LIVABLE HOUSING AUSTRALIA DESIGN GUIDELINES

ASSESSMENT REPORT

PROJECT:	16 Lowana Street Villawood NSW 2163
STAGE:	Design Development
REFERENCE:	22085.1-LHA
DATE:	11th March 2024
CLIENT:	DKT Studio

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Document Information

Issue	Description	Date
1	Final report assessed documentation forming part of Design Development phase	11 March 2024

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1. Introduction

1.1 Project Description

The proposed manor house development is understood to include the construction of four (4) residential sole occupancy units and associated off-street carparking located at 16 Lowana Street Villawood NSW 2163.

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the Silver Level Livable design elements of the Livable Housing Australia (LHA) Design Guidelines Fourth Edition.

Where non-compliances are identified, recommendations for resolution are to be provided, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

(a) Structural Adequacy, Design & Performance;

(b) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;

(c) Work Health & Safety Act 2011;

(d) Work Cover Authority Requirements;

(e) Service & Utilities Authority Requirements;

(f) The Disability Discrimination Act (DDA) 1992;

(g) National Construction Code Volume 2 2022;

(h) National Construction Code Volume 2 2022;

(i) National Construction Code Volume 3 2022 (Plumbing Code of Australia 2022);

(j) Adaptable Housing AS4299-1995.

1.4 Documentation Assessed

This assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. LHA Design Guidelines Summary

2.1 General

A dwelling designed and built in accordance with the Livable Housing Australia (LHA) Design Guidelines is intended to meet the changing needs of occupants across their lifetime.

LHA dwellings include key easy living features that make them easier and safer to use for all occupants including: people with disability, ageing Australians, people with temporary injuries, and families with young children.

Three levels of performance are detailed in the LHA Design Guidelines. These voluntary performance levels can be applied to all new dwellings.

Common areas for Class 1b, 2, and 3 buildings are covered by the Disability (Access to Premises - Buildings) Standards 2010 and the National Construction Code (NCC), Building Code of Australia (BCA) Volumes 1 and 2 which take precedence over the LHA Design Guidelines.

2.2 Silver Level Design Elements

The Silver Level performance level focuses on the key structural and spatial elements that are critical to ensure future flexibility and adaptability of the home. Incorporating these features will avoid costly home modification if required at a later date.

The seven core design features elements in the Silver Level they are –

1. **Dwelling Access** - A safe continuous and step free path of travel from the street entrance and / or parking area to a dwelling entrance that is level.

2. **Dwelling Entrance** - At least one, level (step-free) entrance into the dwelling.

3. **Internal Doors & Corridors** - Internal doors and corridors that facilitate comfortable and unimpeded movement between spaces.

4. **Toilet** - A toilet on the ground (or entry) level that provides easy access.

5. **Shower** - A bathroom that contains a hobless shower recess.

6. **Reinforcement of Bathroom & Toilet Walls** - Reinforced walls around the toilet, shower and bath to support the safe installation of grabrails at a later date.

7. **Internal Stairways** - Stairways are designed to reduce the likelihood of injury and also enable future adaptation.

2.3 Proposed Silver Level LHA Dwellings

The proposed development is understood to have Unit 1 and Unit 2 as proposed to meet the Silver Level performance level of the LHA Design Guidelines Fourth Edition.

