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## Safety in Design Report

Seniors Housing

66 – 70 Pegler Avenue, South Granville NSW

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# Document Control Record

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## Document Register

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## Approval

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## 2 Introduction

### 2.1 Purpose of Report

This report and the associated process are intended to satisfy Section 274 of the Work, Health and Safety Act 2011, Section 21 (4) and also Clause 61(3) and Clause 295 of the Work Health and Safety Regulation 2017.

**WHERE APPLICABLE, A COPY OF THIS SAFETY IN DESIGN REPORT TO PROVIDED TO TENDERERS AND ASSET OWNER(S)**

### 2.2 Limitations

The report is prepared at building design stage and is intended to identify the major and reasonably foreseeable risks, which may impact on the safety of parties involved in:

- the construction of the structure or demolition of existing structures
- the use of the structure.
- the maintenance of the structure.
- any future modifications of the structure.
- the demolition of the structure.

### 2.3 Reference Legislation & Codes

- Work Health and Safety Act 2011
- NSW Work Health and Safety Amendment Act 2011
- NSW Work Health and Safety Regulation 2017
- National Construction Code of Australia
- Australian Standards
- SafeWork NSW codes of practice

### 3 Safety in Design Matrix

| Safety in Design Matrix |  |   |   |  |   |
|-------------------------|--|---|---|--|---|
| Item                    | What is the Risk or Issue (Identification of Hazards)                                      | Likelihood of hazard or risk occurring + Phase:   | Assess Risk of Injury or Degree of Harm arising from each Identified Hazard | Knowledge of hazard/risk and ways/availability to eliminate or minimise the hazard/risk  | Any Significant Cost implications to eliminate or minimise the hazard/risks |
| 01                      | Survey Reviewed<br>e.g. power pole locations, services identification, DBYD                | Low, providing adequate protection to statutory codes is implemented notably during construction<br>Contractor to undertake all DBYD enquiries                                    | Low providing Statutory Protection provided                                 | Contractor to provide appropriate barriers/screening.<br>For power line/poles adequate isolation/ protection                               | Standard Preliminary Costs for this type of development                     |
| 02                      | Existing Trees – removed or protected  | Low,<br>Contractor to provide adequate protection and identify all Tree Protection Zones<br><b>Note – take care to retained trees #1 &amp; 2 and trees to be relocated #3 - 5</b> | Low based on adequate protection being provided                             | Contractor to provide adequate protection and identify all Tree Protection Zone. Comply with any arborist's reports and council conditions | Standard protection costs required as necessary.                            |
| 03                      | Section 10.7 Certificate reviewed.<br>e.g. Flood Prone Land, Bush Fires<br>Mine Subsidence | Low<br>No major issues noted  | Low based on compliance with Statutory Conditions                           |  | No significant additional cost as no below-ground basement                  |

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| 04 | Geotech Report & Conditions reviewed               | Geo-technical and contamination. Refer Report   | Potential unforeseen geo-technical conditions cost escalations during the construction phase.                                  | Contractor to monitor geo-technical conditions and advise if any unexpected circumstances or engage geotechnical engineer to complete further site investigations.<br>Contractor to engage experienced earthworks company and ensure all personnel have completed Safe Work Method Statement for their particular role. | Additional site investigations if conducted will incur additional cost.   |
| 05 | Site ground contamination assessment reviewed      | Low for ground contamination based on Section 10.7 Certificate  | Potential unforeseen soil contamination cost escalations during the construction phase.  | Any asbestos or other contamination encountered in ground during works to be removed in accordance with statutory hazardous materials handling  | Standard Preliminary Costs for this type of development for undertaking assessment  |
| 06 | Asbestos   | High probability of asbestos within existing dwellings  | High   | Removal of Asbestos during the demolition stage to comply with statutory hazardous materials handling   | Minor additional cost for professional hygienist and disposal   |
| 07 | Proximity to adjoining property/buildings/ fencing | Low – Protection of the adjoining ground level required.  | Low  | Low, but Contractor must provide adequate shoring and protection of footpath and all street services  | Some additional cost with location of low height retaining walls on / near common side boundaries. Also, exact location and protection to all street services required. |
| 08 | Storm water Management incl. Overland Flows        | Low/Medium with Overland flow – Contractor must monitor any severe weather warnings during construction, so any temporary measures are implemented to ensure site safety and control of storm water | Low/Medium - Environmental and public health and safety relating to management of stormwater runoff during construction phase. | Ensure that sedimentation controls are installed prior to commencing works on site.<br>Consider implications of overland rainwater flows during construction phase  | Standard Preliminary Costs for this type of development.  |

