

11 November 2015

Ref: 091436

Cardile Family Trust
c/o MPA Architects
Suite 501, 7 Secant St
Liverpool NSW 2170

DISABILITY ACCESS REPORT

Stage: Development Application
Project: Mixed Use Development
7-13 Norfolk Street, Liverpool

The purpose of this Disability Access Report for Development Application submission is to assess whether the above 24 Storey Class 2 Residential development and Class 6 commercial units on the ground floor and level 1, are consistent with the following:

1. Part D3, E3.6 and F2.4 of the Building Code of Australia (BCA); &
2. Liverpool Council's LDCP 2008 Part 4, Development in Liverpool City Centre- 10% of all dwellings to be capable of adaptation.

Please contact me on 0423 126 726 if you require any further information.

Yours sincerely,



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Mixed Use Development
7-13 Norfolk Street, Liverpool

Development Application Submission

Prepared for: Cardile Family Trust

Reference: 091436

Date: 11 November 2015

Cheung
access

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1 Executive Summary

The report is for the assessment of a residential development of 132 units, 4 levels of basement car parking and ground floor and level 1 commercial spaces with two street frontages, for consistency with the following disability design criteria contained within:

- a) Building Code of Australia (2015) BCA
- b) Liverpool Development Control Plan 2008, Controls for Residential Development Part 4, Section 6.1 Housing Choice and Mix – 10% of all dwellings to be capable of adaptation for disabled or elderly residents.
- c) Appendix A Class C AS4299 Adaptable Housing (1995).
- d) relevant Australian Standards listed in the BCA and AS4299, as follows:
 - AS1428.1 Design for Access and Mobility: General requirements for Access – New Building Work (2009)
 - AS1428.4.1 Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators
 - AS1735.12 Lifts, escalators and moving walks: Facilities for people with disabilities (1999)
 - AS2890 (Part 6) (2009) – Parking Facilities – Off-street parking for people with disabilities
 - AS4586 (2013) Slip resistance classification of new pedestrian surface materials

A summary of all the clauses foreseen as relevant from the BCA and AS4299 Adaptable Housing is included within Section 5 of this report. The content of this report is based on architectural drawings provided by MPA Architects (please refer to Appendix A).

Compliance with Liverpool Council's LDCP 2008 Part 4, Development in Liverpool City Centre- 10% of all dwellings to be capable of adaptation.

It is understood that of the 132 units there will be 14 nominated adaptable units (see table of Adaptable units below). Please refer to drawing AP16 for typical layout for 2 units types UT-6 , UT-14. This means 10% of units are capable of adaptation for a person with a disability. From the outset, visitable features will be included in the pre-adaptation layout. Compliance is achieved with respect to circulation spaces and pathway widths required on access pathways to and within the nominated adaptable units to comply with AS4299 (1995) and AS1428.1 (2009).

Table of Adaptable units

#	Unit No.	Level	No. of Bedrooms	Unit Type
1	2.07	2	1 Bed	UT-6
2	2.08	2	1 Bed	UT-6
3	2.09	2	1 Bed	UT-6
4	3.06	3	1 Bed	UT-6

5	3.07	3	1 Bed	UT-6
6	3.08	3	1 Bed	UT-6
7	3.09	3	1 Bed	UT-6
8	4.06	4	1 Bed	UT-6
9	4.07	4	1 Bed	UT-6
10	4.08	4	1 Bed	UT-6
11	4.09	4	1 Bed	UT-6
12	6.08	6	2 Bed	UT-14
13	7.08	7	2 Bed	UT-14
14	8.08	8	2 Bed	UT-14

Compliance with BCA Part D3

The proposed development, will satisfy the prescriptive deemed to satisfy provisions of Part D3, E3.6 and F2.4 of the BCA, as follows:

1. An accessible pathway from Norfolk St to Residential lift Lobby
2. An accessible path of travel via an 1:14 gradient ramp is shown from Castlereagh Street to the open corridor
3. An accessible pathway from Norfolk St to ground floor Commercial units G.01, G.02 and commercial lobby and up to level 1 Unit 101.
4. 1 Accessible commercial car space on basement level 1.
5. Accessible toilet and Male and Female Amenities on Commercial level 1. Ambulant cubicles have been provided within the male and female bank of toilets.
6. Wheelchair accessible toilet for residents on Level 3 adjacent to the pool.
7. Access to and within common areas such as the commercial garbage areas on the ground level, storage area on level 2.
8. Access to the entrance doorway of each sole occupancy unit, where there a lift installed.
9. Access to garbage collection room on each level of the residential.
10. Accessible pathways to communal open spaces on Level 3 Pool, Level 5 and Level 22 and roof area.
11. Accessible entry to Pool on level 3.

Adaptable Housing Requirements

The development will provide the following:

1. One residential adaptable car space on Basement 4.
2. Two residential adaptable car spaces on Basement 3.
3. Eight residential adaptable car spaces on Basement 2.
4. Three residential adaptable car spaces on Basement 1
5. Letterboxes located in an accessible location

6. 14 Adaptable units located between levels 2 – 8.

Further Review at Construction Certificate Stage

Areas below, which require further review, have been identified within the 'comments' column of Section 5 Accessibility Assessment table.