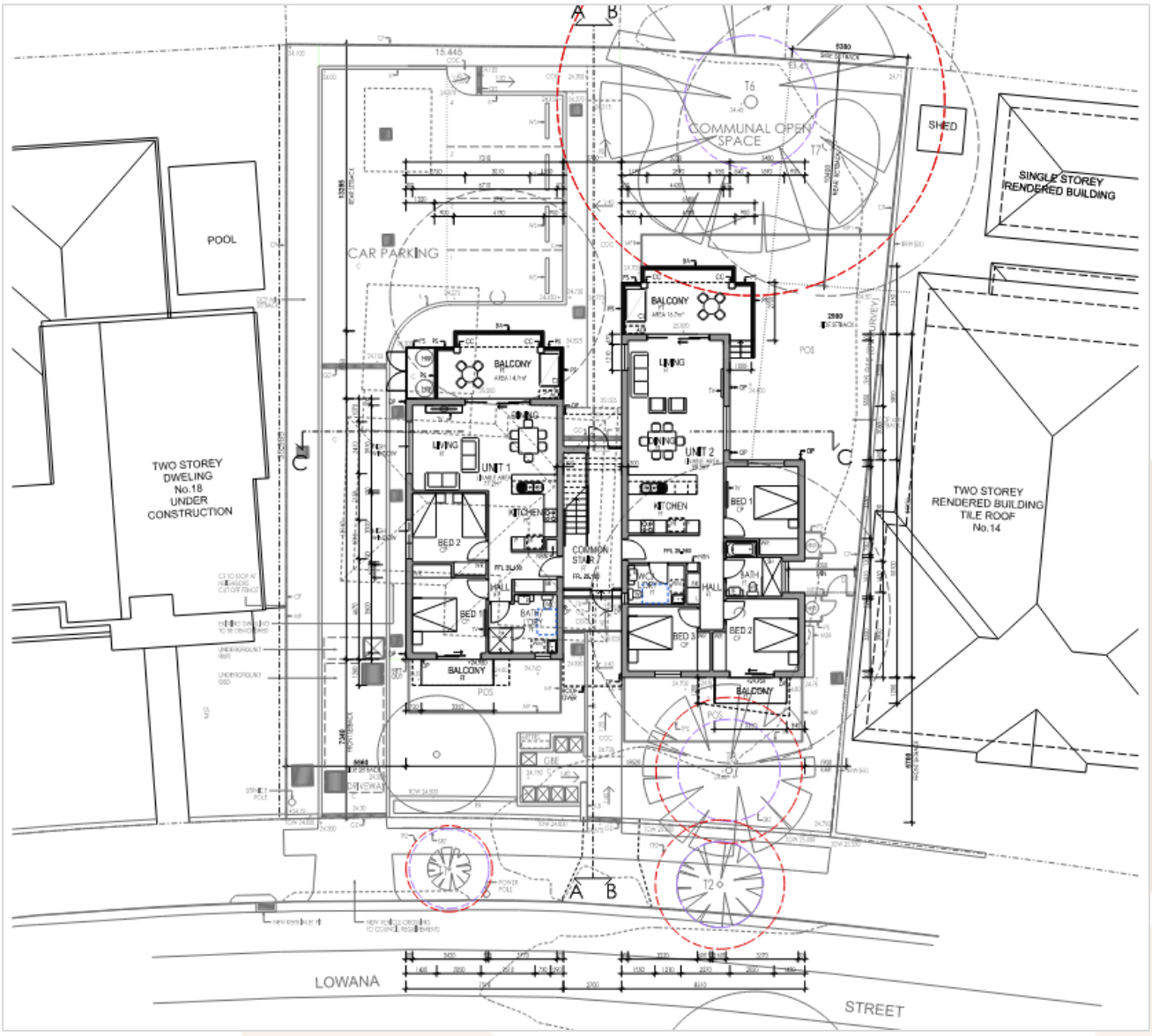


Figure 2.1 – Ground floor plan

3. Assessment Summary

The following table summarises the status of compliance of the proposed design in the context of the applicable design elements of the Silver Level performance levels of the Housing Australia (LHA) Design Guidelines Fourth Edition.

The status of compliance against each applicable design element assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant LHA design element.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant LHA design element, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant LHA design element.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the relevant LHA design element.
Note	Information is provided to guide the reader and not as specific assessment of the relevant LHA design element.
N/A	Not applicable. The requirements of the relevant LHA design element do not apply.

A detailed clause by clause assessment is outlined in Section 4 of this report.

