URBAN VILLAGE
22-77 stubbs street, kensington
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The re-visioning of the Arden-Macauley district has created an opportunity for early intervention to secure long-term, diverse and affordable housing options in this well-located, inner city area.

This design proposal responds to a complex of problems in housing delivery in inner city areas, including the lack of family-friendly, affordable housing as well as more typically conceived ‘social housing’, catering to the needs of disabled, disadvantaged or at-risk populations.

The key ideas driving the master planning of this site are:
- affordable, adaptable, high quality housing
- place to play, and commune, for all ages and abilities
- eco-responsive, passivehaus design.
The challenge issued by Housing Choices Australia in the Getting to Yes Studio brief is to provide a residential design solution for 25–72 Stubbs Street, North Melbourne that provides a socially cohesive insertion into the existing community, whilst satisfying the requirements of financial viability.

In developing new residential dwellings for this site, a maximum of 30 dwellings were to be set aside for affordable housing units, to be allocated to tenants by Housing Choices Australia. Consideration was to be given to the needs of people with limited mobility, different levels of external support and care, and disabilities. Care needed to be taken to respect the independence of residents with a disability, whilst ensuring their (often complex) needs could be met. Additionally, in line with the broader aims of the Getting to Yes collaborative research project, this design solution needed to also incorporate family-friendly housing and supportive community infrastructure.

As social and affordable housing delivered by a housing association typically remains under management, consideration should be given not only to immediate financial viability, but also to issues of ongoing maintenance and management.

The Design Guidelines and Outline Specifications provided by Housing Choices (summarised in the table on the left) required that the site development deliver a maximum of 30 units of social housing, along with space for on-site support services (office, security and hot-desk), car parking (for at least 50% of units), communal facilities, multi-purpose spaces, a communal laundry and ground floor commercial spaces.

While the financial model for delivery of these units is unconfirmed, Housing Choices has Commonwealth Government funding of $5.57 million to deliver social housing in the Arden-Macaulay area, with funding conditions requiring that Housing Choices procure private funding equal to 20% of the total project cost to deliver further social housing outcomes for the project (so increasing the total grant amount to $7.4 million).
LORD MAYOR CHARITABLE FOUNDATION

The Lord Mayor’s Charitable Foundation has contributed $360,000 to provide for on-site offices, multi-purpose spaces and community infrastructure for all residents, but particularly those at risk of homelessness, with mental health conditions or disabilities.

PLACES VICTORIA

The main intentions of Places Victoria is to address areas with challenges of affordability, sustainability and liveability through the transformation of the urban form. The main focus in creating new residences is achieving a mixture of house sizes that are in close proximity to quality jobs, community infrastructure, transport and amenities.

CITY OF MELBOURNE

City of Melbourne’s overall vision for the Arden Macauley is a “Consolidation of a district level community hub that complements the existing community facilities to be located to the south and that is co-located with a potential school site and open space improvements”
The land uses within Arden-Macaulay generally represent an underutilisation of the area considering its proximity to the CBD and to existing and future transport infrastructure (CoM 2012, p. 22). The site is located 1.5km north-west of the CBD, and has multiple public transport and arterial road connections - including CityLink, three train stations, tram and bus routes. While industrial land use zoning has prohibited residential development to date, rezoning to mixed use has the potential to dramatically increase the local population.

Transition of the area is to occur in two stages, with our site falling well within Stage 1. The area will have a mix of uses to provide a diversity of activities such as residential, commercial, retail, educational, entertainment and cultural activities (CoM 2012, p. 25).

“An underutilised area, ripe for renewal”
3 | CONTEXT

SOCIAL CONTEXT

Demographic profile
North Melbourne has the highest proportion of lone-parent families within the municipality, with the most common household type being a lone person household (ABS 2011). North Melbourne currently has the second largest share of children in the municipality (13%) and 16% of the municipalities over 60 population. The largest age group in the area are in the 25-34 yr old age group.

