CHELMSFORD STREET, KENSINGTON
REGENERATION PROPOSAL
GROUP 4

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1.1 Executive Summary

This report outlines a vision for the development of an affordable housing project in Arden Macaulay. It is a design proposal to develop a mixed tenure development on 70-90 Chelmsford Street & 1-11 Barrett Street. The brief is to demonstrate how housing affordability can be addressed while adding to community amenity and addressing Housing Choices Australia’s requirement in a financially viable manner. An analysis of key issues, strategies, actions and guidelines are detailed.

Our vision is to act as a catalyst for growth in the area and to demonstrate a way of ‘getting to yes’, where affordable housing can be achieved. Our site in Arden Macaulay offers a fantastic opportunity for a high quality, cost effective, family friendly and socially conscious design. It is well endowed with natural assets including a high level of access to transport infrastructure. The site is adjacent to Moonee Ponds Creek, which is earmarked by the City of Melbourne for regeneration. Our project has the potential to enhance this regeneration by using the creek as a focal point of the building. The site also benefits from close proximity to the precinct’s rich cultural and industrial heritage. The vision is based on principles of industrial heritage, creek regeneration and family friendly accessible spaces.

It involves the construction of 30 social dwellings for Housing Choices Australia to manage and 64 private dwellings for sale. It also involves 1,530m2 of leasable area for workspaces. Based on early financial feasibility calculations, it is estimated that the project could be constructed at a cost of $26m, producing a sale value for the private apartments of approximately $28m.
1.2 Vision

This mixed use housing project will transform and rejuvenate the existing industrial site and surrounds, creating a vibrant and adaptable community spirited development. The cutting-edge modern architecture will connect the lush rejuvenated creek on its east side while comfortably fitting into the cultural industrial experience of the neighbourhood surrounding it. This happening spot will offer family friendly safe spaces for kids to grow up in, create an inclusive space for older people to live in the dignity of their own homes, with accessibility and flexibility for people with disability and a welcoming community environment for everyone to share.

Like a seed, it will grow the area into a happening place.
Part 2: Setting the Scene

This section provides an introduction to the project ‘Getting to Yes’ and includes:

- Introduction
- Outline of the brief and key players
- Rationale for the study
- Study area
- History of area
2.1 Introduction

The University of Melbourne, Multidisciplinary Masters of Architecture/Urban Planning studio Getting to Yes 2013, is led by Carolyn Whitzman and Sarah Backhouse. The studio analyzes the current barriers to affordable family friendly housing in inner city Melbourne and aims to answer the question: What are the major barriers to creating family friendly affordable housing in inner Melbourne, and how might these barriers be overcome?

Figure 1: Collingwood Social Housing Estate, Melbourne
2.2 Brief

The project is part of a wider research project that is about overcoming the barriers to affordable family friendly housing in the central city. This project brings together partners across housing related industries to build mutual understandings and get to a place where the industry can say ‘yes’ when discussing the future of affordable housing in the inner city of Melbourne.

The project has responded to four client challenges in creating affordable housing. The four clients are:

- **Housing choices**: A national not for profit housing association. They are looking to house people at risk of homelessness and for a financial model to pay off in 25 years. Our design meets this requirement with an adequate mix of private dwelling and rentable space to help cover the investment. See more in feasibility section.

- **City of Melbourne**: The local government wanted us to demonstrate how a previous industrial area like Arden Macaulay can become family friendly. Our design incorporates family friendly orientated design.

- **Places Victoria**: The state government were interested in how housing affordability and diversity can be promoted. The design looked at providing a diversity of types of housing.

- **Lord Mayor’s Charitable foundation**: A philanthropic organisation are interested in a model that adds to community amenity and returns investment. Our design demonstrates financial viability with community amenities incorporated throughout it.

More specifically the Housing Choices brief requires a tenant mix of 30 social housing and a balance of private dwellings. We have included:

- 5 units for tenants with mental health conditions and at risk of homelessness
- 5 units for tenants with a disability
- 10 units for elderly tenants at risk of homelessness
- 10 units for families
2.3 Rationale

The overall purpose of this study is to look at the viability of building affordable inner city family friendly housing in Melbourne. Berry (2003) argues that housing affordability is important for economic wellbeing because a lack of affordable housing threatens the cohesion of the broader society. The common definition for what constitutes inaffordability is 30% of net disposable income (Paris 2007). Unfortunately this means now that 8% of apartments built in Melbourne are ‘affordable’ (Birell et al 2012). Birell et al (2012) explains that thousands of small apartments of less than 70 square metres are being built currently around the CBD and very few of them larger that 110sqm.

House prices and rents have exponentially increased in Melbourne in the last 30 years. They have grown from three times a household’s annual income in 1980 to seven times a household’s annual income in 2011 (Whitzman 2013). The growth is characterised outwardly which presents social, economic and environmental problems. The VAMPIRE index (Dodson 2009). demonstrate this vulnerability of families in the outer suburbs, vulnerability to increasing fuel, low access to public transport, schools and other services (Dodson 2009). Melbourne has a problem.

Future Living a City of Melbourne(2013) discussion paper outlines the key sticky problems to overcome in order to have family friendly developments in Melbourne, they area:

- Housing affordability, with insufficient affordable housing for vulnerable community members and rising costs of housing outpacing income growth and inflation.
- A lack of diversity of housing choices with housing now designed as an investor product, and a predominance of 1 and 2 bedroom apartments lack of schools impacting demand for family living in the city.
- Reducing quality design and amenity with shrinking apartment sizes, Poor apartment layout and amenity and poor environmental performance. (Future Living 2013)
- We need to move towards a sustainable city, with less reliance on fuel, and increasing walkability for health and liveability. Melbourne needs to increase its density and provide family friendly affordable housing in the inner city.