SILVER LEVEL DESIGN ELEMENT	STATUS			
	C	CRA	DNC	N/A
1. Dwelling Access	X			
2. Dwelling Entrance		X		
3. Internal Doors & Corridors		X		
4. Toilet		X		
5. Shower		X		
6. Reinforcement of Bathroom & Toilet Walls		X		
7. Internal Stairs				X

4. Detailed Assessment

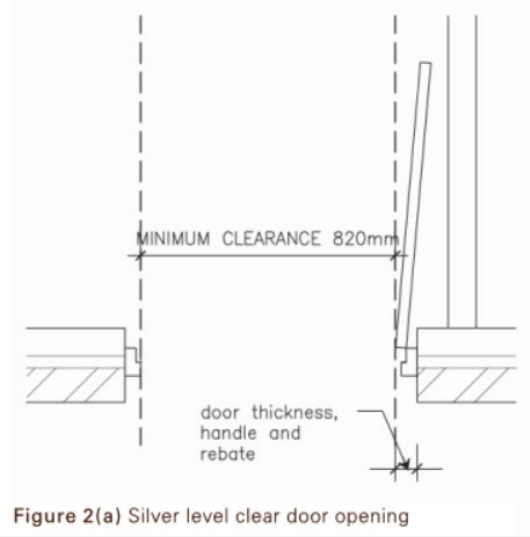
A detailed assessment of the proposed scope of works in the context of the applicable design elements of the Silver Level performance levels of the Housing Australia (LHA) Design Guidelines Fourth Edition has been undertaken, as outlined below.

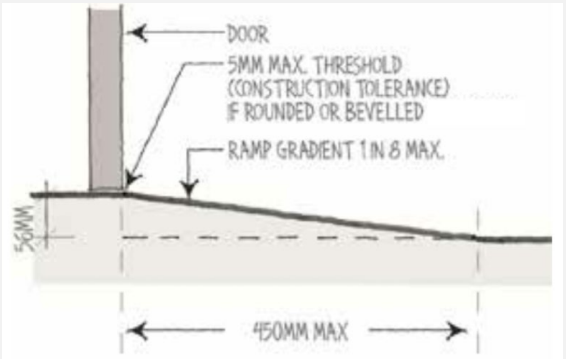
The status of compliance against each applicable design element assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant LHA design element.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant LHA design element, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant LHA design element.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the relevant LHA design element.
Note	Information is provided to guide the reader and not as specific assessment of the relevant LHA design element.
N/A	Not applicable. The requirements of the relevant LHA design element do not apply.

DESIGN ELEMENT 1 - DWELLING ACCESS		
Requirement/s	**Comment/s**	**Status**
(a) Provide a safe, continuous step-free pathway from the front boundary of the property to an entry door to the dwelling. This provision does not apply where the average slope of the ground where the path would feature is steeper than 1:14.	The pathway from the front boundary of the property to the entry floor of the ground floor dwellings, Unit 1 and Unit 2 is provided via a safe and continuous step free pathway.	C
(b) The path of travel referred to in (a) should have a minimum clear width of 1000mm and have: (i) no steps; (ii) an even, firm, slip resistant surface; (iii) a crossfall of not more than 1:40; (iv) a maximum pathway slope of 1:14 Where ramps are required they should have landings provided at no greater than 9m for a 1:14 ramp and no greater than 15m for ramps steeper than 1:20. Landings should be no less than 1200mm in length.	The path of travel to the entry door of Unit 1 and Unit 2, referred to in (a), is provided with a minimum clear width, as required. Consideration to the surface finish along the pathway is provided to ensure that the finish is even, firm and slip resistant.	CRA

DESIGN ELEMENT 1 - DWELLING ACCESS		
Requirement/s	**Comment/s**	**Status**
(c) The path of travel referred to in (a) may be provided via an associated car parking space for the dwelling. Where a car parking space is relied upon as the safe and continuous pathway to the dwelling entrance, the space should incorporate: (i) minimum dimensions of at least 3200mm (width) x 5400mm (length); (ii) an even, firm and slip resistant surface; and (iii) a level surface (1:40 maximum gradient, 1:33 maximum gradient for bitumen).	Not applicable. The path of travel referred to in (a) to Unit 1 and Unit 2 has been provided from the front boundary of the proposed tom the entry door of each dwelling.	N/A
(d) A step ramp may be incorporated at an entrance doorway where there is a change in height of 190mm or less. The step ramp should provide: (i) a maximum gradient of 1:10; (ii) a minimum clear width of 1000mm (please note: width should reflect the pathway width); (iii) a maximum length of 1900mm.	Not applicable. No step ramps proposed as part of the pathway to the building.	N/A
(e) Where a ramp is part of the pathway, level landings no less than 1200mm in length, exclusive of the swing of the door or gate than opens onto them, must be provided at the head and foot of the ramp.	Not applicable. No ramps proposed as part of the pathway to the building. It is however identified that a 1:20 walkway is proposed which is provided with required landings that are exclusive of the swing of the entry door to the building.	N/A

