Development Application Design Report

Project: **Hunter Medical Research Institute Proposed New Facility: DDA Accessibility – Masterplan & Schematic**

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1. Background

MGAC has been commissioned to provide accessibility services and advice to S2F Pty Ltd**,** to ensure the design of the proposed purpose built four-level, double-wing buildings of the Hunter Medical Research Institute facility (HMRI) complies with the Australian Standards 1428 series and the spirit and intent of the Disability Discrimination Act (DDA). The schematic design encompasses purpose built building combined with an elevated dual level entry pod with linked access road, via elevated walkway to the existing John Hunter Hospital in addition to a 400 space terraced car park.

2. Masterplan Review

MGAC have reviewed the Architectural Plans to the proposed facility. Access is currently via pedestrian pathway which requires navigating long distances through the existing John Hunter Hospital. Wayfinding strategy is outside the scope, our MGAC's commission at this stage, but in future design development should be considered. This will assist to develop an independent, efficient and safe pathway through the existing facilities to the proposed research facility.

The public bus stops are at the front of the hospital. In conjunction with section 4.2.5 of the Traffic report, it should be noted that only small shuttle buses will be able to us the Kookaburra Circuit. Consideration should be given where possible to creating efficient access to the new facility via the proposed sky-bridge for taxi ranks as well as a private car drop-off zone.

Master planning has not considered providing long-term stay for research subjects at this stage within the new facility. Currently, heavily mobility impaired research subjects, particularly those contained to beds, will not be required to be transported to and within the new facility.

Designs must aim to meet the principles of 'Universal Access' and under the DDA must apply to staff, researchers, visitors and participants alike. Where the Australian Standard or DDA requirement compromises the health and safety, then the health and safety building or operations requirements will override the DDA requirements.

The Emergency Egress currently provides for a horizontal evacuation process with the central foyer and each wing providing refuge zones.

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3. Accessibility principles

The following highlight the general requirements of accessibility as the design progresses. It is acknowledged that the facility can generally be regarded as “non public”, however consideration under the DDA must also applied for staff and visitors to the facility

- Ensure all accessible transport modes consider direct access to the hospital without having to encounter large distances. All transport strategies should reflect consideration of accessible transport

- Ensure a minimum of 3% accessible car parking spaces of the 250 HMRI spaces adjacent to entry level 1 (3200mm X 5400mm with 2500mm height clearance above).

- Ensure the Skybridge Link to Level 4 is a minimum of 1800mm wide and 2000mm clear height and a 1 in 20 gradient of walkway.

- Security swipes at entry doors are to be provided at an operational height of 1000mm FFL.

- All gender toilets should also consider a unisex accessible toilet and shower. Aside from being a facility for staff with disabilities, this can double in use for staff who exercise and require a shower or as a first aid / safety room.

- Where the fire evacuation strategy is developed, providing an accessibility evacuation strategy should also be provided to ensure all people are considered

- Ensure all stair design provide tactile hazard indicators, indicative and grip striping on each stair nosing and appropriate handrails

- All office and staff break out areas should consider appropriate latchside clearances and weight of operation for doors, heights of tea / coffee areas, workstations and utility areas.

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4. Conclusion

The schematic design of the HMRI highlights a compliant level of accessibility according to the requirements of AS 1428 and the DDA. It should be noted that as the design progresses that additional consideration will be given to the technical specifications to ensure the principle of functionality is implemented appropriately

Should you require further information or clarification on the above, please do not hesitate to contact me at your convenience.

Yours sincerely,

Bernie Clifford
Associate Director

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5. Appendix 1 - General Accessibility Specifications for Design Reference

The following DDA AS1428 series specifications will form the underpinning approach to the universal design of the Hunter Medical Research Institute.

4.1 Wayfinding and Signage

- Place signage (including Braille) and international symbols at all major crossovers, accessible entrances and exits, emergency exits, common areas lifts, & toilets.

- Accessible signage can be produced in different colours and on different surfaces e.g. brass, ensure the colour contrast is significant between the background and symbol / letter colours.

- Where an accessible pathway or route is different to the main route, signage including the international logo for access should be clearly highlighted, (Highlight changes in surface materials for nature pathways).

- Braille signage shall be provided on all gender and unisex toilet doors and signage boards located at a height of 1500mm.

- Signage to include international symbol for people with disabilities, directional arrow and a written explanation.

- Symbol size shall be the following according to viewing distance:-
    - < 7 metres - 60mm X 60mm
    - > 7 < 18 metres - 110mm X 110mm
    - > 18 metres - 450mm X 450mm

- Letter heights shall be the following according to viewing distance:-
    - 2 metre - 6mm
    - 6 metres - 20mm
    - 15 metres - 50mm
    - 35 metres - 100mm
    - 50 metres - 150mm

- Directional signage shall be installed at a height not less than 1500mm and provided in an accessible sightline location.