- (1) External accessible pathways to comply with Clause 7 AS1428.1 (2009) with respect to slip resistance (AS/NZ4586) and construction tolerances between abutment of surfaces.
- (2) Walkways/Ramps to comply with AS1428.1 CI 10 (2009)
- (3) Stairways to comply with AS1428.1 CI 11 (2009)
- (4) Fire isolated stairways AS1428.1 CI 11.1 (f) and (g)– Contrast strip on edge of stair nosing (2009)
- (5) Accessible entry to the pool BCA Part D3.10.
- (6) BCA Part D3.12 Glazing on an accessway
- (7) BCA Part E3.6 Lifts.
- (8) Accessible Toilets on first floor and third floor to comply with AS1428.1 (2009) BCA Part F2.4
- (9) Ambulant cubicles within male and female toilets of Level 1 commercial to comply with AS1428.1 (2009).
- (10) Adaptable Units Letterboxes (AS4299 CI 3.8)
- (11) Adaptable Units Door hardware (AS4299 CI 4.3.4)
- (12) Adaptable Units Kitchen (AS4299 CI 4.5)
- (13) Adaptable Units Bathroom (AS4299 CI 4.4)
- (14) Slip resistant floor surface in Kitchen, bathroom and laundry and balcony as per AS/NZ4586.

It is recommended that further assessment be undertaken at Construction Certificate Stage to ensure intended compliance with BCA Part D3 and AS4299 Adaptable Housing of the nominated adaptable units.

2 Methodology

The content of this report is based upon the following:

(a) Review of Documentation

Review of 2 revisions of architectural documentation prepared MPA Architects.

(b) Analysis and Report Development

This report was developed following subsequent phone calls/ emails and review of revised plans in November 2015.

3 Disability Discrimination Act 1992 (DDA)

From 1 May 2011, the Commonwealth's Disability (Access to Premises - Buildings) Standards (the Premises Standards) made under the Disability Discrimination Act 1992 (DDA) applies to all new building work. The Premises Standards, established requirements for access to buildings, that are incorporated into the Building Code of Australia (BCA).

The Premises Standards contain an Access Code of construction that is mirrored in the disability access provisions of the BCA. New building work must comply with the Access Code in the same manner as complying with the BCA by meeting deemed-to-satisfy provisions or by adopting an alternative solution that achieves the relevant performance requirements.

This means if access is provided in accordance with the Premises Standards then it is not unlawful under the DDA. It also ensures that Object 1.3 (a) of the Premises Standards is met which is to:

‘Ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings and facilities and services within buildings is provided for people with a disability.’

4 Building Description

Level	No. of Units	Car parking spaces	Common areas
Basement 4		49 spaces (1 adaptable)	<ul style="list-style-type: none"> One lift lobby with 3 lifts 2 sets of fire stairs
Basement 3	-	49 spaces (2 adaptable)	<ul style="list-style-type: none"> One lift lobby with 3 lifts 2 sets of fire stairs
Basement 2	-	43 spaces (8 adaptable)	<ul style="list-style-type: none"> One lift lobby with 3 lifts 2 sets of fire stairs
Basement 1	-	39 spaces (3 adaptable. 1 accessible commercial space)	<ul style="list-style-type: none"> One lift lobby with 3 lifts for residents One lift for commercial 2 sets of fire stairs
Ground	Commercial units G.01, G.02	-	<ul style="list-style-type: none"> Letterbox area in lift foyer area Walkway up to lift lobby from Norfolk Street Accessible ramp from Castlereagh Street to residential lift lobby
Level 1	Commercial unit 101	-	<ul style="list-style-type: none"> Kitchen Toilet amenities with accessible toilet and ambulant cubicles in male and female toilets. 1 public stair case 2 sets of fire stairs.
Level 2	10 units (3 adaptable)		<ul style="list-style-type: none"> Storage area Garbage area 2 sets of fire stairs
Level 3	10 units (4 adaptable)		<ul style="list-style-type: none"> Pool Accessible toilet Garbage area 2 sets of fire stairs
Level 4	10 units (4 adaptable)		<ul style="list-style-type: none"> Garbage area 2 sets of fire stairs
Level 5	4 units		<ul style="list-style-type: none"> Common open space Garbage area 2 sets of fire stairs
Level 6	8 units (1 adaptable)		<ul style="list-style-type: none"> Garbage area 1 sets of fire stairs
Level 7	8 units (1 adaptable)		<ul style="list-style-type: none"> Garbage area 1 set of fire stairs
Level 8	8 units (1 adaptable)		<ul style="list-style-type: none"> Garbage area 1 set of fire stairs
Level 9	8 unit		<ul style="list-style-type: none"> Garbage area 1 sets of fire stairs

Level 10	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 11	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 12	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 13	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 14	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 15	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 16	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 17	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 18	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 19	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 20	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 21	5 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs
Level 22	2 units		<ul style="list-style-type: none"> • Garbage area • 1 sets of fire stairs • Communal open space
Roof	-		-
Total	132	175	-

Adaptable dwellings

10% of the dwellings are designed to be capable of adaptation for people with disabilities or older persons to comply with Liverpool Development Control Plan 2008, Controls for Residential Development Part 4, Section 6.1 Housing Choice and Mix.