DESIGN ELEMENT 2 - DWELLING ENTRANCE		
Requirement/s	**Comment/s**	**Status**
(a) The dwelling should provide an entrance door with – (i) a minimum clear opening width of 820mm (see Figure 2(a)); (ii) a level (step-free) transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or beveled); and (iii) reasonable shelter from the weather.  **Figure 2(a)** Silver level clear door opening	The clear opening width of the entrance doorways serving Unit 1 and Unit 2 are identified as achieving a clear opening width of more than 820mm, as required. The level between the public corridor and internal parts of the units are noted as being equal and hence the provision of a threshold ramp is not required.	C
(b) A level landing area of at least 1200mm x 1200mm should be provided at the level (step free) entrance door. A level landing area at the entrance door should be provided on the arrival side of the door (i.e. the external side of the door) to allow a person to safely stand and then open the door.	A level landing area of at least 1200mm x 1200mm is identified as being provided at the arrival side of the entrance door, as required.	C

DESIGN ELEMENT 2 - DWELLING ENTRANCE		
Requirement/s	**Comment/s**	**Status**
(c) Where the threshold at the entrance exceeds 5mm and is less than 56mm, a ramped threshold may be provided (see Figure 1(b)).  **Figure 1(b) Weather protection:** 1 in 8 max. ramp at threshold	The level between the public corridor and internal parts of the units are noted as being equal and hence the provision of a threshold ramp is not required.	Note
(d) The level (step-free) entrance should be connected to the safe and continuous pathway as specified in Element 1.	A safe and continuous pathway is noted as being provided from the front boundary to the unit entries, as required.	C

DESIGN ELEMENT 3 – INTERNAL DOORS & CIRCULATION		
Requirement/s	**Comment/s**	**Status**
(a) Doorways to rooms on the entry level used for living, dining, bedroom, bathroom, kitchen, laundry and sanitary compartment purposes should provide - (i) a minimum clear opening width of 820mm (see Figure 2(a) above); and (ii) a level transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or beveled).	Consideration is to be provided to ensure a level transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or beveled) to these rooms is achieved.	CRA
(b) Internal corridors/passageways to the doorways referred to in (a) should provide a minimum clear width of 1000mm.	The internal corridors/passageways to the doorways referred to in (a) are provided with a minimum clear width of 1,000mm, as required.	C

DESIGN ELEMENT 4 - TOILET		
Requirement/s	**Comment/s**	**Status**
(a) Dwellings should have a toilet on the ground (or entry) level that provides - (i) a minimum clear width of 900mm between the walls of the bathroom if located in a separate room; and (ii) a minimum 1200mm clear circulation space forward of the toilet pan exclusive of the swing of the door in accordance with Figure 3(a). (iii) The toilet pan should be located in the corner of the room to enable installation of grabrails at a future date. Reinforcement guidelines for walls in bathrooms and toilets are found in element 6.	Unit 1 and Unit 2 are provided with a toilet on entry level having – (a) a minimum clear width of 900mm between the walls of the bathroom if located in a separate room; and (b) a minimum 1200mm clear circulation space forward of the toilet pan exclusive of the swing of the door in accordance with Figure 3(a). The wall adjacent to the toilet pan is to be provided with provision to enable installation of grabrails at a future date. Reinforcement guidelines for walls in bathrooms and toilets are found in element 6.	CRA