There has been a number of strategies and documents [fig. 2] that have pointed to increasing density with central activity zones including Melbourne 2030 and Melbourne at 5 million, the general policy direction has been moving towards this idea- however there has been very little traction. That is why this project helps to analyse and propose a substantive design to show that it is possible - you can get to yes.

The proposal will consider how it can keep costs down, create a diversity of housing types and is in proximity to schools, with community infrastructure and strong design. International evidence from Toronto and Singapore (Whitzman 2013) show us that is can be done.

Figure 2 : Lots of talk

Figure 3 : VAMPIRE index (Dodson 2008) Vulnerability assessment for Mortgage, Petroleum and Inflation Risk and Expenses.
2.4 Study Area

The area included in this report is bounded by Chelmsford Street to the north, Barrett Street to the west and Moonee Ponds Creek at the eastern boundary [fig.4]. The site is located within the Arden-Macaulay Structure Plan study area and has been part of an important industrial zone within the City of Melbourne. It has a unique, strategic position within the inner metropolitan area of Kensington, offering:

- Approximately 3km proximity to Melbourne CBD
- Good public transport accessibility including Macaulay Station and Kensington Station [approx. 350m from the site]
- Access to a Moonee Ponds Creek and the natural reserve corridor to the east
- A rich industrial history contributing to the unique character and charm of area
2.4 Study Area

The subject site, to the east, adjoins a nature reserve, beyond which is Moonee Ponds Creek [fig. 6]. To the north, directly opposite the site are single storey heritage workers cottages [fig. 9]. The site is bound to the west by Barrett street and south by single-storey warehouse including the Seeing Eye Dog training facility [fig. 8].
2.5 Historical context of Arden-Macaulay

Moonee ponds creek was an aboriginal significant water course for the people of the Wurundjeri tribe. It was used as an important source for food and as a strategic movement corridor to the mountains [fig.10]

From the 1830s Early European Settlement of Melbourne saw the area as farming land for grazing cattle and sheep [fig.11]

In the 1860s early railways were constructed through Kensington which paved the way for the movement of industry and led to large scale industrial development including flour milling and wool stores. Many of these historic industrial buildings still exist surrounding our site. The natural water course was changed, with the lagoon removed and extensive filling of the floodplain [fig. 13]

Early 20th century industrial development involved the expansion of the area to an industrial and warehouse hub. Water pollution meant that it was not a desirable area to reside [fig. 12 & 14].

Post WW2 - The Housing commission began removing ‘slums’ and replacing them with large tower blocks for social housing.

1960-1970s- The Tullamarine Freeway construction meant a large highway next to our site that realigned the creek.

Source: Arden-Macaulay Structure Plan 2012
Part 3: Site Analysis and Opportunities

This section articulates a well considered site analysis of the existing conditions, followed by the opportunities and constraints of the study area. The existing conditions include: demographics, contextual and cultural analysis of the site and its surrounds [community infrastructure], land use patterns [current uses, zoning, character], movement patterns [pedestrian, vehicle and public transport], built form [topography, views, building height, sun and shade and architectural heritage and character] and open space and vegetation. These aspects will help determine the building envelope and planning considerations of the design.
3.1 Demographics

**Arden Macaulay**
- The Arden Macaulay study area, with a population of 2271, makes up 2.8% of the population of the City of Melbourne.
- There is a relatively high population born in African countries, particularly Somalia, and a high Muslim population.
- There were also significantly more dwellings with no internet connection (44% of dwellings) than the rest of the city of Melbourne.
- The household mobility in Arden Macaulay was much lower indicating a much less transient population.
- The precinct has approximately 480,000m² of leasable floorspace allocated to a number of retail, commercial and industrial activities, supporting 4420 jobs.
- There was a lower proportion of employed full time workers in Arden Macaulay (28%) than the LGA (39%) (Arden Macaulay Structure plan 2012)

**Kensington**
- There is a higher portion of people earning more than $3000 a week on average than the rest of Victoria shown in fig. 15. However there are still pockets disadvantage in Kensington according to SEIFA,
- The largest type of occupation is professionals followed by managers. This is portrayed in fig. 15 and people tend to get to work by car as a driver still despite the relative inner city location.
- The types of dwellings are mixed between semi detached, flat unit and separate housing. There is much higher percentage of the former when comparing to the rest of Victoria. Rented tenure is the highest tenure type followed by owned with a mortgage.
- The population has a high young demographic and its highest non Australian population residents are Chinese, Vietnamese, English and New Zealanders (ABS, 2011)
3.2 Built Form

The subject site and its surrounding context, as a result of its industrial past, retains a significantly low-mid rise scale with most buildings between 4.5-6.5m in height [fig. 18]. Setbacks also relate to its industrial nature, with zero front and side setback [fig. 17]. As a result, this creates spaces that are not pedestrian friendly [fig.20-23]. The Arden-Macaulay structure plan sets out that “The built environment [should have] a positive influence on people’s living, working and travel patterns…” as a result, the site has a building envelope of 10.5m along Chelmsford Street, 14 m along Barrett Street and 20m towards the creek to create a more pedestrian conducive precinct, it also specifies that a zero front setback is maintained. These two aspects provided an important basis for developing the building envelope of our design.

