

Quality Assurance Plan Template

Project Name: Ipswich Hospital Expansion – Stage 2	
Project address: 81 East Street, Ipswich QLD 4305	Site Plan attached: Overall Site Plan – AR-DRW-IH-A10002 Cover Sheet – ST-DRW-IH-S01-01
Prepared by: Ben Haviland	
Date: 10/05/24	
Description of project: The Ipswich Hospital Expansion – Acute Services Building (ASB) project consists of a new clinical building incorporating patient care (ward and treatment) areas, doctor's bedrooms, public facing and support functions. The hospital is 12 storeys with an effective height of approximately 44m and includes two below ground levels which are enclosed by a piled retention wall system. Note, the applicable legislation for this project is the NCC 2019 a1 and therefore, all Australian Standards referenced are the versions called up in NCC 2019 a1.	

Site Classification/s: Site Classification in accordance with NCC 3.2.4 and AS 2870 – Class P Building Classifications: 7b – Storage 9a – Health care: Includes Patient Care (Treatment and Ward) and non-patient-care areas. 3 – Staff Accommodation		
Documentation of design and construction (suitability or evidence of suitability)		
Site preparation		
Site preparation	NCC / Australian Standards requirements	Compliant Performance solution
Earthworks	NCC Volume 1 Part B1 Structural Provisions, particularly: - BP1.1 Structural Reliability - BP1.2 Structural Resistance AS 1289 Methods of testing soils for engineering purposes. AS 1726 Geotechnical site investigations. AS 2439 Perforated plastics drainage and effluent pipe and fittings. AS 2870 Residential slabs and footings. AS 3360.1 Soil treatment for the protection of new buildings against subterranean termites.	Earthworks are expected to comprise predominantly bulk excavations of approximately 9.0m depth for construction of the basement levels. General earthworks procedures should be carried out in a responsible manner in accordance with AS 3798-2007 and include the following: - Clearing, stripping & grubbing including removal of soils containing organic matter - Proof rolling of subgrade under supervision of qualified Geotechnical Engineers in accordance with Clause 5.5 of AS 3798 - Imported general fill material should be cohesive in nature and be a good quality low plasticity select fill material with a soaked CBR >10% and a maximum particle size of 75mm

	AS 3660.2 Soil treatment for the protection of existing buildings against subterranean termites. AS 3798 Guidelines on earthworks for commercial and residential developments.	- Field density testing should be carried out to check the standard of compaction achieved and the placement moisture content – frequency and extent of testing as per guidelines in AS 3798
Site preparation		
Site preparation	NCC / Australian Standards requirements	Compliant Performance solution
Earth retaining structures	NCC Volume 1 Part B1 Structural Provisions, particularly: - BP1.1 Structural Reliability - BP1.2 Structural Resistance AS 1012 Concrete testing (series). AS 1379 Specification and supply of concrete. AS 1554.3 Structural steel welding, Part 3: Welding of reinforcing steel. AS 1726 Geotechnical investigations. AS 2159 Piling - design and installation. AS/NZS 2425 Bar chairs. AS 3600 Concrete structures. AS/NZS 4671 Steel reinforcing materials. AS 4678 Earth retaining structures.	Shoring system comprising: - Bored Piles - Capping Beam - Shotcrete - Temporary Anchors Structural and Geotechnical design & certification in accordance with identified NCC and AS requirements.

Drainage	NCC Volume 1 – Section B Structure NCC Volume 3 - Section C Sanitary Plumbing and Drainage Systems AS/NZS 3500.3 Plumbing and Drainage – Part 3: Stormwater drainage	Existing stormwater system to be diverted/upgraded prior to construction commencing to accommodate new building and effectively manage stormwater during construction – discharge point at the allotment boundary to be approved by the appropriate authority. Temporary earthworks levels and permanent slab levels are to have sufficient heights and grades to divert surface water away from the building. Strip drains depositing into sub-floor drainage via spitter tubes to be installed behind shoring wall system to manage subsurface water and reduce hydrostatic pressure.
Site preparation	NCC / Australian Standards requirements	Compliant Performance solution
Termite risk management	NCC Volume 1 – Section B Structural Provisions - B1.4 Structural resistance AS 3660.1 Termite Management	Primary building elements are to be of steel and concrete, therefore a termite risk management system is not required.
Materials	NA	NA
Footings and slabs		
Site classification		