Moonee Ponds Creek
The creek is directly accessible from the site however is in a degraded state. The access way is not paved, and the creek itself is polluted. Despite this, there are plans underway to rejuvenate this creek area, to increase public access and to create interventions that will both minimize and treat the pollution.

Surrounding Land Uses
The majority of the built residential stock surrounding the site are single storey Victorian terrace houses with newer apartments blocks located next to and around Kensington Station. The site itself is surrounded by industrial and commercial uses, including several manufacturing and wholesale companies as well as the offices of the Australian Wool Testing Authority. Nearby are the Flemmington public housing high rises, one of the largest public housing commissions in Melbourne. There is a primary school and childcare centre onsite, primarily catering for the needs of the residences.

Fig. 1 Growth of 25-34yr old population between 2006 and 2011
Fig. 2 Increase of Single parent and Couples with children population between 2006 and 2011

Fig. 3(top) & 4(bottom)
The creek unlandscaped and not user friendly
Public Amenities and Social Infrastructure
The closest park and playground to the site is located in Robertson Street, less than five minutes walk away. The closest grocery and medical facilities are across and up from the Kensington Station, one kilometer west of the site.

Fig. 5
Park located on Robertson Street

Income
35.7% of individuals earned less than $400/week
27.4% of couples with children earned less than $600/week
28% of North Melbourne residents earning less than $250 a week.

Fig. 6
Percentage of individuals and couples with children classified as “low” income earners.

Housing Prices
Average one bedroom apartment (include studio): $150,000 to $400,000
Average two bedroom apartment: $350,000 to $700,000
Average three bedroom apartment (family): $450,000$ to $750,000

To Rent:
Average rent for a 3 bedroom apartment: $600
Average rent for a 2 bedroom apartment: $420

The majority of the built residential stock surrounding the site are single storey Victorian terrace houses with newer apartments blocks located next to and around Kensington Station.
The public realm experience is aptly described in the Structure Plan (2012) as being of “poor quality” due to the legacy of industrial uses which has created large blocks that discourage walking and streets that are fronted by the blank walls of warehouses and sheds. This results in a poor walking environment” (Arden Macaulay Structure Plan).

However, this legacy can also be seen in a positive light: it allows for generous allotment sizes that are more readily adapted to medium density developments than is typically the case in suburban “greyfields” (AHURI 2012) areas or historical residential streets.

Fig. 9
Poor pedestrian environment
(Source: A-M Structure Plan, CoM 2012)
The site is currently zoned Industrial Zone 1, meaning that ‘accommodation’ uses are prohibited. However, Schedule to the Industrial Zone 1 allows for unlimited office uses in this industrial zone. As such, the development currently on site has street frontage and first floor office spaces, with warehousing at the rear.

Additionally, the site is currently subject to the following overlays:

- **an ‘Incorporated plan overlay (IPO):** The incorporated plan overlay refers to the Moonee Ponds Creek Concept Plan (IPO 5) which called for certain requirements to be met before a permit is granted, relating to the protection and enhancement of the natural features and remnant vegetation of the creek. This overlay aims to coordinate development along the Moonee Ponds Creek, its banks and surrounding environment, while preserving the natural features and remnant vegetation, and preventing further deterioration of the creek and its environs.
**Land Subject to Inundation Overlay:** The purpose of this overlay is to identify land in a flood storage or flood fringe area affected by the one in 100 year flood, or any other area determined by the floodplain management authority. A planning permit is required for most buildings and works. Any applications for planning permits must be referred to the relevant floodplain management authority under Section 55 of the Planning and Environment Act 1987. In this instance, Melbourne Water is the statutory referral authority. Other overlays in the vicinity not directly affecting this land include:

**Environmental Audit Overlay:** The purpose of this overlay is to ensure that potentially contaminated land is suitable for a use which could be significantly adversely affected by any contamination.

**CityLink Project Overlay:** This overlay ensures that the display of a business identification sign does not compete with the display of signs on the CityLink road. It follows the route of CityLink through the study area, from Racecourse Road in the north, to Footscray Road, and continues north and south of the study area.