There are 14 adaptable units nominated from levels 2 to 8. Please refer to drawing AP16 for pre-adaptation and post-adaptation design layout.

5 Accessibility Assessment

The following is a clause-by-clause assessment of the architectural drawings against:

- (1) Part D3 BCA (2015)
- (2) AS4299 Class C, All essential features for Adaptable Housing (for further detail please refer to AS4299, Appendix A Schedule of Features for Adaptable Housing).

5.1 BCA Part D3 – Access For People with Disabilities

The following is a clause-by-clause assessment of the architectural drawings against the deemed-to-satisfy provisions of the BCA Part D3 (2015).

Clause	Access Requirement	Comments
D3.1	General building access requirements	
	Class 2	<i>The residential development contains one set of vertical lifts with three lifts. These vertical lifts link the basement level to the levels above. The main entry point is from Norfolk Street.</i>
	Common Areas	<i>An accessible point of entry is provided from Castlereagh St.</i>
	From a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units (SOU's) and to the entrance doorway of each sole occupancy unit located on that level.	Access to entrance doorway of each SOU's where there is a passenger lift.
	To and within no less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, individual shop, eating area or the like.	<i>From lift lobby on the ground level, there is an accessible pathway to each SOU's entrance doorway on each level.</i>
	Where a ramp complying with AS1428.1 or passenger lift is installed –	<i>The corridors leading to SOU's on each level provide allocated spaces with sufficient corridor width of 1600mm which allows a space of 1540mmx2070mm for a person using a wheelchair to do a 180 degree turn (within 2m at the end of a corridor).</i>
	(a) to the entrance doorway of each sole-occupancy unit; and	<i>Accessible pedestrian pathways are achieved to all residential units within the development.</i>
	(b) to and within rooms or spaces for use in common by the residents.	<i>The entrance doorways of each sole occupancy unit have a clear opening of 850mm to comply with AS1428.1: 2009.</i>
	located on the levels served by the lift or ramp.	

Clause	Access Requirement	Comments
		<p>Access to Common Spaces</p> <p><u>Garbage room</u></p> <p>On each level there is a garbage holding area with an accessible path of travel to this area.</p> <p><u>Level 3 Pool, Level 5, Level 22</u></p> <p><u>Common open space</u></p> <p>The communal areas on these levels have been shown with wheelchair access in compliance with AS1428.1 (2009).</p> <p><u>Recommended Action</u></p> <ol style="list-style-type: none"> 1. At Construction Certificate Stage, ensure external and internal pathways comply with AS1428.1 (2009). 2. At Construction Certificate provide slip resistance certification for external and internal areas. To show testing as a wet pendulum classification (AS4586 – 2013).
	<p>Class 6</p> <p>To and within all areas normally used by the occupants.</p>	<p>There are 3 commercial units. There is on-grade access to two commercial spaces from the street boundaries. There is lift access up to the level 1 commercial space.</p> <p>Although furniture layouts have not yet been finalised, it is the prospective tenants responsibility to ensure access is provided within the commercial areas.</p> <p><u>Recommended Action</u></p> <ol style="list-style-type: none"> 1. At construction certificate stage, ensure door schedule shows compliance with AS1428.1 (2009) with respect to clear openings, circulation space and luminance contrast on doorways. 2. At Construction certificate stage ensure that door force is 20N where a door closer is fitted.
D3.2	Access to buildings	
	<p>(a) An accessway must be provided to a building required to be accessible –</p> <p>(i) from the main points of a pedestrian entry at the allotment boundary</p>	<p>There is an accessible pathway into the site from two street frontages. Norfolk St and Castlereagh St.</p> <p>The gradient of the pathways have the capacity to comply with AS1428.1</p>

Clause	Access Requirement	Comments
	(ii) from another accessible building connected by a pedestrian link	(2009).
	(iii) from any required accessible carparking space on the allotment.	<u>Recommended Action</u>
	(b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance.	<ol style="list-style-type: none"> 1. Ensure external pathways comply with AS1428.1 (2009). 2. At Construction Certificate provide slip resistance certification for external and internal areas. To show testing as a wet pendulum classification (AS4586 – 2013) 3. At construction certificate stage, ensure door schedule shows compliance with AS1428.1 (2009) with respect to clear openings, circulation space and luminance contrast on doorways. 4. Ensure the door thresholds of all principal entrance doors are level, for the commercial units and the residential lobby entry.

D3.3 Parts of building to be accessible

In a building required to be accessible –

- (a) every ramp and stairway, except for ramps and stairways in areas exempted by D3.4 must comply with-
- (i) for a ramp, except fire-isolated ramp, clause 10 of AS1428.1; and
 - (ii) for a stairway, except a fire-isolated stairway, clause 11 of AS1428.1; and
 - (iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS1428.1; and
- (b) every passenger lift must comply with E3.6.

Accessible Ramp

An accessible ramp is provided from Castlereagh Street into the site

There are accessible ramps proposed within the ground floor to connect loading dock and the garbage areas for the commercial spaces.

Recommended Action

Drawings for construction certificate to detail all 1:14 gradients ramps to comply with AS1428.1 with regards to handrails on both sides with extensions and tactile ground surface indicators.

Stairs

There are stairs located at the street entry from Castlereagh Street.

There are also stairs connecting to level 1 commercial space.