Footings and slabs	NCC / Australian Standards requirements	Compliant Performance solution
Footings and slabs		
Footings and slabs	NCC / Australian Standards requirements	Compliant Performance solution
Moisture Barrier		
Materials		
Concrete and reinforcement		

Concrete and reinforcement	NCC / Australian Standards requirements	Compliant Performance solution
Concrete and reinforcement		
Materials		
Masonry		
Masonry	NCC / Australian Standards requirements	Compliant Performance solution
Masonry		

Moisture Barrier		
Materials		
Framing		
Framing	NCC / Australian Standards requirements	Compliant Performance solution

Framing		
Materials		
Roof and Wall Cladding		
Roof and wall cladding	NCC / Australian Standards requirements	Compliant Performance solution

Roof and wall cladding		
Materials		
Glazing		
Glazing	NCC / Australian Standards requirements	Compliant Performance solution

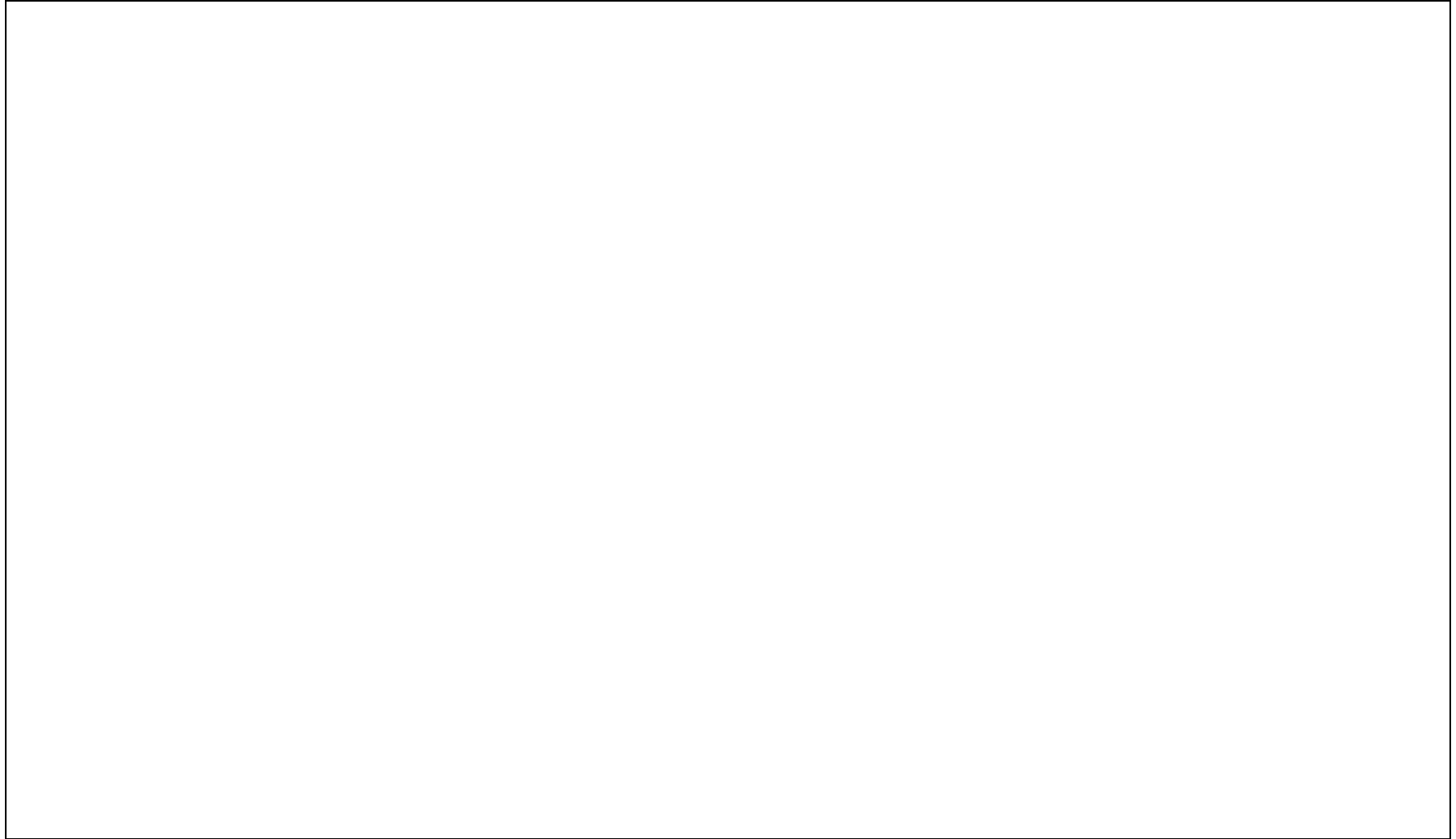
Glazing	NCC Volume 1 – Section B Structural Provisions - B1.4 Structural Resistance NCC Volume 1 – Section J Energy Efficiency - Part J1 Building Fabric - Part J3 Building Sealing NCC Volume 1 – Section C Fire Resistance AS 1288 Glass in Buildings – Selection and Installation AS 1428.1 Design for Access and Mobility AS 2047 Windows in Buildings – Selection and Installation AS/NZS 4284 Testing of Building Facades	Predominant façade element of the hospital to be an aluminium framed Window Wall system, supported by concrete slabs and structural steel as per Structural Engineer's requirements. Nominal size of window wall panels to be 4.3m H x 1.2m W – refer to Materials section below for breakdown of system. Glazing must be designed to meet the requirements of AS1288 and AS2047, including requirements for Grade A