Figure 17: Existing built form and setbacks
Figure 18: Existing building heights
Figure 19: Arden-Macaulay Structure Plan proposed built form [source: Structure Plan 2012]
3.3 Main Axes, Vistas and Views

The existing views and axes allow for the potential to capture and create vistas towards Moonee Ponds Creek as well as towards the industrial heritage remnants and proposed park. The master planning and design strategies should capture and promote these views and axes.

Figure 24: Existing and potential axes and views
3.0 Site Analysis and Opportunities

3.4 Community Infrastructure

Kensington has a wide range of community infrastructure:

- The site is within 10 minutes walking distance from Holy Rosemary Primary school and Kensington Primary school.
- There are three current playgrounds within 10 minutes walking distance.
- Currently there is a lack of green space within 5-10 minutes of the site outside the creek. However this is set to improve in the proposed structure plan with a park on the western side and increasing access to the eastern side of the creek.
- The site abuts Seeing Eye Dogs Australia (SEDA). SEDA trains guide dogs. Vision Australia is also nearby on Stubb street. This presents a potential opportunity to harness a space for blind people. It also allow us to think about how we can incorporate the Dogs into our design,
- The proposed structure plan will see an new activity centre close to our site on Macaulay road. A commercial hub that will improve access to shops and services for the area.
3.5 Existing Land uses and Zoning

The four properties: 1 Barrett St, 3-7 Barrett St, 9-11 Barrett St and 70-90 Chelmsford street are currently zoned as Industrial 3 Zone (IN3Z) as shown in Figure 14. The permitted uses for IN3Z are listed in clause 33.03 of the Melbourne Planning scheme. Residential use is prohibited.

The site is to be rezoned as a Mixed Use Zone (MUZ) as part of the C190 Amendment [fig. 27]. Mixed use zones allow for a range of residential, commercial, industrial and other use. The use permitted are listed in Clause 32.04 of the planning scheme.

Amendment C190 involves a new Design Development Overlay 60 (DDO60) that sets out built form requirements, our site falls within DDO60 area 12 and contains:

- Mandatory height limit of 10.5m for the street edge in this area and a discretionary maximum building height of 20m
- Mandatory height limit of 26m (+30%) for development.

A permit can be granted if it adds a benefit to the community and will not increase overshadowing of the public realm between 11am and 2pm and the upper storeys are visually recessive when viewed from adjoining development.

The provision of new laneways/through links: Clause 2.0 of DDO60 requires a new laneway/through connection to be provided along the eastern edge of the subject land.

The provision of weather protection and active frontage along primary streets; façade articulation requirements and the provision of positive frontages along secondary streets.
3.5 Existing Land Use and Zoning

Figure 28 demonstrated the existing land uses in the area. The four properties would need to be acquired. Table 29 shows each property’s current use, owner and estimation of government evaluation. The largest parcel 70-90 Chelmsford street is owned by Comdain properties, a property investor who bought up the warehouse in 2011 aware of the amendment changes to the Arden Macaulay area and looking to benefit from the Zoning change.
3.6 Neighbourhood Character & Heritage

Neighbourhood Character
The proximate area around the subject site is rich in industrial and cultural land uses. These various land uses have been used to inform the design direction that we have decided to pursue, i.e. respecting and preserving the industrial and cultural heritage of the precinct.

Heritage
There is a tiny pocket of heritage listed on our site in the current schedule to the Heritage Overlay as fig. 31 demonstrates. The Amendment C190 however propose to remove this and to include the adjacent building to the Southern border, 13-19 Barrett street instead.
3.7 Movement and Access

Public Transport
The site is serviced by good public transport with train and bus services in the area. The Macaulay Train Station is located approximately 350m north east of the site, and there is potential to have site lines from the station to the site. The structure plan proposes for even greater public transport connections [fig. 36]. There is also potential to introduce a river taxi service to help re-vitalise the creek.

Vehicle Traffic Connection
The proximate roads are calmed by one way traffic on Chelmsford street creating a quite traffic environment. These roads therefore carry less traffic than surrounding Macaulay Rd and Arden Street. This minimal traffic flow around the site may be used to support the need to potentially pedestrianise part of Chelmsford Street as part of our masterplanning in creating family friendly and safe local environment.
3.7 Movement and Access

**Pedestrian Connections**
Pedestrian connections are portrayed in fig. 38. Amendment C190 aims to increase the pedestrian connections in the area by placing laneways and bridges across the creek. This included an objective in DDO60 to improve the neighbourhood walkability through:

- Safe, direct and attractive
- Publicly accessible
- Aligned with other lanes or pedestrian connections to provide direct routes through Kensington
- At least 6 metres wide, to accommodate vehicular movements
- Open to the sky

**Bicycle Connections**
The site is well connected by existing bike paths, there are informal bicycle routes on Elizabeth and Arden, capital city trail along Moone ponds creek and on-road biking on Macaulay road. There is potential here to create high quality pathways to further encourage bicycle use.

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![Figure 38: Existing and Proposed Pedestrian Paths and Connections](image)

![Figure 39: Existing and Proposed Bicycle Paths](image)
3.8 Environmental

Topography, wind and sunlight

Figure 40 shows the topography of the site abutting the creek. A steep hill goes down to the creek. Figure 41 & 42 demonstrates the sunlight and wind direction and its effects on the site. The site receives high quality northern light [fig.41] and natural ventilation [fig. 42] due to adjacency to creek these aspects should be harnessed and used to create passive and sustainable design.
3.8 Environmental

Land Subject to Inundation
The site is subject to schedule 2 of land inundation overlay. Set in place to reduce damage from flooding as figure 44 demonstrates. This means that development must consider flood protection mechanisms.