Recommended Action

1. All public stairs to comply with AS1428.1 Cl 11 Stairs (2009) with regards to handrails on both sides and tactile indicators on top and bottom landing of steps.

Clause	Access Requirement	Comments
		<p>2. All stairs require contrast strips to edge on stair nosings 50-75mm deep (30% contrast) to comply with AS1428.1 (f) and (g).</p> <p>Fire Isolated Stairway</p> <p><u>Recommended Action</u></p> <p>Construction certificate drawings to indicate that fire stairs will be installed with a contrast strip to edge on stair nosings 50-75mm deep (30% contrast) to comply with AS1428.1 (f) and (g).</p> <p>Lifts</p> <p>For the residential development contains 3 vertical lift shafts, which link the basement levels to the levels above. These lift Car dimensions are to be at least 1400mm wide by 1600mm deep.</p> <p>There is a lift, which connects the commercial basement car parking to ground and level 1.</p> <p><u>Recommended Action</u></p> <p>Further assessment at Construction Certificate stage is required to ensure compliance with accessible features of AS1735.12 as required by Table E3.6b BCA.</p>
D3.5	Carparking spaces for people with a disability	
	Class 2	There are no requirements for accessible parking.
	Class 6	There is one accessible car space shown for the commercial spaces on basement level 1 to comply with AS2890.6.
D3.6	Signage	
	In a building required to be accessible:	At this stage of the design, signage has not yet been developed.
	(a) (ii) identify each door required by E4.5 to be provided with an exit	<u>Recommended Action</u>

Clause	Access Requirement	Comments
	<p>sign and state-</p> <p>(A) “Exit”</p> <p>(B) “Level” followed by the floor level number</p> <p>c) signage in accordance with AS 1428.1 must be provided for accessible unisex sanitary facilities to identify if the facility is suitable for left or right handed use; and . . .</p> <p>(e) where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance</p>	<p><i>Further assessment at Construction Certificate stage is required.</i></p> <ol style="list-style-type: none"> 1. <i>Ensure Braille and tactile signage for required exit doors stating ‘Exit’ and ‘Level’ followed by floor number.</i> 2. <i>Braille and tactile signage for accessible toilet indicating left and right hand transfer.</i>
D3.8	Tactile Indicators	
	<p>(1) For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching:</p> <p>(a) a stairway, other than a fire-isolated stairway;. . .</p>	<p><i>The DA drawings show tactile ground surface indicators on the ramps and stairs.</i></p> <p><u>Recommended Action</u></p> <p><i>Tactile indicators to be installed on the top and bottom of non-fire isolated ramps and stairs to comply with AS1428.4.1.</i></p>
D3.10	Swimming Pools	
	<p>(a) Not less than 1 means of accessible water entry/exit in accordance with Specification D3.10 must be provided for each swimming pool required by Table D3.1 to be accessible.</p> <p>(b) An accessible entry/exit must be by means of—</p> <p>(i) a fixed or movable ramp and an aquatic wheelchair; or</p> <p>(ii) a zero depth entry at a maximum gradient of 1:14 and an aquatic wheelchair; or</p> <p>(iii) a platform swimming pool lift and an aquatic wheelchair; or</p> <p>(iv) a sling-style swimming pool lift.</p>	<p><i>The pool on level 2 is less than 70m in perimeter, however an accessible entry is still required.</i></p> <p><u>Recommended Action</u></p> <p><i>Show details on CC drawings the means of accessible pool entry.</i></p>

Clause	Access Requirement	Comments
	<p>(c) Where a swimming pool has a perimeter of more than 70 m in length, at least one accessible water entry/exit must be provided by a means specified in (b)(i), (ii) or (iii).</p> <p>(d) Latching devices on gates and doors forming part of a swimming pool safety barrier need not comply with AS 1428.1</p>	
D3.12	Glazing on an accessway	
	<p>On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with AS1428.1.</p>	<p><i>The DA drawings do not detail whether fully glazed doors will be installed. Further compliance to be assessed at Construction Certificate Stage.</i></p> <p><u>Recommended Action</u></p> <p><i>On a glazed door, provide a solid contrast line 75mm width at 900-1000mm and 30% luminance contrast when viewed against the floor surface or surfaces within 2m of the glazing on the opposite side</i></p>
E3.6	Passenger Lifts	
	<p>In an accessible building, every passenger lift must:</p> <p>(a) be one of the lift types identified in Table E3.6</p>	<p>Lift</p> <p><i>There are a total of 3 passenger lifts, which provide access to all levels of the development.</i></p> <p><u>Recommended Action</u></p> <p><i>The lift requires accessible features to be in accordance with E3.6b BCA 2015. To be assessed at Construction Certificate.</i></p>
F2.4	Accessible Sanitary Facilities	
	<p>In a building required to be accessible:</p> <p>(a) accessible unisex sanitary compartments must be provided in accessible parts of the building in accordance with Table F2.4 (a)</p> <p>(b) accessible unisex showers must be provided in accordance with Table F2.4 (b); and . . .</p> <p>(d) an accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and</p>	<p>Accessible Toilets</p> <p><i>There are two accessible toilets located on the ground level for use by the commercial units.</i></p> <p><u>Recommended Action</u></p> <p>1. <i>To comply with BCA Part F2.4 (g) ensure that there are alternating left hand and right hand transfer toilet</i></p>

Clause	Access Requirement	Comments
	adequate means of disposal of sanitary towels; and (e) the circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with Table F2.4 (a) and (b) must comply with the requirements of AS 1428.1; and . . .	2. <i>At Construction Certificate Stage check detailed drawings for compliance with fixtures and fittings for the accessible toilets are in accordance with AS1428.1. (2009).</i>

5.2 AS4299: CLASS C ESSENTIAL FEATURES

The following is a clause-by-clause assessment of the architectural drawings against AS4299 Class C All essential features for Adaptable Housing (refer to Appendix A Schedule of Features for Adaptable Housing 1995).