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| 09 | Cultural significance  | Low, as not aware of any cultural significant items   | Not aware of any cultural significance at this stage   | Refer any specialist consultant advice and council conditions   | No significant cost   |
| 10 | Heritage significance  | Low, as not aware of any heritage items   | Not aware of any heritage significance at this stage   | Refer any specialist consultant advice and council conditions   | No significant cost   |
| 11 | ELECTRICAL SAFETY<br><br>- Earthing of electrical installations<br>- Location of underground and overhead power cables<br>- Protection of leads/cables<br>- Number + location power points<br>- Number + location lighting | Medium, ensure all services are disconnected and never work on equipment live to avoid Electrocutation.   | Only qualified personnel to work on electrical equipment. Ensure all electrical equipment are tested and tagged. All electrical circuits to be RCD protected in accordance with AS3000.  | Obtain all as-built information and DBYD enquires prior to doing any works.   | No additional significant cost envisaged for safety component |
| 12 | FIRE AND EMERGENCIES<br><br>- Fire risks<br>- Fire detection and fire fighting<br>-Emergency routes and exits<br>- Access for and structural capacity to carry fire tenders<br>- Other emergency facilities                | Low based on compliance with the BCA, relevant Australian Standards, and any Fire Engineering Reports.  | Low/medium risk to occupants within the immediate parts of the building that are fire affected.  | Ensure all required fire safety systems are maintained in accordance with relevant Australian Standards and certified annually to legislative requirements.   | No additional significant cost envisaged for safety component |
| 13 | MOVEMENT OF PEOPLE AND MATERIALS<br><br>- Safe access and egress, including for people with disability<br>-Traffic management<br>- Loading bays and ramps<br>- Safe crossings<br>- Exclusion zones<br>- Site security      | Low/Medium<br>The Contractor to comply with Authority Conditions of Approval.<br>A full Site Construction Management Plan to be submitted for approval. | Risk that construction vehicles entering and leaving the site may cause disruption to traffic and pedestrian activities along street.<br>Risk of injury to general public walking / travelling past the site during demolition / construction. | Ensure that a construction traffic management plan is prepared and implemented by the head contractor.<br>Ensure that head contractor employee / staff to monitor vehicle access and egress at all times. | Standard Preliminary Costs for this type of development       |

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| 14 | Parking Areas   | Low/Medium with regard to the traffic movement at completion.  | Whilst potentially the degree of harm is high as it involves motor vehicles, it is still a standard controlled private parking environment   | As necessary, install appropriate wheel stops/low kerbs, separate pedestrian access, provide sightlines and appropriate signage (e.g. speed limits, directional arrows)<br><br><b>Crash Bollards to be considered in front of low retaining wall to stop vehicles</b> | No additional significant cost envisaged for safety component above standard requirements. |
| 15 | WORKING ENVIRONMENT<br><br>- Ventilation for thermal comfort and general air quality and specific ventilation requirements for<br>- Work to be performed on premises<br>- Temperature<br>- Lighting including plant rooms<br>-Acoustic properties noise control, e.g., noise isolation, insulation absorption<br>- Seating<br>- Floor surfaces to prevent slips/ trips<br>- Space for occupants | Low/Medium, Navigation in poorly light areas   | Ensure that lighting on site complies with AS1680, mechanical design complies with AS 1668.2 and acoustic report, even during construction phase.  | Contractor to ensure installation and construction comply with all relevant standards and codes.  | No additional significant cost envisaged for safety component                              |
| 16 | PLANT<br><br>- Tower crane locations, loading and unloading<br>- Mobile crane loads on slabs<br>- Plant and machinery installed in a building or structure<br>- Materials handling plant + equipment<br>- Maintenance access to plant + equip.<br>- The guarding of plant and machinery<br>- Lift installations   | Low/Medium, manual transporting components such as ducting, pipe work, equipment, which may cause physical and musculoskeletal injuries. | Ensure all items are lifted in accordance with known safe lifting techniques. Use mechanical handling equipment, e.g. lifts. Implement OH&S procedures in accordance with the standards. Wear appropriate PPE. | Contractor to ensure all affected staff are wearing appropriate PPE before work takes place. Contractor to develop JSA's for manual handling works. Contractor to utilise lifting equipment.  | No additional significant cost envisaged for safety component                              |



