## ATTACHMENT 5 – SEPP 65 Apartment Design Guide (ADG) Assessment

ADG Control	Comment
3A Site analysis	
Objective 3A-1	Unsatisfactory
Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.	<ul> <li>The supplied site analysis does not address the following issues:</li> <li>Proposed building envelopes for neighbouring sites missing from patterns of buildings — particularly relevant for development to north of proposed site.</li> <li>Many details shown on the survey, are not integrated with architectural or site analysis drawings for a thorough understanding of the site.</li> <li>Streetscape elevation is not of sufficient detail to understand the buildings relationship with neighbouring developments and should include potential future development on neighbouring sites including building envelopes.</li> <li>Sun angles and prevailing winds are shown as 2D on a 3D perspective, which does not correctly depict their relationship to the development. Both should be modelled in 3D and depicted as a perspective (showing altitude of solar angles as well as azimuth) or shown only in 2D, with other missing or unsatisfactory elements as outlined above.</li> <li>While supporting written material is provided, it is not integrated with site analysis drawings.</li> </ul>
3B Orientation	
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development	Unsatisfactory  There are numerous issues regarding the general design and layout of the streetscape design including: the functionality of dining spaces on a busy road with limited solar access; the number, location and design of residential lobbies; the large, indented walkways and security/safety concerns; the design of commercial spaces including enormous loading areas and general functionality issues; and the location of the booster alongside the entryway of residential lobbies.
	The residential towers are also problematic in their U-shaped design which creates multiple overlooking issues as well as general concerns about functionality of circulation spaces. For example, the southern lobbies appear to have glass walls which are likely to overheat in summer without appropriate shading ad also prevent access to garden beds.
	It generally appears as if the layout of the residential towers has not been fully resolved, particularly in relation to wayfinding/access and non-compliant setbacks/visual privacy issues discussed below, which is likely to change the design of the building.
Objective 3B-2	Unsatisfactory
	The proposed design overshadows the sites to the south, which are likely to be redeveloped in the future. Removing

winter

# Overshadowing of neighbouring properties is minimised during mid-

#### Comment

the southern portion of the development would allow northern sunlight to pass through to neighbouring sites as well addressing a number of internal visual privacy issues (outlined below).

#### 3C Public domain interface

#### Objective 3C-1

Transition between private and public domain is achieved without compromising safety and security

#### Unsatisfactory

The proposed deep 'lobbies' into the site are highly problematic and pose a number of CPTED issues. The proposed landscaping may create spaces for concealment and necessitate an open roof for viability, which creates amenity issues for residents during inclement weather.

## Objective 3C-2

Amenity of the public domain is retained and enhanced

#### Unsatisfactory

The public domain along Flinders Street is harsh and dominated by vehicular traffic and not particularly welcoming for pedestrians with a number of vehicular access points and high traffic volume. The existing development is predominantly car sales which do not contribute to the public domain.

While the proposed design is likely to enhance the pedestrian experience and public amenity of the area through a 3m setback for wider pathways away from traffic, upgrades to the footpath to ensure accessibility, covered awnings, and more active street frontages, there are still issues with the proposed design. The oddly shaped floor plates of the commercial spaces (including the oversized loading areas) are likely to be difficult to occupy and furnish, as well as being unnecessarily complicated to build with little benefit. Additionally, the commercial space divided by a lobby is generally a poor design with no sight lines between the two active frontages, likely to lead one space to becoming 'back of house' uses or at least poorly utilised.

## 3D Communal and public open space

Objective 3D-1

An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.

- Communal open space has a minimum area equal to 25% of the site
- 2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June

## Objective 3D-2

Communal open space is designed to allow for a range of activities, respond

## Satisfactory

Communal open space appears to be of an appropriate size with direct solar access.

## Unsatisfactory

### Comment

to site conditions and be attractive and inviting

While the development provides multiple play areas, lawns, outdoor exercise spaces, seating areas and water features (which are all positive aspects), the overall design remains unresolved. Additionally, there is one small BBQ and no toilets available for residents to use, as well as no provision of undercover areas for inclement weather.