#	Access Requirement	Clause	Comments
Drawings			
1.	Provision of drawings showing the housing unit in its pre-adaptation and post-adaptation stages.	2.3	<i>Drawing AP16, shows the Adaptable Units typical layout of 2 Unit types, for pre and post-adaptation of all 17 nominated units.</i>
Siting			
2.	A level or gently sloping site with up to 1:14 gradient	3.2.2*	<i>The site is reasonably level.</i>
3.	A continuous accessible path of travel from street frontage, vehicle parking and visitors parking to entry complying with AS 1428.1.	3.3.2	<i>From Norfolk and Castlereagh Street, there is an accessible path of travel to the main entrance and lift lobby. There are accessible walkways and turning spaces provided to the swing entry doors to lift lobbies on the east and west of the development.</i> <i>From the basement car park where the adaptable unit spaces are located, there are three lifts shown on the drawings to link all floors in the development. These lifts are to comply with requirements of AS1735.12 in Part E3.6b of the Building Code of Australia.</i>

#	Access Requirement	Clause	Comments
4.	Additional paths and walkways to be continuous, slip resistant and and hard surfaced with gradients complying with AS1428.1	3.3.2 **	<i>There are no additional paths to the pathways.</i>
5.	Within a residential estate development, common use facilities to be accessible	3.3.3 *	<i>There are accessible pathways to common open space areas on level 5 and level 22.</i>
6.	Within a residential estate development, street names with house numbers at each intersection.	3.3.3 **	<i>This requirement does not apply, as it is not a residential estate development.</i>
7.	Within a residential estate development, internal roadways to be separate from pedestrian walkways	3.3.3 *	N/A
Security			
8.	Pathway lighting shall be positioned at low height to avoid glare and to provide min. 50 lux at ground level	3.6.1 *	N/A
9.	Clear line of sight from a well-lit vehicle drop-off point to safe pedestrian entry point	3.6.2 *	<i>There are clear lines of sight to the pedestrian entries at Norfolk Street and Castlereagh Street.</i>
Letterboxes			
10.	Within residential estate developments, letterboxes centrally located adjacent to street entry. Lockable.	3.8	<i>Letterbox location is shown at the main entry alcove to the building. Ensure that the adaptable unit letterboxes are located on a flat surface at an accessible reachable height, no greater than 1350mm.</i>
11.	Letterboxes to be on hard standing level area connected to accessible pathway.	3.8	<i>Letterboxes to be provided on an accessible flat level area.</i>
12.	Letterbox area roofed in a well-lit location.	3.8 *	<i>Letterboxes are located under cover and lit.</i>
13.	Parcel rack included with letterboxes	3.8 *	<i>Design of letterboxes required for Construction Certificate.</i>
Private Car Accommodation			
14.	Carparking space or garage min.	3.7.2	<i>On the basement levels, there are 14 allocated adaptable unit car</i>

#	Access Requirement	Clause	Comments
	area 6.0m x 3.8m.		<i>spaces, which are either 2400mm in width with an adjacent shared space of 2400mm or 3800mm width.</i>
15.	Roof to car parking space	3.7.1 *	<i>Provided in the basement levels.</i>
16.	Internal clearance of garage or carport 2.5m min	3.7.2 **	<i>Basement clearance at accessible car spaces is 2500mm.</i>
17.	Provision for power-operated roller door to garage	3.7.2 **	<i>There is a basement entry door.</i>
18.	Covered access to dwelling unit	3.7.3 *	<i>N/A</i>
19.	Illumination level min. 50 lux	4.10 **	<i>N/A</i>
Accessible Entry			
20.	At least one accessible entrance.	4.3.1	<i>Adaptable Units shows clear openings of 850mm with sufficient latch side spaces.</i>
21.	Entry protected by porch or similar	4.3.1 **	<i>N/A</i>
22.	Accessible entry to be level (i.e. max 1:40 slope).	4.3.2	<i>Entry to the adaptable unit via the central lifts, appears level.</i>
23.	Threshold to be low-level (construction tolerance of 5mm permitted).	4.3.2	<i>Further design detail is required and need to be checked during construction phases for each adaptable unit.</i>
24.	Landing to enable wheelchair manoeuvrability (i.e. 1550mm min. diameter)	4.3.2	<i>Complies.</i>
25.	Accessible entry door to have 850mm min. clear (920mm entry doors recommended).	4.3.1	<i>Complies.</i>
26.	Weatherproofed entry door	4.3.3 **	<i>N/A .</i>
27.	Door lever handles and hardware to AS 1428.1 installed between 900-1100mm ffl.	4.3.4	<i>To be specified at Construction Certificate Stage.</i>
28.	Provision for combined	4.3.5 *	<i>N/A</i>