Open Space and Vegetation
The site is adjacent to a lush natural reserve running along the east side [fig.43 & 45] and will be adjacent to a proposed park according to the structure plan [fig. 43]. The trees assist in reducing some of the noise coming from the freeway near by. There is great potential to re-vitalise the natural reserve and even possibly introduce urban farming along the fertile banks of the creek.

Figure 43: Existing and Proposed Open Space and Vegetation
Figure 44: Inundation Overlay and Flood Prone Mapping
Figure 45: Vegetation density
### 3.9 Summary of Site Analysis

<table>
<thead>
<tr>
<th>ANALYSIS/CONSTRAINTS</th>
<th>OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HISTORY</strong></td>
<td></td>
</tr>
<tr>
<td>Small amount of site has heritage overlay</td>
<td>Retain existing heritage environment and characteristics; incorporate into design</td>
</tr>
<tr>
<td>Surrounding context rich with industrial heritage</td>
<td>Ensure industrial heritage legacy remains and incorporated into design</td>
</tr>
<tr>
<td>Across Chelmsford Street from the land is a row of single storey Victorian cottages which could offer opposition to height and overshadowing.</td>
<td></td>
</tr>
<tr>
<td><strong>LAND USE AND ZONING</strong></td>
<td>Suitable mixed use planning zone amendment changes</td>
</tr>
<tr>
<td>Existing industrial 3 zone might mean business opposition to changes....</td>
<td>Activate ground level with introduction of cafes along river etc</td>
</tr>
<tr>
<td>Specific uses-activity doesn’t permeate different time scales</td>
<td>Vertical mixed uses to create variety and activity to ensure spaces permeate use over various times</td>
</tr>
<tr>
<td>Lack of activity around site</td>
<td>Inclusive to activities and people in surrounding context</td>
</tr>
<tr>
<td>Lack of mixed uses</td>
<td>Seeing eye dogs australia opportunity to include dogs</td>
</tr>
<tr>
<td>Inactive street level</td>
<td></td>
</tr>
<tr>
<td>Site covers 4 parcels of land with (up to) 4 separate owners - may present challenge acquiring the necessary land</td>
<td></td>
</tr>
<tr>
<td><strong>BUILT FORM</strong></td>
<td>Introduce new building height controls as specified in Arden-Macaulay Structure Plan</td>
</tr>
<tr>
<td>Height-to-width ratio of roads is not at pedestrian scale</td>
<td>Retain low-mid rise height</td>
</tr>
<tr>
<td>Blank zero setback frontages</td>
<td>Create more pedestrian scale streetscape</td>
</tr>
<tr>
<td>Lack of street enclosure</td>
<td></td>
</tr>
<tr>
<td>Low rise [4.5-6.5m] with zero setback</td>
<td></td>
</tr>
<tr>
<td><strong>MOVEMENT AND ACCESS</strong></td>
<td>Low traffic area- potential to pedestrianize or dedicate greater space to pedestrians and cyclists</td>
</tr>
<tr>
<td>Good public transport access [train/bus]</td>
<td>Work with Arden-Macaulay Structure Plan to encourage pedestrian and bike usage by improving pedestrian environment</td>
</tr>
<tr>
<td>Pedestrian and bicycle paths in place, but need to be more legible</td>
<td>Create safer dedicated pedestrian crossings</td>
</tr>
<tr>
<td>Creek not accessed by pedestrians or bikes, acts as barrier to other bank</td>
<td>Strong connections to public transport, walking and biking and strengthened with overbridge</td>
</tr>
<tr>
<td>Large roads to cross for school children to get to school</td>
<td></td>
</tr>
<tr>
<td>Low traffic flow around site</td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNITY INFRASTRUCTURE</strong></td>
<td>Access to community services, schools, child care and planned commercial hub around Macaulay street through Structure Plan</td>
</tr>
<tr>
<td>Excellent community infrastructure around north Melbourne and Kensington, but lacking directly near site</td>
<td>Potential to create new creek side community hub that doesn’t rival the Macaulay road hub</td>
</tr>
<tr>
<td><strong>OPEN SPACE AND VEGETATION</strong></td>
<td>Plentiful access to future green space with lush creek oasis and new park to the west of the site, proposed in Arden-Macaulay Structure plan- create linkages to adjacent park</td>
</tr>
<tr>
<td>Natural reserve/green corridor adjacent to site</td>
<td>Integrate green spaces into design- affordances to greater community if can be accessed by all neighbourhood [i.e. sensory garden or urban farming]</td>
</tr>
<tr>
<td>Lacking open public space around site</td>
<td>Support structure plan proposal to create ‘eco city’ through green spaces</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL</strong></td>
<td>Respond to environmental condition to encourage sustainability through passive design</td>
</tr>
<tr>
<td>Potential flooding issue to consider</td>
<td></td>
</tr>
<tr>
<td>Good access to northern sunlight and natural cross-ventilation</td>
<td></td>
</tr>
<tr>
<td>Adjacency to noisy freeway and creek currently polluted</td>
<td></td>
</tr>
</tbody>
</table>
3.10 Adopted Precedents- Green Rejuvenation

INFORMATION:
- **Name**: Via Verde
- **Location**: New York
- **Designers**: Dattner and Grimshaw Architects
- **Area**: 27,000 sq m [area] and 70 sqm of retail/community facilities.
- **Type**: Mixed-use /Mixed income
- **Size**: 222 residential units and townhouses [71 private, 151 low-income]

STRATEGIES TO ADOPT:
This represents a new model for affordable, green, healthy urban living. The site includes mixed-use retail and community facilities. The development employs stepping and strong use of social/communal amenities. These amenities include a landscape courtyard and multiple green rooftops and terraces. It is also included urban farming and a wellness centres. Via Verde plans portrayed in fig. 46 allow natural cross ventilation all within a mixed income facility with 222 residential units and townhouses [71 private, 151 low-income] and with a variety of apartments types. These sustainable and community features will be drawn upon to create a similar sustainable community at site 4.