Generally, COS between two residential apartment buildings can be difficult to properly resolve in relation to visual and acoustic privacy of apartments facing this area. Currently, this is insufficiently resolved. The rear deep soil zone with pathway and exercise areas compromises the privacy and outlook of the rear apartments. Additionally, there is insufficient buffering between the west facing ground floor units to the rear building, creating privacy and amenity impacts for residents.

#### Objective 3D-3

- Communal open space idesigned to maximise safety

## Unsatisfactory

Planter bed details alongside lawn areas do not meet minimum height requirements. The planter beds need to be raised above the ground level of lawns to prevent climb/fall zones.

#### Objective 3D-4

Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood Not proposed..

## 3E Deep soil zones

## Objective 3E-1

Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality

 Deep soil zone is 7% of site area with a minimum dimension of 6m

## Unsatisfactory

Deep soil zone is compromised by hard pathways, artificial lawn, outdoor gym equipment and other built forms. This should be removed in favour of a meaningful 6m wide deep soil zone which supports large tree growth.

## 3F Visual privacy

#### Objective 3F-1

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy

- 1. Building separation (habitable):
  - 4 storeys 6m
  - 5-8 storeys 9m
  - 9+ storeys 12m

## Unsatisfactory

Building setbacks are non-compliant to side and rear boundaries, and the first storey above ground floor is labelled as the ground floor level. While it is accepted the rear of the site slopes, the development is predominantly viewed from the street and setbacks should be adjusted accordingly.

Non compliances include:

 Predominant 3m setback proposed to the side boundaries up to Level 3 (5<sup>th</sup> storey) with multiple windows and/or balconies with blank walls in places to mitigate effects.

ADG Control	Comment
	Multiple POS within 9m setback from Level 4 (6 <sup>th</sup> storey) upwards to southern boundary.
	4.5m setback to northern boundary despite inclusion of windows from Level 4 (6th Storey) upwards.
	3m-4.5m setback proposed to northern boundary despite having habitable rooms and highlight windows. Defensive measures not acceptable on such a large development.
	<ul> <li>Internally there are numerous issues of visual privacy including internal widths which fall below the required 24m at "Level 6" (the 8<sup>th</sup> storey).</li> </ul>
	<ul> <li>The bridges between lobbies throughout the building are also likely to pose acoustic privacy issues due to the limited setback between walls, particularly to the western wing of the building.</li> </ul>
	The side setbacks generally are not acceptable and likely to create significant visual privacy impacts.
Objective 3F-2	Unsatisfactory
- Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space	There are multiple conflicts with privacy and visual impacts within the development including tight corners between the two wings and southern apartments
3G Pedestrian access and entries	
Objective 3G-1	Unsatisfactory
Building entries and pedestrian access connects to and addresses the public domain	As noted above pedestrian entries are poorly designed posing CPTED issues and poorly located within the commercial spaces, inadequately addressing the public domain.
	Additionally, fire egress stairs do not appear to meet egress distance requirements, posing safety issues.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify	Unsatisfactory
	There are 5 different lift lobbies for the development which is likely to make it confusing and difficult for people visiting the site to identify which lobby is the correct one for them. Additionally, one of these services commercial parking level only and without clear signage will add to confusion. Also, this lift does not have room for a overrun.
	It is likely the best outcome for the site would be to reduce the number of cores if possible.
	Entries for the rear building are likely to be difficult for visitors and delivery drivers to identify without appropriate signage. However, with the comments noted regarding the