#	Access Requirement	Clause	Comments
	door/security		
29.	Potential min. illumination level 300 lux	4.10 *	N/A
Exterior General			
30.	All external doors to be keyed alike	4.3.4 **	N/A
31.	Provision for security screen to exterior opening or sliding windows and doors	4.7.6 *	N/A
Interior General			
32.	Internal doors to have 820 mm min effective door clearances (870mm leaf doors recommended).	4.3.3	<i>This complies for all adaptable units</i>
33.	Internal corridors min. clear width of 1000mm.	4.3.7	<i>Complies.</i>
34.	Compliance with AS 1428.1 for door approaches to visitable toilet and main bedroom pre - adaptation. Drawings of post adaptation door approaches in compliance with AS 1428.1.	4.3.7	<i>Complies</i>
35.	Window sills at max 730mm above floor level to living and 600mm above floor level to bedroom areas	4.7.2 and 4.6.2. **	N/A
Living Room & Dining Room			
36.	Circulation space of min. 2250 mm diameter clear of furniture.	4.7.1	<i>Complies.</i>
37.	Minimum 4 double GPO's	4.7.3 *	N/A .
38.	Telephone adjacent to GPO.	4.7.4	<i>To be checked at Construction</i>

#	Access Requirement	Clause	Comments
<i>Certificate.</i>			
39.	Telephone outlet location between kitchen and living space, adjacent to GPO.	4.7.4 **	N/A
40.	Two TV antenna outlets adjacent to GPO	4.7.5 *	N/A
41.	Potential illumination level min. 300 lux .	4.10	<i>To be checked at Construction Certificate.</i>
Kitchen			
42.	Minimum width 2.7 m (1550 mm clear width between benches).	4.5.2	<i>1550mm clear is proposed to be provided post-adaptation to all adaptable kitchens.</i>
43.	Circulation at doors to comply with AS 1428.1.	4.5.3	<i>Complies.</i>
44.	Benches to include at least one worksurface of 800 mm length, which can be reinstalled or replaced within the range 750mm to 850mm ffl.	4.5.5	<i>Further design detail within kitchen shop fit drawings required to check for compliance.</i>
45.	Refrigerator to be located adjacent to a work surface.	4.5.5	<i>To be checked at Construction Certificate.</i>
46.	Kitchen sink to be adjustable or replaceable to between 750mm to 850mm.	4.5.6	<i>To be checked at Construction Certificate.</i>
47.	Kitchen sink bowl max. 150mm deep.	4.5.6	<i>To be checked at Construction Certificate.</i>
48.	Tap set to be capstan, lever type or lever mixer.	4.5.6(e)	<i>As above.</i>
49.	Tap set located within 300mm of front of sink.	4.5.6(e)	<i>As above.</i>
50.	Installation of thermostatic mixing valve	4.5.6 (f) *	N/A .
51.	Cooktops to include either front	4.5.7	<i>To be checked at Construction</i>

#	Access Requirement	Clause	Comments
	or side controls with raised cross bars.		<i>Certificate.</i>
52.	Cooktops to include isolating switch.	4.5.7	<i>To be checked at Construction Certificate.</i>
53.	Work surface min. 800mm length adjacent to cooktop at same height.	4.5.7	<i>To be checked at Construction Certificate.</i>
54.	Oven located adjacent to an adjustable or replaceable work surface.	4.5.8	<i>As above.</i>
55.	Provision for microwave oven at height of 750mm-1200mm above floor.	4.5.9 **	<i>N/A</i>
56.	Central Light with seconf light over sink. Illumination levels 300-550lux.	4.10 *	<i>N/A</i>
57.	Adjustable shelving:	4.5.10**	<i>N/A</i>
58.	Location of cupboard handles	4.5.10*	<i>N/A</i>
59.	GPOs to comply with AS 1428.1. At least one double GPO within 300mm of front of work surface.	4.5.11	<i>As above</i>
60.	GPO for refrigerator to be easily reachable when the refrigerator is in its operating position.	4.5.11	<i>As above.</i>
61.	Slip resistant floor surface	4.5.4	<i>To be checked at Construction Certificate.</i>
Bedroom			
62.	At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and AS 1428.2 circulation requirements of min. 1000mm to one side of bed and 180° wheelchair turn (2070mm x 1540mm)	4.6.1	<i>The post adaptation drawing shows the main bedrooms for all adaptable unit types, to be capable of providing the circulation space. Complies.</i>

