP). All clinical waste stream bags and storage receptacles should be in a staff-only area to avoid access by the general public.</p> <p>Waste handling equipment: Waste bags should be used where applicable for the interim storage of general waste and clinical waste prior to disposal in mobile garbage bags (MGBs) stored in disposal rooms for transfer and servicing from the main building and BOH area for servicing. The methods and processes for MGBs within Section 3.5 of the WMP are to be implemented, especially in relation to clinical waste.</p> <p>Interim Disposal Rooms: Interim disposal rooms are strategically located across floors for the disposal of waste from each department and the hospital as a whole. Interim disposal rooms will be used to store waste prior to its transfer to the main waste storage and loading area, located on the ground with access from Urunga Parade.</p> <p>Waste Storage Area: The consolidated waste storage area is located on the ground floor of the development, divided into two sections to facilitate efficient collection and safe handling. Both waste rooms are capable of storing the required waste management and have a total area of 87m². A 163m² loading dock has been provided to enable safe and efficient waste collection.</p> <p>Waste Handling Workflow: is to be carried out in accordance with Section 3.7 of the WMP.</p> <p>Waste Management Systems: Hospital management and cleaning/maintenance services will be responsible for the monitoring of site waste management systems and ensuring resource recovery and contamination reduction methods are employed. Should any issues impacting on the operational efficiency, safety and suitability of waste management be identified, site cleaning staff should inform hospital management and/or the WMC for appropriate actions to be taken. Waste Management Systems shall be carried out in accordance with Section 4 of the WMP.</p>
Contamination	<p>Implement the conditions and recommendations within the PSI at Appendix 29, being</p> <p>Soil/Waste Classification</p> <p>Given the proposed development will comprise the construction of a six-storey basement car park / oncology over most of the site, a waste classification will need to be conducted on all materials to be disposed off-site. Based on the preliminary results obtained in the PSI most of the fill identified on site may be classifiable as general solid waste and the underlying fill may be classifiable as virgin excavated natural material (VENM). In absence of further TCLP testing, the fill surrounding Bore 302 is preliminary classified as Hazardous Waste. Further sampling and analysis is required to provide a final waste classification of on-site materials.</p>

Mitigation Measures

Further considerations and conditions for classification:

- The preliminary classification (identified in the Psi) is not to be used for waste disposal. Further work is required before a formal classification suitable for waste disposal can be provided. The waste classification is to be confirmed by a qualified environmental consultant including visual and analytical assessments.
- If any fill / soil / rock is encountered which is different to that sampled and tested or exhibit signs of potential contamination (e.g. anthropogenic inclusions, staining or odours) this waste classification does not apply and the advice of a qualified environmental consultant should be sought.
- If during excavation the natural in situ soil / rock is found to contain possible signs of contamination or is cross-contaminated with any non-VENM soil or rock the excavated natural soil / rock cannot be classified as VENM. In this regard, it is recommended that care should be taken during the bulk excavation of the VENM to prevent cross contamination between the VENM and non-VENM materials.
- Both the receiving site and the site disposing of the fill / soil / rock should satisfy the requirements of the licence of the receiving site before disposal of the fill / soil / rock is undertaken. Note that appropriate prior arrangement with the receiving site/relevant authorities should be obtained prior to the disposal of any fill / soil / rock off site. The receiving site should check to ensure that the fill / soil / rock received matches the description provided in this report and contains no cross contamination. The handling, transport and disposal of the waste should be conducted in accordance with the regulatory and statutory requirements.

Hazardous Building Material Survey

Given the identification of PACM in No. 23 Urunga Parade shed, eaves and front fence it is recommended that a hazardous building material survey be undertaken on existing site structures prior to their demolition. Following demolition of site structures, it is recommended that a site inspection of the footprint of the buildings be undertaken to visually assess for possible HBM impact from the demolition process or for other potential for contamination to be present in these areas.

Unexpected Finds Protocol

As a matter of due diligence, it is recommended that an unexpected finds protocol (UFP) be included and implemented as part of the site management plan during earthworks detailing the process by which any unexpected finds of potential environmental concern will be managed.

Aboriginal Heritage

Implement the following measures recommended in the ACHAR at Appendix 31 that can be included as conditions of consent:

Ongoing consultation with registered Aboriginal parties: Following the Unexpected finds policy below, consultation with Aboriginal parties would continue as part of the consultation that accompanies the Unexpected finds procedures.