ADG Control	Comment
	design of these spaces, a different outcome is likely to be required to access to the cores for the rear buildings.
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations	Not applicable.
3H Vehicle access	
Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes	Satisfactory  The vehicular access point appears to be appropriately located.
3J Bicycle and car parking	
Objective 3J-1	Unsatisfactory
Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	Car parking numbers are compliant but there are swept path issues raised by Council's traffic engineer including those for B99 vehicles as well as the LRV.
Objective 3J-2	Unsatisfactory
Parking and facilities are provided for other modes of transport	Bicycle parking should be provided in secure cages, but otherwise numbers of bicycle and motorcycle parking is compliant.
	No EV parking appears to be accommodated. Provision for adaptation of EV parking in the future should also be included.
Objective 3J-3 Car park design and access is safe and secure	Unsatisfactory
	Access design along the driveway is required to be redesigned to accommodate rear-loader waste collection access.
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised	Unsatisfactory
	It appears that no space has been allowed for mechanical ventilation ducting from the basement carparking – this is not to be located within the COS or DSZ due to insufficient sizing internally.
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised	Satisfactory
	On grade parking is appropriately sleeved behind commercial frontages.
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised	Not applicable
Part 4 Designing the building	

ADG Control	Comment
4A Solar and daylight access	
Objective 4A-1  To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space  - 70% receive 2 hours sunlight between 9am and 3pm on winter solstice  - Maximum of 15% receive no direct sunlight between 9am and 3pm on	Satisfactory  Solar access appears to be compliant with 77% of apartments receiving 2 hours, and 7% receiving no solar access.
winter solstice  Objective 4A-2  Daylight access is maximised where sunlight is limited	Satisfactory  The site's unobstructed northern boundary facilitates solar access.
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months	Unsatisfactory  No shading or glare control is proposed, despite large amount of exposed glass facing west. Low-E glass is not an acceptable solution — screening and/or shading elements should be incorporated to deal with heat gain in summer, particularly in relation to resilience and climate change.
4B Natural ventilation	
Objective 4B-1 All habitable rooms are naturally ventilated	Unsatisfactory  All rooms appear to have acceptably sized windows, though no details of operability have been provided (most walls shown as glass).
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation	Satisfactory  The design of single aspect apartments is generally acceptable in terms of ventilation.
Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents  - 60% of apartments are naturally cross ventilated  - Overall depth of an apartment does not exceed 18m	Unsatisfactory  The application states cross ventilation is achieved due to the bridges between buildings which are open air providing cross through air movement. Generally, this setup is likely to work where a minimum of 6m is provided between the wings (such as to the east/rear of the site) but is likely compromised to the front where only 4m is provided. Additionally, this space is likely to cause acoustic and visual privacy issues between apartments which have windows open towards one another.
4C Ceiling heights	
Objective 4C-1	Unsatisfactory

Ceiling height achieves sufficient natural ventilation and daylight access

Minimum ceiling height of 2.7m for habitable rooms, 2.4m for non-habitable rooms, 3.3m for ground and first floor in mixed use areas

### Objective 4C-2

Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms

#### Objective 4C-3

Ceiling heights contribute to the flexibility of building use over the life of the building

## 4D Apartment size and layout

#### Objective 4D-1

The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity

Minimum apartment size:

- Studio 35sqm
- 1-bedroom 50sqm
- 2-bedroom 70sqm
- 3-bedroom 90sqm

Every habitable room must have a window with a total minimum glass area of not less than 10% of the floor area of the room.

#### Objective 4D-2

Environmental performance of the apartment is maximised

Habitable room depths are limited to a maximum of 2.5 x the ceiling height

In open plan layouts (where the living, dining and kitchen are combined) the

#### Comment

3.1m floor-to-floor has been provided, which is sufficient to meet the 2.7m ceiling height for residential apartments.

However, a 3.1m ceiling height is required for Level 1 (above the commercial level) as per the ADG for mixed use developments.

Additionally, Council requires that waste is collected on site and will require a minimum 3.5m ceiling height for a rear loading vehicle. The development has designed for a medium rigid vehicle (MRV), although it is questionable whether the basement 2.7m head height can accommodate even an MRV.

## Unsatisfactory

Generally acceptable in residential apartments, apart from those mentioned above.

## Unsatisfactory

As noted, the first floor should have a minimum ceiling height of 3.1m for flexibility of use, particularly due to the site's position within the Enterprise Corridor zone.