#	Access Requirement	Clause	Comments
63.	2 double GPO's on bedhead wall	4.6.3 *	N/A
64.	Min. of 1 GPO opposite wall	4.6.3 **	N/A
65.	Telephone outlet next to bed on the side closest to door	4.6.5 **	N/A
66.	TV antenna point and double GPO on opposite wall to bedhead	4.6.6 *	N/A
67.	2 way light switches	4.6.4 *	N/A
68.	Potential illumination 300 lux	4.10 *	N/A
69.	Sliding doors on wardrobe with full length mirror	4.6.7 **	N/A
Other Bedrooms			
70.	2 double GPO's on bedhead wall	4.6.3 *	Not applicable
71.	2 way light switches	4.6.4 *	Not applicable
72.	Telephone outlet next to GPO	4.6.5 **	Not applicable
73.	TV antenna point next to GPO	4.6.6. *	Not applicable
74.	Potential illumination 300 lux	4.10 *	Not applicable
Bathroom			
75.	Provision for bathroom area to comply with AS 1428.1:2009 (Min dimensions for combined, accessible shower and toilet).	4.4.1	The dimensions for combined accessible shower and toilet for Pre and Post Adaptation drawings have the capacity to comply with AS1428.1 (2009).
76.	Slip-resistant floor surface as per AS/NZ4586.	4.4.2	Flooring schedule required.
77.	Hobless shower recess. Minimum size 1160mm X 1100mm to comply with AS 1428.1. (AS4299 Figures 4.6 and 4.7).	4.4.4(f)	Details have been provided for Post Adaptation.
78.	Shower area waterproofed to AS3740 with floor to fall to waste.	4.4.4(f)	Demonstrate in wet area details at Construction Certificate

#	Access Requirement	Clause	Comments
79.	Recessed soap holder.	4.4.4(f)	Demonstrate in wet area details at Construction Certificate
80.	Shower taps positioned for easy reach to access side of shower sliding track.	4.4.4(f)	Demonstrate in wet area details at Construction Certificate
81.	Shower waste min.80mm diameter	4.4.4(f) **	N/A
82.	Provision for adjustable, detachable hand held shower hose mounted on a slider grab rail or fixed hook (plumbing and wall-strengthening provision).	4.4.4(h)	Demonstrate in wet area details at Construction Certificate
83.	‘Provision’ for grab rail in shower (refer to figure 4.7) to comply with AS 1428.1.	4.4.4(h)	Demonstrate in wet area details at Construction Certificate
84.	Provision for additional grabrail	4.4.4 (h) *	N/A
85.	Provision for folding seat in shower.	4.4.4 (h) **	Demonstrate in wet area details at Construction Certificate
86.	Taps set to be capstan or lever handles with single outlet.	4.4.4(c)	Demonstrate in wet area details at Construction Certificate
87.	Installation of thermostatic mixing valve	4.4.4 (b) *	N/A
88.	Provision for washbasin with clearances to comply with AS 1428.1 (if to be used in conjunction with “visitable toilet” or accessible toilet).	4.4.4(g)	Demonstrate in wet area details at Construction Certificate
89.	Wall cabinet with light	4.4.4 (d) *	N/A
90.	Double GPO beside mirror.	4.4.4(d)	Demonstrate in wet area details at Construction Certificate
91.	Potential illumination level 300lux	4.10 *	Demonstrate in wet area details at Construction Certificate
Toilet			

#	Access Requirement	Clause	Comments
92.	Provision of either “visitable toilet” or accessible toilet on the entrance level to comply with AS1428.1. <i>Visitable toilet – a toilet which has a space of minimum 1250mm in front of the toilet x 900mm wide clear of door swings and fixtures. See AS4299.1.1 Fig 1.1.</i>	4.4.1 4.4.3	<i>Drawings show a visitable toilet in the ensuite bathroom to the main bedroom for pre-adaptable units with a clear space 900mm x 1250mm in front of the toilet to comply.</i>
93.	Provision to comply with AS1428.1	4.4.1	<i>Complies.</i>
94.	Location of WC pan at minimum 600mm from the rear wall and 450mm from the side wall as per AS4299 Figure 4.3.	4.4.3	<i>Show on construction certificate drawings, for ease of plumbing modications, It is advised to initially install WC pan plumbing within main bathrooms of adaptable units at correct distance from the fixed walls.</i>
95.	Provision for grab rail zone as per AS4299 Figure 4.6.	4.4.4(h) Fig. 4.5	<i>Show on construction certificate drawings, walls to be strengthened with 12mm structural plywood if framed walls are used.</i>
96.	Slip-resistant floor surface compliant with AS/NZ4586 (vitreous tiles similar).	4.4.2	<i>Flooring schedule required for Construction Certificate.</i>
97.	Recessed toilet roll holder	4.4.3 **	<i>Not applicable.</i>
Laundry			
98.	Circulation at door to comply with AS 1428.1 Figure 12.	4.8	<i>Complies.</i>
99.	Adequate circulation space in front of or beside appliances (min. 1550 mm clear depth forward of appliances).	4.8	<i>Complies.</i>
100.	Provision for automatic washing machine.	4.8 (e)	<i>Space is available for an automatic washing machine.</i>