Figure 46: Via Verde, NY
[source: http://www.viaverde.pt]
3.10 Adopted Precedents- Industrial community

INFORMATION:
• Name: Timberyard Social Housing
• Location: Dublin, Ireland
• Designers: O'Donnell + Tuomey Architects
• Area: 3,800 sq m [area]; 6 storeys
• Type: Mixed-use /Mixed income
• Size: 47 affordable low-income residential units

STRATEGIES TO ADOPT:
This development's characteristics of material and connection to the wider community, allows it to fit into the industrial heritage neighbourhood and not standout like a sore thumb (a concern for the stigmatism of social housing). The proposed design will take into account these aspects from this low-income residential building. In total the 47 affordable low income residential units are dual aspect in a 6 storey building with mixed use at ground level. It also involved sustainable community facilities and public spaces and courtyard integrated within the design.

Figure 47: Timberyard Social Housing, Dublin
[source: http://www.odonnell-tuomey.ie]
3.10 Adopted Precedents - Neighbourhood Affordance

INFORMATION:
- **Name:** Richardson Apartments
- **Location:** San Francisco
- **Designers:** David Baker and Partners

**STRATEGIES TO ADOPT:**
This mixed use low income development focuses on increasing interaction between residents through public shared spaces such as courtyard and circulation spaces. It includes the job opportunities for residents including Hayes Valley Bakeworks which anchors the corner, a social-enterprise bakery, with job training and an employment program available to residents. From this precedent we looked at how it sells affordable housing to the neighbourhood as a means of increased services and more jobs, weaving the building into the social and cultural context of the neighbourhood with the use of mixed job creation. But also how it provided shared cooperative spaces which can be used by all, from community rooms, courtyards, and gardens.

Figure 48: Richardson Apartments
[source: http://www.dbarchitect.com]
Part 4 articulates the vision for site 4, key objectives and rationale for the decisions.

This mixed use housing project will transform and catalyse the existing industrial site and surrounds into a vibrant and adaptable community spirited development. The cutting-edge modern architecture will connect the lush rejuvenated creek on its east side while comfortably fitting into the cultural industrial experience of the neighbourhood surrounding it. This happening spot will offer flexible mixed space and family friendly safe spaces for kids to grow up, for the elderly to age in the dignity of their own homes, with accessibility and flexibility for the disabled and a welcoming community environment for everyone to share.

Like a seed, it will grow the area into a happening place.
4.1 Principles

**Rich with Industrial Cultural Character**

It will link to the historic industrial character of the surrounding neighborhood. This would create thriving workspaces for people to rent, while championing an industrial arts and culture area.

**A Flexible and Accessible Family Friendly space for all**

It will provide facilities that are family friendly and disability friendly where all spaces will be accessible and flexible to change.

**A Green rejuvenation of Moonee Ponds Creek**

It takes advantage of the site's natural assets by catalyzing the regeneration of Moonee Ponds Creek. This would create a green corridor between the planned parkland straddling Fink Street and the creek.
4.2 The Master Plan

Figure 49: The Master Plan

Obstacle course for Seeing Eye Dogs Australia

Café on Waterfront

Urban Farming

Green wall

Community Kitchen

Improving the freeway facade

Laneway

Car parking [under central courtyards]

Sensory Garden

Market Space

Playground

Creative Workshops

Pedestrianize Chelmsford street.
4.2 The Master Plan

Figure 50: Proposed Site Plan [1:4000]

- Moonee Ponds Creek rejuvenated through increased activity and uses (i.e. cafes).
- Creek edge is rejuvenated through increased land uses such as cafes/bars. These uses permeate over different time scales to create activity.
- Fertile soil of creek edge could be used for urban farming.
- Improved pedestrian connection over creek.
- Laneway provides permeability to creek and vista connecting proposed park and creek. Also reference to laneways in the industrial surrounding.

Figure 51: Proposed section through site [1:2000]

- Existing expressway could be greened to reduce sound and increase aesthetics.
- Moonee Ponds Creek rejuvenated through increased activity.
4.3 Design Process

1. The design started with the entire building envelope.
2. It took into account the set backs outlined in the proposed planning scheme amendment C190.
3. A central courtyard was extracted to take advantage of the north western aspect.
4. A steeping down concept was incorporated, cascading downwards to maximise views to the park in the northwest and to increase the amount of sun and views for dwellings. View equity is an important part of the design. This also highlights the orientation of the building in two directions.
5. The height of the west wing is reduced to allow evening sunlight. While the height on the east wing is increased to 5 storeys to act as a noise barrier to the freeway.
6. The building was then cut into half to create an alley that creates a pedestrian connection between the proposed park and the proposed pedestrian bridge in the Macaulay structure plan. It was also done to start to break up the building and allow more access to sunlight.
7. Then additional smaller laneways are added to increase the permeability of the site further and to break up the blocks more and increase access to light.
8. The floor plate depths were then deducted in order to ensure natural light for all dwellings.
9. Then the design turned to maximise green space and roof surface for space for the residents to enjoy communally.
10. Finally a restaurant/café was then placed along the waterfront- maximising introvert and extrovert views made visible from the other side.
4.4 Massing

The massing diagram displays how the space will be used. It is five stories to reduce construction costs and the use of union labour in creating affordable housing. It is also five stories at its highest point to reduce shadowing over adjacent land.