#### Unsatisfactory

The standard of apartment layouts is suboptimal, and the following issues need to be addressed:

- One-bedroom units have their front doors open into the kitchen and living space which is a poor outcome for privacy and functionality.
- Units in south west corner appear to have their kitchens in a hallway adjacent to bedrooms creating noise and use conflicts.
- Storage and desk uses conflict as noted previously.
- One-bedroom units (such as 104, 204, etc) require occupants to walk through the kitchen to reach a toilet or bathroom

## Unsatisfactory

Generally, apartments do not appear to be beyond the 8m depth from a side facing balcony window, however most are more than 8m from the externally facing windows.

The south-eastern units (210, 310, etc) have kitchens which do not have natural ventilation, located within a hallway space.

maximum habitable room depth is 8m from a window

#### Objective 4D-3

Apartment layouts are designed to accommodate a variety of household activities and needs

Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space)

Bedrooms have a minimum dimension of 3m (excluding wardrobe)

Living rooms or combined living/dining rooms have a minimum width of:

- 3.6m for studio / 1 bed
- 4m for 2+ beds

The width of cross-over or crossthrough apartments are at least 4m internally to avoid deep narrow apartment layouts

#### 4E Private open space and balconies

## Objective 4E-1

Apartments provide appropriately sized private open space and balconies to enhance residential amenity

Minimum balconies:

- Studio 4sqm
- 1 bed 8sqm / 2m depth
- 2 bed 10sqm / 2m
- 3 bed 12sqm / 2.4m

Podium level apartments have a POS of 15sqm and depth of 3m

## Objective 4E-2

Primary private open space and balconies are appropriately located to enhance liveability for residents

## Objective 4E-3

Private open space and balcony design is integrated into and contributes to the

#### Comment

Other apartments (such as U411) exceed the 2.5 x ceiling height for the depth of habitable rooms (7.4m in depth, when the room depth should not exceed 6.75m).

#### Unsatisfactory

Living rooms generally meet the required dimensions, however many bedrooms are below the required dimensions and/or areas (many are 2.8 wide, master bedrooms are often 3m x 3m only, some dimensions include wardrobes).

Additionally, three-bedroom units do not appear to meet the minimum 4m width for living areas.

## Unsatisfactory

Multiple balconies do not appear to meet the required area and/or dimensions. For example:

- POS of Units 127/227/327 do not meet the required 2m depth
- POS of Units 104, 204, 304, 404, 504, 604, and 704 do not meet the required area of 8sqm.

## Unsatisfactory

Generally, balconies are acceptable, though are predominantly located off bedrooms rather than living spaces to meet solar access requirements.

A few balconies as listed above are noncompliant in their setbacks, awkwardly shaped, and do not meet sizing requirements.

Satisfactory

Generally acceptable.

individual apartments

4H Acoustic privacy

## **ADG Control** Comment overall architectural form and detail of the building Objective 4E-4 Satisfactory. Private open space and balcony design maximises safety 4F Common circulation and spaces Objective 4F-1 Unsatisfactory Common circulation spaces achieve There are 5 circulation cores, and while some service only good amenity and properly service the 6 units per floor, the south-west corner lift serves 10 units. number of apartments The stair is also unlikely to be a compliant distance from all units. The maximum number of apartments off a circulation core on a single level is While the development is not over 10 storeys, multiple lifts eight service more than 40 apartments. The lift in the south west corner for example services 62 units which is unacceptable. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 Objective 4F-2 Unsatisfactory Common circulation spaces promote Corridors are only 1540 wide, which does not allow for the safety and provide for social interaction passing of two wheelchairs. Additionally, multiple corridors between residents appear to be longer than 12m with no articulation. Additionally, circulation is lacking detail which may create safety issues - for example, can residents access other units hallways through outdoor walkways? Additionally, is this outdoor access secure and could people be locked between walkways? More details are required. 4G Storage Objective 4G-1 Unsatisfactory Adequate, well designed storage is Internal storage requirements to apartments have not been provided in each apartment met for the following reasons as multiple storage areas are also shown as desks (they cannot be both) and storage is Storage required, of which 50% is in the often located within bedrooms and bathrooms rather than apartment: being accessible from circulation or living areas as required. Studio 4m3 Additionally, many spaces are thin and deep, likely making 1 bed 6 m<sup>3</sup> them difficult to use and access. 2 bed 8 m<sup>3</sup> 3+ bed 10 m<sup>3</sup> Objective 4G-2 Satisfactory. Additional storage is conveniently located, accessible and nominated for