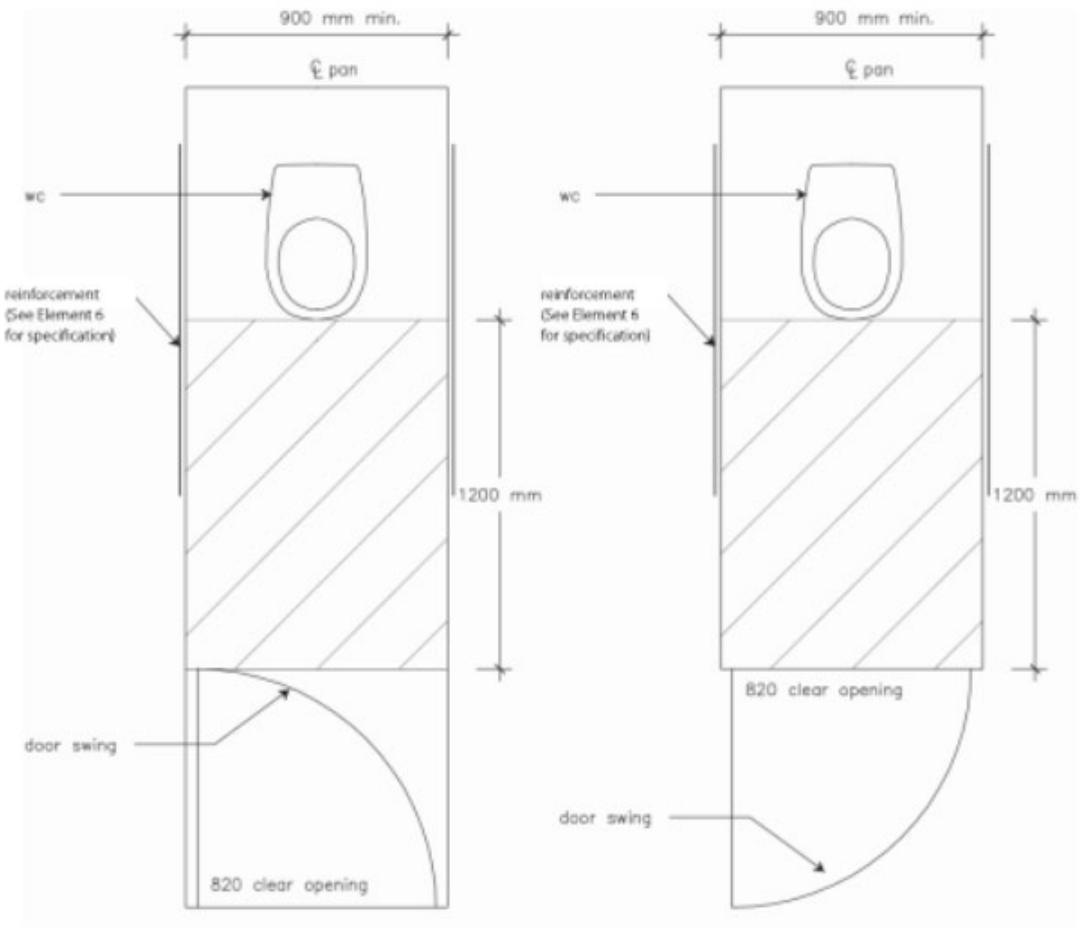


Figure 3(a) Silver level ground (or entry) level toilet layout and space requirements in a separate room.

DESIGN ELEMENT 5 - SHOWER			
	Requirement/s	**Comment/s**	**Status**
(a)	One bathroom should feature a slip resistant, hobless shower recess. Shower screens are permitted provided they can be easily removed at a later date. For hobless specification please see Australian Standard AS3740-3.6. Reinforcement guidelines for walls in bathrooms and toilets are found in element 6.	One bathroom should feature a slip resistant, hobless shower recess. Shower screens are permitted provided they can be easily removed at a later date. For hobless specification please see Australian Standard AS3740-3.6. Reinforcement guidelines for walls in bathrooms and toilets are found in element 6.	CRA
(b)	The shower recess should be located in the corner of the room to enable the installation of grabrails at a future date.	All showers are identified as being located in the corner of the room to enable the installation of grabrails at a future date, as required.	C