- All signage should provide a distinct contrast to the background colour/s with colours such as pastels and reflective colours being avoided.

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4.2 Main Entrances

- All main entry points are required to provide access for people with disabilities. This may include stair, lift and ramped entry but never just stairs.
- Manual doors that link the external environment are generally never able to provide “easy operating” unless they are automated.
- Ensure emergency break out doors are of an appropriate weight of operation:- 19N.
- Ensure all entrances allow independent access during and after business hours. If not ensure card swipes/ Keypads are installed at an accessible height, (No specified at this point).
- Glass frontages should contain indicative signage, that assists the visually impairment.
- Matting should be installed on each side of an external doorway to minimise water and dirt transfer.

4.3 Stairs

- Use of colour and indicative striping on each stair nosing.
- Handrails at a height of 900mm and a diameter of 40mm.
- Handrails with turned down ends that extends 300 mm past the commencement and conclusion of the stair.
- Tactile hazard indicators to be placed at the commencement and conclusion of steps over the width of the stair 300mm from the first step and 600mm in depth.

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4.4 Lifts

- Internal carriage of not less than 1700mm x 1400mm (2000mm X 2000mm for stretcher)
- Handrail at a height of 900mm with a diameter of 50mm
- Lift call button at an upper level of not greater than 1200mm
- Audio and visual direction and floor identification, Arrival indicator at a height of 1800mm
- Floor button panel at a level not greater than 1200mm FFL

4.5 Walkways, Ramps and Landings

- 1200 mm MIN width single flow wheelchair traffic.
- 1800 mm MIN width for two way wheelchair traffic walkways
- 1500 MIN mm width allow a wheelchair and an ambulant person to pass without obstruction
- 1:8 rise MAX Height 190 mm and MAX Length 1520 mm. Requires No Hand Rails or Tactile Hazard Indicators required
- 1:14 rise Landings every 6 - 9 metres, Hand rails and Tactiles Hazard Indicators must be provided
- 1:20 No Hand Rails or Tactile Hazard Indicators required
- Recommended to provide kerb rails along elevated walkways with the top of kerb rail at 65mm – 75mm FFL
- Crossfalls on landings and circulation spaces shall not exceed 1:40
- On carpeted ramps, no underlay shall be provided to ensure decreased rolling friction

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4.6 Doors

- 850 mm clear width
- 450 mm latch side clearance
- Doors and door fames shall have a MIN 30% luminance contrast to their adjacent surfaces
- Appropriate circulation spaces provided as indicated AS1428.1 Clause 7.3
- Lever handles are preferred with 19.5 N of force to open door and 6N to swing door
- Door controls positioned 1000mm FFL
- Clear panels to allow vision to oncoming pedestrians or traffic

4.7 Tactile Hazard Indicators

- 600 mm wide (Length as long as hazard area)
- Placement - 300 mm before hazard (Stairs)
- Use only to indicate a hazard and not to form a hazard due to its own application

4.8 Continuous Pathways of Travel

- Main – 1500 mm wide
- Secondary – 1200 mm wide
- See Walkways, Ramps and Landings
- Where paving or decking is provided ensure the any edges have an appropriate threshold ramp to access it
- Provide a carpet pile height of not greater than 6mm

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4.9 Toilets / Showers / Bathrooms

Showers General requirements –

Refer AS 1428.2 Clause 15, Fig. 13

- Shower area 1160 mm x 1100 mm (wet area)
- Shower head support grab rail 900 – 1900 mm vertical, 30 – 40 mm diameter. Positioned 600 from side wall
- Shower head adjustable from 900 mm – 1900 mm vertically
- Soap and taps to placed in zone of 900 mm – 1100 mm and 300 mm in from wall
- Folding seat 470 – 480 mm from shower floor
- Seat should be self-draining, slip resistant with rounded edges. Can withstand 1100 N of force
- There shall be a minimum clearance space of 1000 mm from seat to the wall opposite or any other fixture
- Horizontal grab rail 800 mm from shower floor, continuous preferred
- Waste outlet for shower shall be in centre of floor of recess
- Slope of floor of shower recess 1 in 60
- Slope of floor in remainder of space shall be 1 in 80

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***Toilets General requirements* - Refer AS1428.2 Clause 15, Fig. 11**