Unexpected finds: An unexpected finds policy would be implemented in the event of any unexpected finds of Aboriginal sites, objects, or archaeological deposits being identified during construction. An unexpected archaeological finds policy would involve the following actions:

- Stop work within the affected area, protect the potential archaeological find, and inform environment staff or supervisor

Mitigation Measures

- Contact a suitably qualified archaeologist to assess the potential archaeological find
 - If Aboriginal archaeological material is identified, works in the area should cease, and NSW Heritage should be informed. Further archaeological mitigation may be required prior to works recommencing
 - If human remains are found:
 - Immediately cease all work at the particular location
 - Notify site manager and project archaeologist
 - Notify NSW Police
 - Notify Heritage NSW on the Environment Line 131555 as soon as practicable and provide details of the remains and their locations
- Notify the Illawarra LALC, the South Coast People and the Registered Aboriginal Parties who participated in the consultation process for the ACHAR.

Infrastructure Upgrades

Implement the following measures recommended in the Infrastructure Management Plan at Appendix 34 that can be included as conditions of consent:

Electrical Services

Energy Metering: Additional load meters will be provided to BCA Section J8 requirements, and to any additional heavy power load equipment systems. Coordination of interconnection to mechanical systems BMS will be]required.

Monitoring Systems: Energy information is proposed to be monitored through an electronic system capable of capturing and processing the data produced by the installed energy meters to meet BCA Section J8.3.

Glare: will be reduced where possible and “best practice” methods put into place to minimise glare impact issues.

Light Pollution to Neighbouring Properties – Lighting Strategy (External and Carpark Lighting): An external lighting system will be required for the proposed new extensions, including for obtrusive effects to neighbouring properties, to external areas and light spill to the night sky as detailed in Section 2.2 of the report.

Substation: a new feeder will be required to the hospital expansion due to insufficient capacity on the existing feeders servicing the area. The existing feeders will likely be retained that currently service the loads as existing. Final supply arrangements are required to be negotiated by the successful contractor with the local supply authority. Demand calculation will be revisited upon confirmation of final internal make-up/usage of building. Final substation arrangements and design will be carried out by an authorised Level 3 Accredited Services Provider (ASP) during the detailed design phases of the project.

Main Switchboard: The extension is required to be serviced via site Main Switchboard/s (MSBs). Main switchboards (including main diesel generator switchboard) are to be house in 2hr fire rated dedicated rooms to satisfy BCA and AS3000 requirements. Interface to any solar array system will be implemented into the main switchboard and/or distribution system.



Mitigation Measures	
	<p>Diesel Generation System: An additional generator will be required for the new extension in accordance with Section 2.6 of the report.</p> <p>Consumers mains, submains from standby generator, submains from generator switchboard, BCA essential supplies and hospital essential supplies are to provided as indicated in Section 2.8 of the report.</p> <p>General distribution requirements: are to be provided as indicated in Section 2.9 of the report.</p> <p>ESD Provisions: ESD measures will be provided (eg. rainwater reuse system) and monitored.</p> <p><u>Hydraulic Services</u></p> <p>All services are to be installed to meet (but not limited to) the requirements of the codes, authorities listed in Section 3.1 of the report.</p> <p>If additional gas loads for the proposed extension are required, then existing gas meter / regulator assembly is to be replaced with new natural gas regulator and meter assembly would be installed to meet the existing gas loads and the proposed extension gas loads.</p> <p>Meters and Monitoring Systems:</p> <ul style="list-style-type: none"> • Meters will be located in an area that allows remote monitoring and safe maintenance by facilities managers and other facilities management personnel. • Water and natural gas consumption shall be monitored through an electronic system capable of capturing and processing the data produced by the sub meters to meet ESD requirements. Hydraulic plant and equipment shall also be monitored for faults or failures. The automatic monitoring system must be capable of: <ul style="list-style-type: none"> ○ Collecting data from all meters <p>Alert to any faults or failures of hydraulic plant and equipment</p>
Wind	<p>Implement the following measures recommended in the Wind Impact Assessment at Appendix 13:</p> <ul style="list-style-type: none"> • The balcony located on Level 2 are mostly sheltered by the building above and, would be expected to be within the recommended walking comfort criterion. The rooftop sky-garden on Level 7 is exposed to most of wind directions and wind levels will be within the recommended standing comfort criterion with the proposed design (1.5m balustrade). However, if the calmer wind conditions (Sitting criterion) is required, the balustrade height of ≥ 1.8 m is recommended (Figure 11).