DESIGN ELEMENT 6 – REINFORCEMENT OF BATHROOM & TOILET WALLS			
	Requirement/s	**Comment/s**	**Status**
(a)	Except for walls constructed of solid masonry or concrete, the walls around the shower, bath (if provided) and toilet should be reinforced to provide a fixing surface for the safe installation of grabrails.	No wall details and/or notes have been provided to confirm the construction of the walls around the shower, baths and toilets. Nevertheless, except for walls constructed of solid masonry or concrete, the walls around the shower, bath (where provided) and toilet should be reinforced to provide a fixing surface for the safe installation of grabrails, in future.	CRA
(b)	The walls around the toilet are to be reinforced by installing: (i) noggings with a thickness of at least 25mm in accordance with Figure 6 (a); or (ii) sheeting with a thickness of at least 12mm in accordance with Figure 6 (b).	No wall details and/or notes have been provided to confirm the construction of the walls around the toilets. The walls around the toilet nominated in Design Element 4 are to be reinforced by installing: **(i)** noggings with a thickness of at least 25mm in accordance with Figure 6 (a); or **(ii)** sheeting with a thickness of at least 12mm in accordance with Figure 6 (b).	CRA

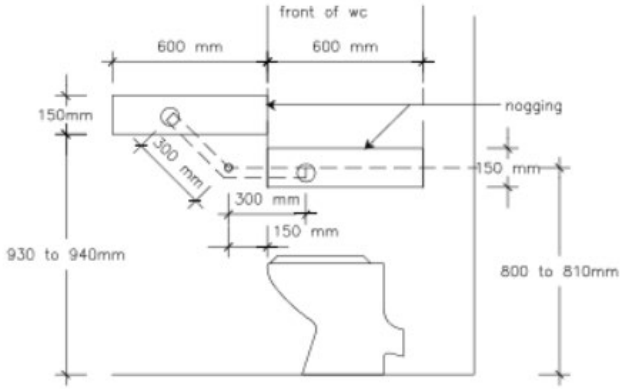


Figure 6(a) Toilet – Location of reinforcement

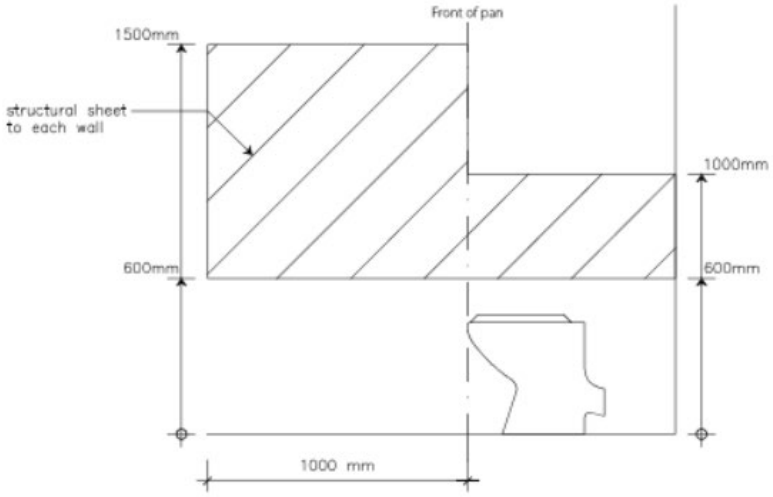


Figure 6(b) Toilet – Location of sheeting

DESIGN ELEMENT 6 – REINFORCEMENT OF BATHROOM & TOILET WALLS		
Requirement/s	**Comment/s**	**Status**
(c) The walls around the bath are to be reinforced by installing: (i) noggings with a thickness of at least 25mm in accordance with Figure 7(a); or (ii) sheeting with a thickness of at least 12mm in accordance with Figure 7(b).	No wall details and/or notes have been provided to confirm the construction of the walls around the baths. The walls around the bath within the master ensuite are to be reinforced by installing: (i) noggings with a thickness of at least 25mm in accordance with Figure 7(a); or (ii) sheeting with a thickness of at least 12mm in accordance with Figure 7(b).	CRA