Table 53 has the total measurements for each floor and the makeup of the internal space. Out of the total residential area, 68% of dwellings will be private housing and 32% social housing. The rationale for this percentage is to not only cover the cost of the social housing economically but because some evidence points to positive benefits of social and private mixed housing for social housing tenants only existing when the balance is 30% or below of social housing (Graham et al 2009). These benefits include reduced stigmatism and increased understanding and tolerance of each other within mixed communities (McCormick et al 2012).

On the ground floor will be rentable space, workshops, car parking and café/restaurant space allowing active frontages to activate the street. The second floor has additional community space for healthcare and childcare for the use of residents and public communal space. Part of the reason for this being on the first floor is to allow a separation with the street, to create a feeling of safety and security for parents to allow their children to use the space worry free.
4.5 Unit Dispersal and Size

The dwellings will be pepper and salted together in accordance with the Housing choices brief and to encourage community integration of different tenure types.

It is envisioned however that elderly and disabled tenants will be in close proximity to each other to offer support and help support connections between them based on advice from housing choices. Family units where possible will have direct access to internal green and courtyard spaces. Figure 54 portrays the mixed dispersal methods employed to create a variety of neighboring dwellings.

The total number of each type of dwelling and the area they take up is in Table 55. The rationale for these areas is based on the Housing Choices brief and the private dwellings are similar in size to the public dwellings because the design do not want to draw substantive difference in sizes to create a sense of equity between the tenure types and to allow the spaces to be converted to public housing down the track or vice versa.

The theory is that a certain demographics of private dwellers will be attracted to the development as an environmental sound and regenerating wilderness for people to live in. A certain demographic looking for culture and affordable living in the inner city.
Figures 56 portrays examples of layout for different living units within the site. These units have been designed with maximum space and best circulation methods. Every space is functional and comfortable.
4.7 Feasibility

Economic
The proposed development is designed to be as close to cost neutral (or cost negative) as possible. The current design contemplates the provision of 64 private apartments, with a notional sale value of $28 million. This sale value is contrasted against an estimated construction cost of $26 million, resulting in a surplus of $2 million, which can be drawn upon to supplement land purchase and other costs.

This estimated construction cost includes provision of approximately 1,530 sqm of space that can be utilised in a number of ways. A portion of this space is earmarked for use as a café, while the remainder is envisaged to be used in a variety of ways that respect the precincts industrial and cultural heritage. By cross subsidising the cost of providing this space with the sale of private apartments, it will be feasible to make these spaces available, at low cost, for community enhancing, skill developing activities.

A detailed breakdown of the cost estimates is available at Appendix 1.

Environmental
This project aims to act as a catalyst for the environmental regeneration of the Moonee Ponds Creek and surrounding industrial precinct. The proposal also contemplates the use of green roofs as community space, helping to reduce reliance on mechanical heating and cooling, as well as a reduction in the urban heat island effect. The Arden Macaulay Structure Plan (2010) envisages that the precinct will be an “eco-city district,” our design intention aims to fulfil this vision. Minimising running costs is a priority of Housing Choices Australia; achieving a highly sustainable building is not only sensible from an environmental standpoint, but it can also help to keep running costs down for the ultimate tenants.

Social
As suggested throughout this report, a core aim of this project has been to enhance the social fabric of the neighbourhood, rather than detract form it. Respecting the past and existing character of the precinct, we aim to develop a premises that makes the area a more desirable and socially cohesive place to live and work. This proposal clearly aims to have a net positive outcome for the local community.

Figure 57: Via Verde, Bronx, NY by Dattner and Grimshaw Architects is an ecologically sustainable development [source: http://www.viaverde.pt]
Part 5: Design Strategies

The project will be full of different nooks and crannies that will be accessible for all and offer different environment, including dog friendly spaces, a sensory garden, a happening lane and possible market area and a lush creek environment. An interior court yard will allow security for kids to play outside while they can be overlooked by parents. A community centre and community kitchen will allow people to eat together. Elevators will be strategically placed to help the less mobile throughout the site.
5.1 Preserving/respecting the industrial & cultural heritage

Creative spaces
As identified in the site analysis, the area surrounding the site is rich in cultural activity. The nearby Younghusband Studios is home to a thriving creative community and has informed and inspired our proposal for the site. Our proposal aims will include provision of space on the ground floor of the building dedicated to creative activities that not only fit in with and pay homage to the creative community in the Younghusband, but also the broader creative industries within the precinct, which include furniture makers, a music school, screen printing and seeing eye dog training, to name a few.

Providing these spaces will not only increase the supply of affordable places for creative endeavours to take place, it will add to the vitality and vibrancy of the development, helping to foster a thriving, safe and enjoyable community within the development and, importantly, the wider Arden Macaulay precinct.

Social enterprise cafe
Space on the ground floor has been set aside for the purpose of operating a café. This will be an important element of the development and will served to further activate the interface between the public and private elements of the building and to increase safety and vitality of the area. The café will be located facing onto the creek, which will also have undergone a rejuvenation process.