- Minimum internal dimensions of the toilet should be 1900mm x 2300mm
- Toilet pan to be installed at a height of 460mm and at a distance of 600mm from the rear grabrail or cistern. External cisterns are preferred
- Front of toilet pan to be located 1100mm from the closest point of the wash basin
- An L shaped grabrail to be provided at a height of 800mm adjacent to the toilet of dimensions 30mm - 50mm
- Centreline of toilet pan to be 450mm in distance from adjacent wall
- Baby change table where installed should be at a height of 700mm - 800mm
- Toilet roll holder to be placed at a height of 600mm on the adjacent wall to the toilet and be of standard design
- External cisterns are preferred as they provide a safe alternative should a person fall backwards, they fall on their shoulders not their head and neck
- Provide a sanitary unit in each unisex accessible toilet
- Washbasin clearance height of not less than 650mm with lever action taps and insulation of water pipes. Adjacent to the basin should be a shelf 400mm X 200mm and paper towel dispenser
- Provision of a full length mirror (1500mm) positioned at a base height of 450mm
- Door mechanism to be sliding in nature with large D shaped handles. Door design must allow external opening for emergency situations, and have an operable weight of not greater than 19.5Nm
- Electrical outlets, hand-dryers and soap dispensers with large panel type activation buttons to be placed at a height of 900mm

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4.10 Breakout room / Kitchenettes

- Ensure a minimum turning circulation of 1300mm x 1300mm at facilities i.e. fridges, dishwasher etc

- **Reach Ranges - shelving - Side Approach**

    - Ensure a side reach maximum height of 1350mm to shelving

    - Provide a lower reach shelving minimum of 230mm from ground level

    - Provide a side reach shelf depth of 300mm

- **Reach Ranges and clearance heights - Front Approach**

    - Ensure a maximum of 1220mm height to shelving

    - Provide a minimum of 380mm height to shelving

    - a knee clearance of not less than 680mm

- Storage and refrigerator units with sliding doors do not impinge on circulation space and have easier access than are swing doors

- Specifying DDA compliant equipment will require the manufacturers to consider tactile, colour indicators and operation types that are easier access and use

- Consistency in kitchen layout and equipment will greatly assist people with vision impairments

- Appliance operation e.g. toasters or tea / coffee machines should be installed at accessible heights and require low strength, simple, single-handed movements (900 – 1100mm operable point)

- Tea / coffee, biscuit, hot / cold water dispensers to be located at a universal heights and reach zones (900 – 1100mm with a 550mm depth)

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4.11 Staff work and amenities areas

No specific design details have been highlighted at this stage however the following recommendations should be provided..

- Base building accessibility should be complimented by accessible “workplace adjustment”
- Placement of furniture can limit circulation space, access to storage areas and emergency evacuation
- Office equipment should be installed to ensure accessible operable heights and storage of stock such as paper etc
- Staff break and tea / coffee areas should allow appropriate reach ranges and access to supplies

Office Space

- Ensure a minimum turning circulation of 1300mm x 1300mm at desk and workstation

Reach Ranges - shelving

- Ensure a side reach maximum height of 1350mm to shelving
- Provide a lower reach minimum of 230mm from ground level
- Provide a side reach shelf depth of 300mm

Reach Ranges and clearance heights -Front Approach

- Ensure a maximum of 1220mm height to shelving
- Provide a minimum of 380mm height to shelving
- Ensure a desk height of 750mm with a knee clearance of not less than 680mm

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4.12 Utilities

No specific design details have been highlighted at this stage however the following recommendations should be provided..

- Accessible storage facilities such as cabinets, shelves, cupboards and drawers should allow either forward or parallel approach from people using wheel chairs
- Storage unit with sliding doors do not impinge on circulation space and have easier access than do swing doors
- More people can utilize storage if it is set at the zone of common reach (refer handles, switches and shelves)
- Providing common storage areas / rooms to avoid stored items being placed in accessible pathways
- Controls and Switches should be installed at accessible heights (refer handles, switches and shelves)
- Appliance switches should require low strength, simple, single-handed movements. Avoid operations that require combined actions of turn and pull.
- Consistency in utilities room layout and equipment will greatly assist people with vision impairments
- When specifying equipment ensure the manufacturers detail the requirements of the DDA
- Accessible storage facilities have Clear floor space of not less than 1300 mm X 1300 mm
- Hardware and handles comply Clause 23 (refer handles, switches and shelves)
- The operable point of all equipment should be installed at a height of 1000mm
- Preferred height of all switches and GPOs is 1000 mm
- Forward reach of wheelchair users : depth of shelf 300 – 550mm, height 380 – 1220 mm. (note the higher the shelf the less depth possible)

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- Side reach of wheelchair users: depth of shelf 300 – 600mm, height 230 – 1350 mm . (note the higher the shelf the less depth possible)

- Ambulant people reach range depth of shelf 300 – 400 mm height 550 – 1330 mm (note the higher the shelf the less depth possible)

4.13 Emergency Evacuation

- Fire safe areas for people with accessibility needs should be provided in an area such as adjacent to an accessible toilet, lift lobby or fire safe room within a stair well

- Accessible emergency evacuation plans are very operationally intensive, therefore appropriate documentation and staff training are critical for appropriate application

All emergency indication buttons, fire extinguishers and any other related emergency or fire equipment should be installed at a universally accessible height and location

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