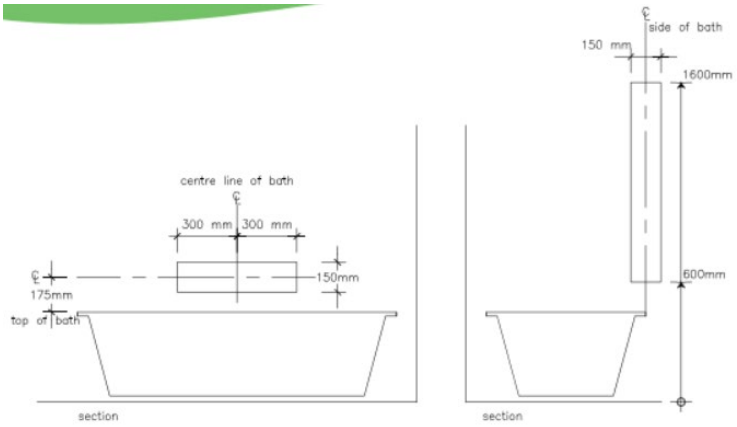


Figure 7(a) Bath – Location of reinforcement

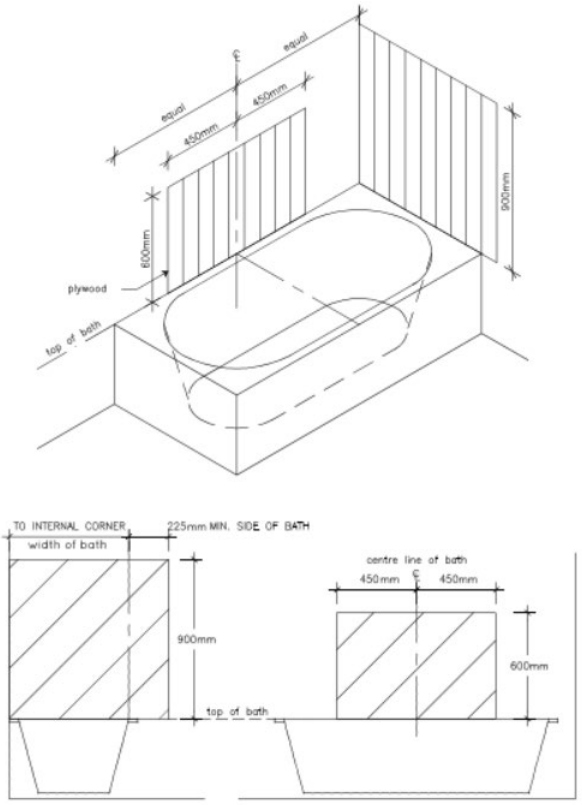


Figure 7(b) Bath – Location of sheeting

DESIGN ELEMENT 6 – REINFORCEMENT OF BATHROOM & TOILET WALLS		
Requirement/s	**Comment/s**	**Status**
(d) The walls around the hobless shower recess are to be reinforced by installing: (i) noggings with a thickness of at least 25mm in accordance with Figure 8 (a); or (ii) sheeting with a thickness of at least 12mm in accordance with Figure 8 (b).	The walls surrounding at least one hobless shower recess must be reinforced by installing – (i) noggings with a thickness of at least 25mm in accordance with Figure 8 (a); or (ii) sheeting with a thickness of at least 12mm in accordance with Figure 8 (b).	CRA