The aim is that the café will operate on a social enterprise model. Under this model the business would be (at least partially) staffed by people in need of skills and experience.

Precedents
Kinfolk is a Melbourne café that operates on a social enterprise model, they are help young people at risk of poverty gain valuable skills and experience through volunteer and work opportunities at the café. Kinfolk also redistribute their profits amongst a number of charitable cause.

STREAT Coffee is a business that aims to provide youth who are living on the street or at risk of homelessness with long term employment opportunities in their hospitality business, which includes a “bricks and mortar” café as well as mobile coffee carts.

Charcoal Lane on Gertrude Street, Fitzroy is a restaurant that was established by Mission Australia to act as a training ground for disadvantaged indigenous and other at risk youth. The restaurant has a focus on indigenous Australian cuisine and has been operating successfully for a number of years.
The laneway will form the defining spine of the building and will be an integral element of the proposed development. The laneway will effectively link the redeveloped Moonee Ponds creek with the park and increasing residential development to the south and west of the subject site as proposed in the City of Melbourne’s Arden Macaulay Structure Plan, 2012. The laneway will become a key pedestrian thoroughfare between the medium density proposed development to the south and west of the site and Macaulay strain station. This increased pedestrian traffic will act to improve safety within the area.

The frontages along the laneway will be designed in such a way to activate the laneway, and ensure it is a vibrant, versatile and inviting space for the local community to gather and congregate.

Figure 60: Laneway design iteration sketches

Figure 61: Night market [source: silverliningblog.com]

Figure 62: Leigh St, Adelaide proposal (Source: http://www.adelaidereview.com.au/)

Figure 63: London laneways proposal (Source: http://www.andrewburns.net.au)

Figure 64: Centre place, Melbourne (Source: greenline.com)
5.3 Pedestrianising the Street

Figure 65: Creating more permeable linkages allows for a more human/pedestrian scale to be achieved

Figure 66: Good quality streets i.e. Promenade Plantée, Paris [source: http://landarchs.com]

Figure 67: Active frontages

Figure 68: Streets become shared public spaces
i.e. Stone Street, New York [source: http://nyc.metblogs.com]
5.4 Gardens, food and rooftop spaces

Community Kitchen and Garden
Nothing brings people together better than sharing food. Communal kitchens can offer a space where tenants can come together. Creating a social gathering place for the community and encourage the sharing of intergenerational knowledge; learn, teach, connect and inspire food and community

A community garden can help improve food security for participants by increasing physical and economic access to adequate amounts of healthy food

The farming kindergarten, Dong Nai, Vietnam offers a precedent portrayed in figure 69 by Yo Trong Nghia Architects. Where, children can learn how to grow their own vegetable, converting a commonly unused space into an active green and sustainable learning environment.

Sensory Garden
Accessibility and inclusion are at the heart of Sensory Gardens. Making the rich experiences of the natural world available to sight impaired, hearing impaired, learning disabled or mobility impaired is important to us. Its about Interaction and a calming space of all five senses, touch, taste, smell, sound, sight, texture. It will include accessible garden beds and be add to the hub for the disabled and specifically blind hub of Kensington. The inner city should be a space for all.

Figure 69: Urban Farming on rooftops in kindergarten [source: http://agreenliving.org/tag/kindergarten/]

Figure 70: Urban Farming on rooftops in New York [source: http://designbuildsource.com.au]

Figure 71: Community Garden (Source: http://www.bountifulharvestgardens.com/gardendesign.htm)
“Happiness is a warm puppy.”  

Charles M. Schulz

A calming experience and the feeling of wellbeing can be gained from being around animals.

The design works with the neighboring Seeing Eye Dogs complex to establish a state of the art, fun and friendly dog obstacle course at the front of our site, this not only gives back to the blind community but offers a well being experience and even an attraction for the tenants, specifically children. As it’s seen as often an obstacle to living in the inner city is not having space for pets, in this environment our development will allow looking after the SEDA puppies temporary placements and services. It also fits into the minor blind service that the precinct will offer.

- An obstacle course
- Petting cafe for people to bring their pets to and enjoy the company of mans best friend. These initiatives have been taking off in Korea and Japan
- A live cam dog space so that tenants can check on how the dogs are doing and feel invested in them as friends. Like this: http://explore.org/#!/live-cams/player/service-puppy-cam

Figure 72: Proposed view of petting café at site

Figure 73: Dog obstacle course  [source: www.petsparadisehotel.com]
5.6 Rejuvenating the creek

A central component to the project is to rejuvenate the waterfront area, taking it from a rough creek. This will involve a cafe on the riverside, dog obstacle course, aquaponics and community farming opportunities on the river, and creating a sound barrier from the freeway.

Figures 74 is a precedent from Seoul, the Cheonggyecheon Restoration project to where they transformed a busy traffic area to a pedestrian focused space adjacent to busy roads.

Improving the Freeway connection to the site and creek.
The rejuvenation of the freeway connection is key to the success of our project. A successful re-energising space we envision could look like Figure 77 where the greening of the space improve the visual quality of the environment and acts as a sound barrier to freeway traffic.

Figure 74: Cheonggyecheon Resoration Project, Seoul [source: www.okeanosgroup.com]

Figure 75: Riverbanks in Europe [source: http://blog.utrip.com]

Figure 76: Urban Farming along the creek [source: www.oculus.com.au]

Figure 77: Urban Farming on expressway in Rio de Janeiro [source: http://www.urbanphoto.net/]
5.7 Materials

A key element in creating the design will be through the use of affordable materials, we considered not just the upfront cost of buying the materials but the cost over the lifetime of the building, including the maintenance work involved to decrease the workload for Housing Choices Australia. The three main materials employed are prefabricated concrete, laminated timber and bricks.