#### **ADG Control** Comment Objective 4H-1 Unsatisfactory Noise transfer is minimised through the It is likely the communal open space between buildings will siting of buildings and building layout create significant acoustic privacy issues, potentially affecting approximately 50% of the apartments. Another 25% of apartments face Flinders Street, which is a busy classified road. Additionally, apartments which open to the outside on Flinders Street with COS are likely to be highly affected by noise issues with no buffer between them and active play and socialising spaces. Objective 4H-2 Unsatisfactory Noise impacts are mitigated within Generally, apartment layout is acceptable, though conflicts apartments through layout and acoustic with COS are likely to be numerous. treatments 4J Noise and pollution Unsatisfactory Objective 4J-1 In noisy or hostile environments, the Flinders Street is a busy and noisy road. The proposed impacts of external noise and pollution design does not step back the towers towards the quieter are minimised through the careful siting rear of site. As such it is likely that defensive measures will and layout of buildings be needed throughout. Objective 4J-2 Unsatisfactory Appropriate noise shielding No acoustic attenuation measures are proposed to the attenuation techniques for the building balconies facing Finders Street with only laminated glass design, construction and choice of proposed to units. materials are used to mitigate noise transmission **4K Apartment mix** Objective 4K-1 Unsatisfactory A range of apartment types and sizes is No studio or four bedroom apartments are proposed and provided to cater for different household only 1.9% of units are 3 bedroom (4 units). Instead 55 onetypes now and into the future bedroom ad 142 two-bedroom units are proposed adding to the existing investor driven stock available in Wollongong. Studios, four bedroom and/or dual key apartments promote housing diversity and equity and are encouraged. Objective 4K-2 Unsatisfactory The apartment mix is distributed to Larger family apartments are encouraged to be co-located suitable locations within the building with COS for outdoor play spaces, or on the podium for additional POS depth.

## 4L Ground floor apartments

## Objective 4L-1

Street frontage activity is maximised where ground floor apartments are located

## Not applicable

ADG Control	Comment
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents	Not applicable
4M Facades	
Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area	Unsatisfactory
	The façade appears to be predominantly glass with small timber screens and western facing garden beds which will likely be hard to maintain for residents if not appropriately designed.
	The façade should be considered with respect to the maintenance and ongoing operation of the building including heat loss/gain, visual privacy, noise, cleaning, etc.
Objective 4M-2 Building functions are expressed by the façade	Unsatisfactory
	Residential and commercial facades are all glass, separated only by location in building. There does not appears to be significant differences.
4N Roof design	
Objective 4N-1	Unsatisfactory
Roof treatments are integrated into the building design and positively respond to the street	No detail is supplied about the roof treatment, the location of services, ducting, AC units, etc and lift overruns appear to be undersized.
Objective 4N-2	Unsatisfactory
Opportunities to use roof space for residential accommodation and open space are maximised	As above – no detail and not used.
Objective 4N-3 Roof design incorporates sustainability features	Unsatisfactory
	No sustainability measures incorporated.
40 Landscape design	
Objective 40-1	Unsatisfactory
Landscape design is viable and sustainable	The large number of small garden planters along balconies and planting within undercroft residential lobbies appears as if they will struggle to remain viable.
Objective 40-2 Landscape design contributes to the streetscape and amenity	Unsatisfactory
	Generally acceptable, however, there is concern about the viability of western facing seating areas along Flinders Street.
4P Planting on structures	