safety glazing in areas subject to human impact, and for manifestation (safety markings) where glazing may be mistaken for a door or opening (AS1428.1). All façade systems are required to be laboratory tested in accordance with AS 2047 or AS/NZS 4284 testing methodologies. Site testing also proposed to be undertaken in the form of hose water testing in accordance with AAMA501.2 in order to verify quality of installed façade systems and continuity with adjacent façade systems.
Materials	As above.	Frame: powder coated aluminium, 200mm deep by 90mm wide, thermally enhanced, flush glazed. Glazing: build-up dependant on acoustic requirement. Two example build-ups below: - Rw 31: 6.38mm glass with 1.52mm laminate - Rw 45: 6.38mm glass, 110mm air gap, 6.38mm glass with 1.52mm laminate Acoustic: Rw 31, 35, 37, 42 and 45 (depending on location) Thermal: $U_w < 4.0$ Façade system to meet minimum requirements of AS2047 air infiltration with 1m³/hr at 75Pa, however, all façade systems

		are proposed to meet the requirement at the higher pressure of 150Pa.
Fire Safety		
Fire Safety	NCC / Australian Standards requirements	Compliant Performance solution
Fire Safety	NCC Volume 1 – Section C Fire Resistance and Stability - CP2 Spread of Fire - CP3 Spread of Fire and Smoke in Health and Residential Care Buildings	DtS C1.9 Non-combustible building elements Permit limited plywood noggings to support fixtures, electrical wiring and flexible pipe insulation in external walls, or in fire/smoke walls that are required to be non-combustible. Plywood noggings to be installed in accordance with Fire Engineering report and must be part of a tested wall system that achieves the required FRL with noggings included as the only non-combustible material.