**Environmental significance overlay**

**Heritage overlay**
3 | CONTEXT

OPPORTUNITIES AND CHALLENGES

Following the context and site analysis several opportunities and challenges have been noted.

Opportunities:
- nature of development already onsite, provides opportunities to liaise with current business owners to facilitate future residents

Challenges:
- Location next to highway, noise and view obstacle
- Primarily a west facing block
- limited space on site
- lack of communal areas

Fig. 10
Figure 2 Arden-Macaulay Structure Plan, Indicative Street Section for Stubbs Street (Source: CoM, 2012, p.159)
This site – indeed the entire Arden-Macaulay district – holds great potential for fulfilling the vision of an ‘urban village’ (see Text Box 1), with the redevelopment of this particular site representing an opportunity to set the standard for future high-quality, medium to high-density residential development in this precinct.

The key design response elements for the redevelopment of this site are discussed on the following pages.
KEY IDEA 1: Shophouse: - A retrofit of existing office structures

The design solution sought is a lightweight, three storey residential development, to sit atop the existing two storey commercial development.

This maximises the existing built form – only constructed in 2009 – and gives the added advantage of providing amenities to new residents.

Substantial savings are also expected in avoidance of flood mitigation works, essential infrastructure and initiative development risk associated with this.

There are many financial advantages to utilising the existing structure, including:
- existing structure is new and of good quality
- site is tenanted, showing viability of office and commercial uses. It is proposed that building works proceed in a way that will cause current tenants minimal disruption, namely, through modular units being installed.
- existing structure and foundations are already code-compliant (e.g. flood overlay design codes), resulting in minimal costly reparations.
- Activation of street frontages promoting community safety.

As noted in the Structure Plan, a diversity of uses keeps an area active with more people on the streets (and therefore occupied and naturally surveilled) through the day and night, providing safer streets and community areas. More vibrant streets are more interesting places to be, with this liveliness coming not only from the mix of uses, but also from the diversity of people that different activities attract (CoM 2012, p. 25).

The maintenance and utilisation of the commercial, retail and office space already in place also helps to manage the transition of this area from a purely industrial and office precinct into a vibrant, mixed use area. Respecting existing viable business helps to enhance the local economy and provide local jobs.
In order to both achieve a lightweight structure and save on construction costs, timber framed, potentially modular construction is recommended for this development. Significant progress has been made in the residential construction industry in Australia in the use of timber in multistorey developments, with Australand having commenced construction of a five-storey apartment development in Parkville, Melbourne, and modular construction companies in Melbourne such as ARKit also investigating timber framing options. Modular construction is becoming increasingly sophisticated. It is far cheaper than typical construction methods and has additional benefits in reducing wastage and quality control.

“Multi-story hybrid wood-frame construction is a light, economical construction technique that can meet all code requirements for strength, fire safety, and thermal and sound performance while imposing a much lower bearing load on building foundations. It is an environmentally sustainable solution to rising land, energy and construction costs....Attaching wood-frame construction to concrete foundations with anchor bolts is a common occurrence and the same technology applies to wood-concrete hybrid construction. Whether it is a wood roof attached to a concrete building or multi-storey wood framing attached to a concrete ground floor, the wood to concrete connection must be designed and constructed to meet all anticipated loads.”

(http://www.canadawood.cn/downloads/pdf/tl/EngNo9-Wood-ConcreteHybridConstruction.pdf)
KEY IDEA 3: Community infrastructure, imbedded in the build fabric

Roof terrace

The site enjoys scarce open space and currently poor connection to nearby green spaces such as the Moonee Ponds creek. While there are plans afoot to regenerate the creek, and to develop new public parks nearby, there is a need to provide green, open spaces onsite to cater for the immediate needs of new residents.

A roof terrace is an essential aspect of this design, that will give this community access to scarce open space – both for recreation, as well as the very practical hanging out of washing and growing of food.

The roof terrace will be equipped with shared uncovered open space (including the option of community gardens) as well as covered space which will incorporate a communal kitchen/barbeque area. The covered areas will be equipped with solar panels which will add to the sustainability of the building.