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| 17 | <p>AMENITIES AND FACILITIES</p> <p>Access to various amenities and facilities such as storage, first aid rooms/sick rooms, restrooms, meal &amp; accommodation areas and drinking water</p>   | Low based on Contractor complying with Statutory Conditions and Requirements including the WH&S Act and Regulation | Risk and Degree of harm minimal as the Contractor would provide these standard requirements                      | Contractor to provide all statutory amenities /facilities for a construction site   | Standard Preliminary Costs for this type of development – but costs to be allowed for possible storage/sheds over footpath as space is limited on site (subject to Statutory approvals) |
| 18 | <p>EARTHWORKS</p> <ul style="list-style-type: none"> <li>- Excavations (for example, risks from earth collapsing or engulfment)</li> <li>- Location of underground services</li> <li>- Use of heavy machinery in the cut and fill of the site</li> </ul>  | Low based on Contractor complying with Statutory Conditions and Requirements including the WH&S Act and Regulation | Risk and Degree of harm minimal as long as the Contractor produces and complies with Safe Work Method Statement. | <p>The Contractor to ensure the following as follows:</p> <ul style="list-style-type: none"> <li>i) All sub-consultants are fully accredited and experienced with all excavation work.</li> <li>ii) Fully qualified and experienced Geotech Eng. and Struct. Eng. review/advise with all aspects of the excavation</li> <li>iii) All underground services are accurately located and protected</li> <li>iv) All necessary safety barriers, shoring and dewatering equipment are provided</li> <li>v) Safe Work Method Statements are to be produced for each task and are available for review on site</li> </ul> | No additional significant cost envisaged for safety component   |
| 19 | <p>STRUCTURAL SAFETY</p> <ul style="list-style-type: none"> <li>- Erection of steelwork or concrete frameworks</li> <li>- Load bearing requirements</li> <li>- Stability + integrity of the structure</li> <li>- Demolition incl. hazardous + contaminated materials</li> <li>- Erection of post tensioned slabs</li> </ul> | Low/Medium   | Low  | <p>Contractor to ensure full compliance with the WHS Act/Regulations, Authority Codes/Conditions and Aust. Standards</p> <p>Contractor to ensure an experienced qualified structural engineer is notified and inspects all structural component for full compliance to the construction documentation and statutory codes.</p> <p>Removal &amp; Disposal of demolition/waste incl. hazardous/ contaminated materials to be undertaken within strict compliance of all codes/standards incl. current AS2601.</p>   | <p>No additional significant cost envisaged for safety component</p> <p>Standard type detailing for double brick construction used.</p>   |

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|    |  |   |   | All form workers, steel fixers/ contractors on the job shall be experienced or supervised by an experienced foreman. All contractors should have appropriate training for their role and be aware of the Safe Work Method Statement. |   |
| 20 | <b>MANUAL TASKS</b><br><br>- Methods of material handling<br>- Accessibility of material handling<br>- Loading docks and storage facilities<br>- Workplace space and layout to prevent musculoskeletal disorders, including facilitating use of<br>- Mechanical Aids<br>- Assembly and disassembly of pre-fabricated fixtures and fittings                                       | Contractor to advise  | Contractor to advise  | Contractor to advise   | Contractor to advise  |
| 21 | <b>FALLS PREVENTION</b><br><br>- Guardrails / Balustrades<br>- Window heights and cleaning<br>- Anchorage points for building maintenance and cleaning<br>- Access to working spaces for construction, cleaning, maintenance and repairs<br>- Scaffolding<br>- Temporary work platforms<br>- Roofing materials and surface finish including fragility, slip resistance and pitch | Low/Medium – (Construction Phase)<br>Slips, Trips, Falls during construction phase.<br><br>Low (On Completion)<br>Slips, Trips, Falls by final occupants. | Potential risk of falling / tripping into footing excavations and generally around site during construction phase.<br><br>Poor design leads to increased risk to occupants including selection of materials, detailed design solutions for changes in levels and at thresholds to doors and hobs etc. | Ensure that all excavated areas are clearing defined with safety barriers to prevent access except by defined safe path.<br><br>Compliance with NCC and relevant Australian Standards noted in Drawings/Specifications               | Standard costs for construction preliminaries and on-going maintenance safety provisions incorporated into the scope of works |
| 22 | <b>SPECIFIC RISKS</b> <b>**Refer Item 10</b><br><br>- Exposure to radiation, for example, electromagnetic radiation **   | N/A   | N/A   | N/A  | N/A   |

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|    | <ul style="list-style-type: none"> <li>- Exposure to biological hazards</li> <li>- Fatigue and/or working alone</li> <li>- Use of explosives</li> <li>- Confined spaces</li> </ul> |  |   |  |   |
| 23 | <p>NOISE EXPOSURE</p> <p>Exposure to noise from plant or from surrounding area</p>   | <p>Low – based on all equipment being tested and noise levels recorded by an Acoustic Consultant to ensure compliance</p> <p>Refer Acoustic Report</p> | <p>Risk and Degree of harm minima based on observing all safety regulations for the monitoring and operation of any equipment</p> | <p>Compliance with statutory noise controls for plant equipment is incorporated in the design and Contractor to provide all compliance certificates for the technical testing on completion of works</p> | <p>Standard costs for construction including provision of testing/reporting on completion</p> |