Prefabricated Concrete
Prefabricated concrete is known for its fast construction and standardization which means its highly cost efficient. It is also a sustainable building material, efficient in passive heating/cooling and can be recycled ‘green concrete’. It also reduces the need for skilled labour onsite in its construction.

According to Precast(2008) studies on innovative precast floor slabs have shown a 35% to 50% weight savings. ‘For an average-sized building, this can result in an embodied energy saving of about 184 tons of carbon, the equivalent of 60 car-years of carbon dioxide emissions, primarily from the reduction in cement used’.

Laminated timber
Laminated timber fits our rustic style, aesthetic, low in maintenance, and a low cost material.

Bricks
Brick add an industrial quality to our site referencing the Younghusbands and surrounding industrial heritage identified in the site analysis. The use of this material will integrate the building into the surrounding environment and reduce the stigmatism of low cost housing. Furthermore bricks are cheap and relatively low maintenance and quite strong.
Part 6: **Next Steps...**

In summary, this report has presented our vision for an affordable housing project in Kensington and Macaulay. We are moving towards an optimistic place of achieving family friendly housing outcomes. Where to next???

**Anthony** is going to further investigate the viability of inclusionary zoning and density bonuses in increasing availability of affordable housing and barriers to their adoption into the Victorian context

**Ella** is going to investigate how the recent National Disability Insurance Scheme (NDIS) funding can be harnessed to support housing services for people with a disability in the inner city.

**Nicole** is going to ‘rethink’ the architectural prototype of social housing in North Melbourne and Kensington, traditionally tall brutalism structures that stand isolated in the skyline, by investigating the notion of permeability and productivity both in terms of the architectural and social realms. The next step will be to attempt to draw upon the strong industrial heritage of the site in order to create a new cultural and artistic hub for Melbourne along the rivers edge. The future of the area will be determined by its past....

**Yong** will be focusing on regenerative architecture. Regenerative architecture focuses on the conservation and the reduction of environmental impacts of the building. It also embodied in the material selection, reduced energy consumption, and intelligent design. For instance, resource-efficient and conventional methods such as prefabrication modular housing to achieve affordable without neglecting the quality of living environment. Since the idea of Regenerative Architecture is highly related to sustainability, the Hannover Principles is highly recommended to be incorporate to the design. - Insist on rights of humanity and nature to co-exist - Recognize interdependence - Respect the relationships between spirits and matter - Accept responsibility for the consequences of design - Eliminate the concept of waste - Rely on nature energy flows - Understand the limitations of design.

**Ellie** will be aiming to grow the site into one interwoven precinct for the people, engaging the principles of unity and celebrating the unique combination of cultural, public and landscaped space. To transform the negative elements of the site through a design that integrates the waterfrontage of the Moonee Ponds Creek, and the industrial qualities into the building: restoring the qualities of the existing urban landscape with a main circulation spine that opens out to smaller laneways to stimulate a sense of communal that symbolizes a connection between the urban fabric and the engagement of the five human senses: smell, touch, hearing, taste, and visual. Pockets of spaces will be formed through the laneways and small cultivation spaces: to help catalyse a communal atmosphere that provides maximum social interaction among residents. To enhance the identity of the neighbourhood through variations and multiplications of spatial typologies that allows the dwellings to develop iteratively. Each unit will directly respond to the requirements of the residents with an opportunity to define their own micro-universe.
## Part 7: Appendix [Cost Estimates]

<table>
<thead>
<tr>
<th>Social Housing</th>
<th>Quantity</th>
<th>Area sqm</th>
<th>Total sqm</th>
<th>Private Housing</th>
<th>Quantity</th>
<th>Area sqm</th>
<th>Total sqm</th>
<th>Unit Sale Price (cost)</th>
<th>Total Sale Value</th>
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<td>50</td>
<td>350</td>
<td>Apartment - 1 bed</td>
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<td>50</td>
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<td>Independent Living Unit - 2 bed</td>
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<td>95</td>
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<td>850</td>
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<td>110</td>
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<td>24</td>
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<td>* Allowance for plant, external walls, etc</td>
<td></td>
<td></td>
<td></td>
<td>* Allowance for plant, external walls, etc</td>
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<tr>
<td>Total Social Housing Area</td>
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<td>Total Private Housing Area</td>
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<td>Estimated total sale price for private units</td>
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### Available space

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<td>Level 4</td>
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<td>Level 5</td>
<td>1005</td>
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<td>Total</td>
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### Building Makeup (internal space)

- HCA Housing: 2,120 sqm (32%)
- Private Housing: 4,430 sqm (68%)
- Total Amenities: 346 sqm
- Carpark: 109 sqm
- Leasable area: 153 sqm
Part 8: References


City of Melbourne (2013) Future Living, City Of Melbourne


Whitzman . C (2013) Introduction to Subject, Getting to Yes, Lecture slide, August 1st, URL: https://attachment.fbsbx.com/file_download.php?id=586395234732935&eid=ASTyqNEdvTy9L90t cxN2wEJDUGZI0tAgodItl-69AhJCAH0M9gp6NxTWxdcwEuda62Y&inline=1&ext=1378286057&hash=ASvRVi0hFNgMh6Zz

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