Fire Safety	NCC Volume 1 – Section C Fire Resistance and Stability - CP2 Spread of Fire - CP3 Spread of Fire and Smoke in Health and Residential Care Buildings - CP8 Fire Protection of Openings and Penetrations	DtS C3.15 Openings for service installations Permit the insulation criterion of the FRL to be omitted from penetrations of water-filled fire service pipework. Penetrations to still be fire stopped with a tested system to achieve the required integrity FRL – just the insulation FRL is not required to be achieved.
Fire Safety	NCC Volume 1 – Section E Services and Equipment - EP1.4 Automatic Fire Suppression Systems AS 2118.1:2017 Automatic Fire Sprinkler Systems	DtS E1.5 Sprinklers Fire sprinkler protection is permitted to be omitted from the following areas: - Specific communications rooms. - Generator rooms. - UPS rooms. - Electrical switch rooms. - Top of Lift Shafts Fire sprinklers are proposed to be omitted from these rooms and top of lift shafts due to the potential of water leakage onto electrical equipment. Addressable heat detector to be installed at the top of each lift shaft which activates the occupant warning system and calls the Fire Brigade. Addressable smoke detection in accordance with AS 1670.1 to be installed in UPS, comms and electrical switch rooms which activate the occupant warning system and call the Fire Brigade. Electrical, Comms, Generator and UPS rooms not provided with sprinkler protection must be fire-separated from the

		remainder of the building by 120 min FRL construction along with FRL -/120/30 self-closing fire doors with smoke seals tested in accordance with AS 1530.7.
Access/Stairs/Lifts/Ramps		
Access/Stairs/Lifts/Ramps	NCC / Australian Standards requirements	Compliant Performance solution
Access/Egress	NCC Volume 1 – Section D Access and Egress - DP4 Exits	DtS D1.2 Number of exits required Permit a single exit, in lieu of two exits to some small storerooms and plant rooms. This performance solution recognises that: - Plant and small storerooms are only accessed by staff or maintenance workers intermittently - BCA 2022 (D2D3(4)(b)) permits a concession to the number of exits to parts of a storey that is: - o A plant room, machinery room, storeroom, lift-machine room or the like and - o Is provided with direct egress to road, open space or a fire-isolated exit complying with D2D12(2); and - o Satisfies D2D5 by the provision of one exit

Stairs	NCC Volume 1 – Section D Access and Egress - DP4 Exits	DtS D1.7 Travel via fire-isolated exits Permit fire-isolated stair ST01 to discharge into the covered Ambulance Bay on Level 2 which is not open for at least 2/3 of its perimeter. Fire safety features specific to this Performance Solution: - The final fire doors to Stair 1 on Level 1 must: - o Be fitted with an FRL -/60/30 self-closing fire doors complying with AS 1905.1 - o Be fitted with vision panels - The Ambulance Emergency Bay overhang must be not less than 3.8m above finished floor level. - The extent of the Ambulance Emergency Bay overhang must be as indicated in the Architectural Design and Fire Engineering Report.
Egress/Doors	NCC Volume 1 – Section D Access and Egress - DP2 Safe movement to and within a building - DP4 Exits	DtS D2.19 Doorways and Doors Automatic doors acting as the final exit at Level 2 may remain closed in fire mode, with push button battery backup to permit egress, to retain after-hours security of achieve the required differential pressures. With the 'PRESS TO EXIT' push button on the internal side of the door and secondary backup battery power supply via an on-board UPS provided for the sliding doors and push button, the risk of power failure has been directly addressed.
Health and Safety		



Consultation
Policies

Procedures

Quality objectives aligned to workplace objectives and procedures				
Quality items	Measures for each quality item	Units to measure each item	Existing project tools that will provide quality data	Timing of measurement

Communication procedures and methods to be applied
Communication to Client:
Communication to management:
Communication to work teams:
Communication Plan established:

Issues to be addressed and consultation				
Issue	Who to consult	Improvements for consideration	Feedback following consideration	Supporting Resources

<i>Describe how each of the following aspects of quality management will be addressed on this project:</i>		
Quality Control		
Control item	Measure	Project Stage

Quality Assurance processes used
Training
Monitoring and maintenance of information sources
Resource availability and access within timeframe
Records management
Quality Improvement / amendments to be instigated