ADG Control	Comment
Objective 4P-1	Unsatisfactory
Appropriate soil profiles are provided	As above.
Objective 4P-2	To be confirmed
Plant growth is optimised with	
appropriate selection and maintenance	
Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces	Generally acceptable if above issues are addressed.
4Q Universal design	
Objective 4Q-1	Satisfactory
Universal design features are included in apartment design to promote flevible	24 units are adaptable meeting the requirement for 100/
in apartment design to promote flexible housing for all community members	21 units are adaptable, meeting the requirement for 10% adaptable units.
	20 units are provided to silver liveable housing standards as required to meet the ADG requirement of 20% (of which 10% is adaptable).
Objective 4Q-2	Unsatisfactory
A variety of apartments with adaptable designs are provided	19 one-bedroom and 2 two-bedroom units have been provided which are adaptable. 12 one-bedroom, 4 two-bedroom, and 4 three-bedroom units are provided as liveable silver level.
	31 of 41 units (76%) provided to universal standards are one-bedroom. The applicant is encouraged to provide a range of adaptable units where a maximum of 50% one-bedroom are provided to promote housing equity and diversity.
Objective 4Q-3	Unsatisfactory
Apartment layouts are flexible and accommodate a range of lifestyle needs	As noted above, apartments should provide additional flexibility beyond standard one-bedroom units.
4R Adaptive reuse	
Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	Not applicable
Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse	Not applicable
4S Mixed use	

#### **ADG Control** Comment Obiective 4S-1 Unsatisfactory Mixed use developments are provided in appropriate locations and provide The circulation strategy does not readily promote active active street frontages that encourage street frontage. Mixed use is permissible pedestrian movement Objective 4S-2 Unsatisfactory Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents 4T Awnings and signage Objective 4T-1 Unsatisfactory Awnings are well located and complement and integrate with the No detail provided. building design Objective 4T-2 Unsatisfactory Signage responds to the context and desired streetscape character No detail provided. **4U Energy efficiency** Objective 4U-1 Unsatisfactory Development incorporates passive environmental design This development generally does not employ any passive environmental design principles. Objective 4U-2 Unsatisfactory Development incorporates passive solar design to optimise heat storage in While solar access is compliant the development likely had winter and reduce heat transfer in the opportunity to reach higher solar compliance due to the summer lack of overshadowing from other developments. Obiective 4U-3 Unsatisfactory Adequate natural ventilation minimises the need for mechanical ventilation Ventilation is likely to be adequate following above changes regarding the width of ventilation openings. **4V** Water management and conservation Objective 4V-1 Unsatisfactory Potable water use is minimised No rainwater collection proposed and only minimum BASIX requirements met. Objective 4V-2 Satisfactory Urban stormwater is treated on site before being discharged to receiving waters Objective 4V-3 Not applicable. Flood management systems are integrated into site design

ADG Control	Comment
4W Waste management	
Objective 4W-1 Waste storage facilities are designed to	Unsatisfactory
minimise impacts on the streetscape, building entry and amenity of residents	Waste chutes are provided for each circulation core which is commendable, however one of these chutes does not connect to a waste collection area. Additionally, there are no carousels for waste at the base of waste chutes to ensure bins are removed when full. Finally, as noted above there is not adequate head room for waste trucks to service these areas.
Objective 4W-2  Domestic waste is minimised by	Unsatisfactory
Domestic waste is minimised by providing safe and convenient source separation and recycling	There appears to be no waste separation proposed.
4X Building maintenance	
Objective 4X-1 Building design detail provides	Unsatisfactory
protection from weathering	No detail provided.
Objective 4X-2 Systems and access enable ease of maintenance	Unsatisfactory
	Access to garden beds is likely to be problematic as noted previously. Additionally, no services areas, venting, ducting, etc is proposed.
Objective 4X-3 Material selection reduces ongoing maintenance costs	Unsatisfactory
	Rendered walls will require ongoing painting and large expanses of glass will need to be cleaned.