Green infrastructure is ideal but optional and will depend on budget and a structural engineering report. There will be access to the roof terrace from all levels.

The roof terrace and other shared areas will be designed with play in mind. For example, circulation infrastructure on the roof will be clad in blackboard material – allowing for spontaneous play areas. A netter basketball court will also be a feature.

What is 'community infrastructure'?

Community infrastructure include "community facilities, services and networks which help individuals, families, group and communities meet their social needs, maximize their potential for development, and enhance community wellbeing" (SEQ Regional Plan 2007). It should include (Whitzman 2013):

• Places to learn: childcare centres, kindergartens, schools, higher education, libraries, adult literacy centres, museums
• Places to stay healthy: hospitals and health clinics, parks and open spaces, sports and recreation centres
• Places that bring people together: community gardens, parent-child drop-ins, theatres, seniors' centres, laundromats, 'men's sheds', even corner stores
• Places to live/ social safety net: emergency shelters, aged care, social housing

This design response attempts to provide solutions for the above requirements, in the understanding that building community is as much as matter of design as the residents who choose to live there.
KEY IDEA 3: Community infrastructure, imbedded in the build fabric

The village square
The south cluster of the development is intended to house the DDA units and housing for high-need residents such as persons with a disability and elderly residents. Accordingly, the community centre and site office will be located in this building cluster.

The space between the two buildings is proposed as a ‘pocket park’, providing common open areas to service the community centre, the café, and the proposed childcare centre, to the rear of the building.

This space will provide a communal, ground floor gathering space, for residents and the visiting public.

Café development
There is the opportunity to develop, or redevelop, a new café space in the downstairs buildings.

Following the model set by Urban Communities Limited, this café could be run as a social initiative, employing social housing residents.

In either case, the café will be child friendly, opening onto the new park area, and provide a natural meeting and gathering place for the residents.

Social and Community Services on site
Within the apartment blocks itself, especially those dedicated to the elderly and disabled, there is opportunity to create social and community services on ground floor that will allow the disabled or elderly to still engage with the wider community and be in proximity of any services if required.
KEY IDEA 4: Family friendly design

There are a number of internal design principles that will be followed to ensure that the development is family friendly - on the inside, and in the spaces between. Some key principles are detailed by Cooper and Sarkissian, including:

- Avoid over crowding: no more than 2 people per room, separate bedrooms for children after 10 (particularly if different genders)
- Each bedroom needs: a bed, a closet, a desk, a dresser, floor space to play in, a window and natural light
- Soundproofing – ‘open concept’ doesn’t work for families with young children!
- A separate ‘family area’
- Bulk storage in unit or at front entrance (pram, bike, outside toys)
- Outdoor play areas to be within view of the apartment (courtyards work well)

Courtyard gardens

Third floor residents on the east side of the building will be particularly targeted at family households and will be developed with family friendliness in mind. Selected apartments will be provided with access to a private courtyard space at the east of their properties, in the tradition of terrace housing. These courtyard spaces will double as protection from the noise and visual pollution of Citylink freeway and on-ramps (which would be otherwise at eye level). The courtyards will have 7 to 8 foot high walls acting as a sound barrier, but would also provide residents (and their kids) with private play space.

Fig 19(top): private courtyards
Fig 20 (bottom left) & Fig 21 (bottom right): Separated play spaces
KEY IDEA 5: An Eco-city: the passivhaus principle

Various interventions and design mandates are proposed in order to ensure that the development reaches the highest standards of environmentally sensitive design. While this has the obvious benefit of reducing the environmental impact of the development itself, it will also represent substantial savings for residents, who will have reduced heating, cooling and lighting bills as a result of careful design. Many elements of passivehaus design can also add to the amenity of the building – both visually (for example, the use of green infrastructure and timber), as well as the experience of people within it.