#	Access Requirement	Clause	Comments
101.	Provision for drier	4.8 (f) *	N/A
102.	If clothes line is located externally in a common are, an accessible path of travel to clothes line must be provided.	4.8 (a)	<i>There is a balcony area adjacent to living areas with sliding doors. During the construction stages confirmation is required for sliding door thresholds to be capable of facilitating wheelchair access to comply with AS1428.1 (2009).</i>
103.	Installation of thermostatic mixing valve	4.8 (d) *	N/A
104.	Taps positioned at side of tub	4.8 (c) **	N/A
105.	Double GPO shall be provided as a minimum.	4.8 (g)	<i>To be checked at Construction Certificate.</i>
106.	Provision of shelf for soaps and similar, 1200mm max, height	4.8 (h) **	N/A
107.	Potential illumination level 300 lux generally with 550 lux task lighting	4.10 *	<i>To be checked at Construction Certificate.</i>
108.	Slip resistant floor surface as per AS/NZ4586.	4.9.1	<i>To be checked at Construction Certificate.</i>
Storage			
109.	Linen cupboard min. 600mm wide with adjustable shelving	4.11.5 *	N/A
Door Locks			
110.	Door hardware operable with one hand, located 900 – 1100 mm above floor.	4.3.4	<i>At Construction Certificate, door schedule required to check for compliance.</i>
Floor Coverings			
111.	Slip resistant surfaces – balconies and external paved areas (vitreous tile or similar)	4.9.1 *	<i>Provide flooring schedule at Construction Certificate.</i>
Ancillary Items			

#	Access Requirement	Clause	Comments
112.	Switches located 900 – 1100mm above floor in line with door handles.	4.11.1 *	Construction Certificate drawings Drawings to show switches and GPO's to be 900mm – 1100mm above floor level.
113.	GPO's located not less than 600 above floor.	4.11.1 *	Construction Certificate drawings to show switches and GPO's to be 600mm above floor level.
114.	Electrical distribution board located inside housing unit	4.11.2 **	N/A
115.	Window controls located in an accessible position	4.11.4 **	N/A
Garbage			
116.	Provision for bin in an accessible location.	4.11.6 *	Residential garbage rooms are located within the ground level .
117.	Provision for external wheelchair storage	4.11.6 **	N/A
118.	Provision for external battery charging facility	4.11.6 **	N/A
119.	Guide dog accommodation	4.11.6 **	N/A

Further Comments AS4299 – 1995:

Appendix A - Schedule of features for Adaptable Housing

The above checklist confirms that the nominated 14 adaptable units, has the capacity to satisfy the requirement of Adaptable House Class C.
The number of essential features incorporated into the design is 55 items.
In addition to this, where there are clauses with (*) this indicates a First priority desirable feature.

6 Conclusion

In summary, on the basis of our assessment, the proposed mixed used development at 7-13 Norfolk Street Liverpool, has the capacity to meet the requirements of the following:

1. Part D3, E3.6 and F2.4 of the Building Code of Australia (BCA); &
2. Liverpool Council's LDCP 2008 Part 4, Development in Liverpool City Centre- 10% of all dwellings to be capable of adaptation

We note further assessment at Construction certificate stage is required to ensure compliance with AS1428.1 (2009) and Class C Essential features of AS4299. A summary of accessible and adaptable building features to be reviewed at CC stage is as follows:

- (1) External accessible pathways to comply with Clause 7 AS1428.1 (2009) with respect to slip resistance (AS/NZ4586) and construction tolerances between abutment of surfaces.
- (2) Walkways/Ramps to comply with AS1428.1 CI 10 (2009)
- (3) Stairways to comply with AS1428.1 CI 11 (2009)
- (4) Fire isolated stairways AS1428.1 CI 11.1 (f) and (g)– Contrast strip on edge of stair nosing (2009)
- (5) Accessible entry to the pool BCA Part D3.10.
- (6) BCA Part D3.12 Glazing on an accessway
- (7) BCA Part E3.6 Lifts.
- (8) Accessible Toilets on first floor and third floor to comply with AS1428.1 (2009) BCA Part F2.4
- (9) Ambulant cubicles are provided within male and female toilets of Level 1 commercial to comply with AS1428.1 (2009).
- (10) Adaptable Units Letterboxes (AS4299 CI 3.8)
- (11) Adaptable Units Door hardware (AS4299 CI 4.3.4)
- (12) Adaptable Units Kitchen (AS4299 CI 4.5)
- (13) Adaptable Units Bathroom (AS4299 CI 4.4)
- (14) Slip resistant floor surface in Kitchen, bathroom and laundry and balcony as per AS/NZ4586.

It is recommended a further assessment of accessible building features in section 5 of the report be carried out prior to issue of Construction Certificate, to ensure intended compliance with Part D3 BCA (2015) and AS4299 (1995).

Please contact me on 0423 126 726 if you require any further information.

Yours sincerely,



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7 APPENDIX A – Drawings reviewed

#	DWG. No	Title	Issue	Date
1.	AP01	Cover Sheet	A	5/11/15
2.	AP02	Data	A	5/11/15
3.	AP03	Site & Context Plan	A	5/11/15
4.	AP04	Basements 4 & 3	A	5/11/15
5.	AP05	Basement 2 & 1	A	5/11/15
6.	AP06	Ground Floor & Level 1	A	5/11/15
7.	AP07	Levels 2 & 3	A	5/11/15
8.	AP08	Levels 4 & 5	A	5/11/15
9.	AP09	Levels 6-10	A	5/11/15
10.	AP10	Levels 11-22	A	5/11/15
11.	AP11	Levels 23 & 24	A	5/11/15
12.	AP12	Levels 23 & 24	A	5/11/15
13.	AP13	Elevation	A	5/11/15
14.	AP14	Elevation	A	5/11/15
15.	AP15	Sections	A	5/11/15
16.	AP16	Adaptable units	A	5/11/15