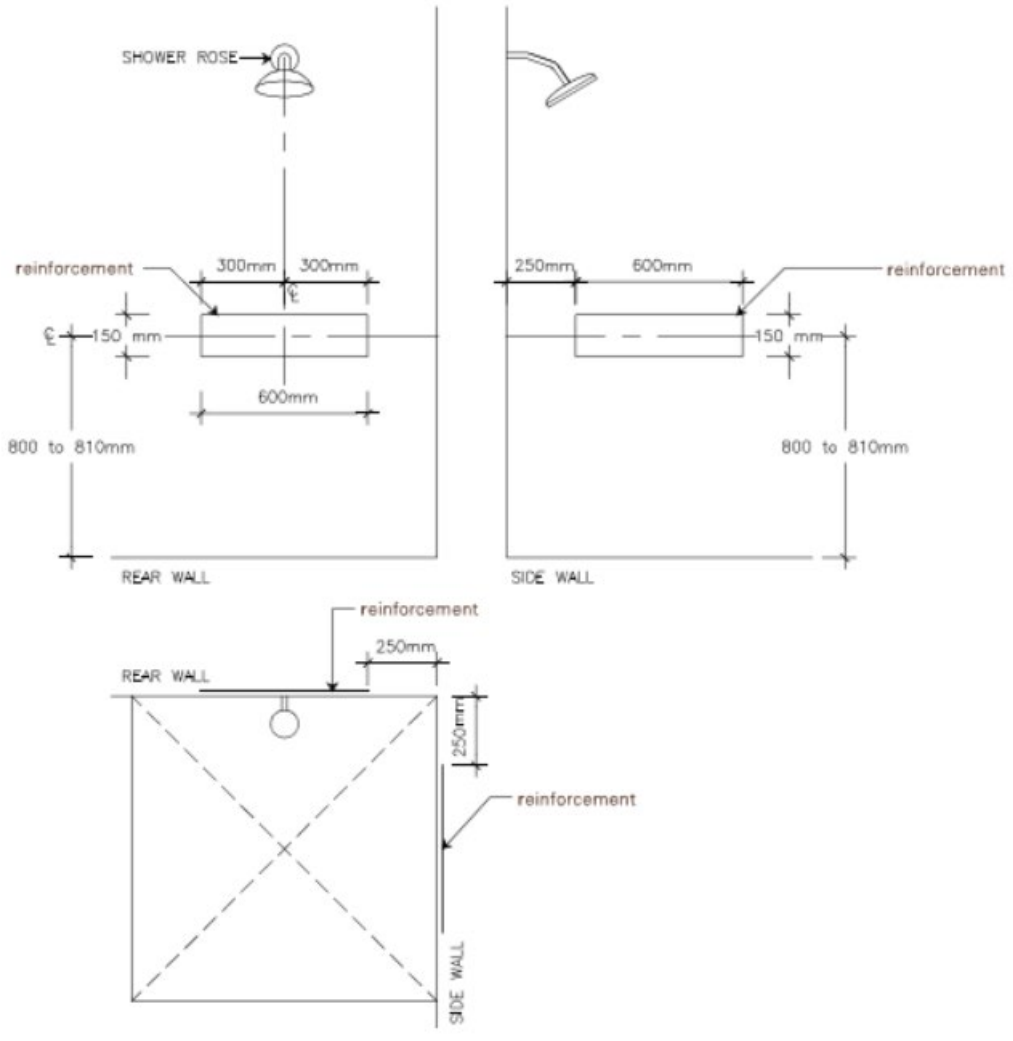


Figure 8(a) Shower recess – Location of reinforcement

DESIGN ELEMENT 7 – INTERNAL STAIRWAYS		
Requirement/s	**Comment/s**	**Status**
(a) Stairways in dwellings must feature: (i) a continuous handrail on one side of the stairway where there is a rise of more than 1m.	Not applicable. The nominated units, Unit 1 and Unit 2, are not provided with internal stairways.	N/A

5. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), the proposed scope of works is capable of complying with the applicable design elements of the Silver Level performance levels of the Housing Australia (LHA) Design Guidelines Fourth Edition.

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ANNEXURE 1 – Documentation Assessed

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	DKT Studio
Documentation Type	Plans

Plan No.	Title	Revision	Date
A03	PART 5 ACTIVITY SUBMISSION SITE PLAN	C	20.02.2024
A04	PART 5 ACTIVITY SUBMISSION GROUND FLOOR PLAN	C	20.02.2024
A05	PART 5 ACTIVITY SUBMISSION FIRST FLOOR PLAN	C	20.02.2024
A07	PART 5 ACTIVITY SUBMISSION ELEVATIONS AND SECTIONS	C	20.02.2024
A07	PART 5 ACTIVITY SUBMISSION SECTIONS and FENCE DETAILS	C	20.02.2024