Rainwater harvesting
Rainwater will be harvested for reuse in toilet flushing while captured water will also serve all greenery via an irrigation system. The apartments will be designed to be naturally. A fully useable rooftop green space will feature both winter (north) and summer (south) spaces with vegetable garden plots available. Solar panels and solar hot water panels will be incorporated into the building.

Solar access
This site has an east/west aspect, requiring careful planning in order to protect residents from the harsh impact of the western sun, whilst maximizing light and air into individual apartments. Shutters will be incorporated into the façade of the western side, This will create both visual interest, as well as allowing occupants to regulate their solar access and also providing a second ‘skin’ to enable passive cooling.

On the South and East sides of the building, floor to ceiling windows will be used, with some leading out onto balconies. Triple glazing will be used on the eastern side to protect from noise, and on the west to protect from the heat.

Shutters will be incorporated into the façade of the western side, This will create both visual interest, as well as allowing occupants to regulate their solar access and also providing a second ‘skin’ to enable passive cooling.

Green walls: pollution filters
This site also receives a high pollution load from the adjacent highway. Green infrastructure will be incorporated into the façade, balconies and roof in order to provide ‘green filers’, as well as the sense of vibrancy that comes from plant life.

An internal grey water system fed by apartment showers will ensure there is ample sustenance for the greenery.
KEY IDEA 5: INTEGRATED APARTMENTS

The main aim in designing these apartments is not only to meet the requirements of the number of social housing units but also to create a mixture of different sizes for private housing. The diagram on the left demonstrates a possible arrangement of apartments that have a combination of 1, 2 & 3 bedroom apartments. The apartments are arranged in a cluster around the service core, providing residents ease of access and in close proximity to a potential communal green space. The apartments on level 3 are dedicated to the family units as they have an adjoining outdoor private courtyard space which doubles as a noise and sound barrier to the freeway. The elderly and disabled units are grouped in the Southern apartments blocks to locate residents in close proximity to the service core as well as community centres and offices that will be located on the ground floor. This enables the elderly and disabled residents to be a part of the wider community of people that live there.
KEY IDEA 5: HIGH QUALITY INTERNAL AMENITIES FOR BOTH PRIVATE AND PUBLIC HOUSING

Bay windows

Apartments are small places – but clever design can make them fill far bigger. Bay windows give the effect of more floor space, as well as the benefit of providing house members with a nook to curl in, gaze out the window, or chat with friends. This is particularly important in family housing.

Additionally, bay windows are a cost-effective value-add, being prized by the market (as evidenced in their prominence where available in real estate advertising).

High quality raw materials

The fit out of the apartments will echo the green, sustainable, high quality feel of the entire development.

The model set by Breathe Architecture’s ‘The Commons’ will be followed, with simpler, but high quality kitchen fit outs. Where affordability becomes an issue in the affordable/social housing, effort will be made to ensure that the materials reach at least a similar standard. Such materials can include use of copper and brass (an aesthetically pleasing and often cheaper alternative to chromed fittings), recycled floorboards where possible, exposed concrete ceilings and hydronic heating.
Where to Next?

Following the proposal of the design strategies, further development of the arrangement of both public and private apartments will be considered. A more in depth consideration is required of how the allocated communal spaces on each floor will be activated and utilized. This is particular important to the units involving the elderly and disabled residents as they are currently partially segregated and need to be integrated with the rest of the residents living in the northern block of apartments.

Issues to address the existing building:
- Identify the structural ability of the existing building to accommodate for additional structure above and what additional structure may be needed
- Evaluating the cost of building above an existing building in terms of transportation of materials

Issues to address regarding City of Melbourne proposals
- Integration of community facilities with proposed pedestrian and cyclist bypass over Moonee Pond’s creek

Place Management Strategies
There is very little evidence that socio-economic benefits arise from mixed tenure. Aside from the financial benefit of mix tenure estates (allowing operators to offset or cross subsidise the costs of providing social housing with revenue received through the private market sale of units), benefits have been shown to instead come from intensive place management, regardless of tenure mix. Place management strategies for mixed tenure developments will need to be explored and developed for the future operation of this site.