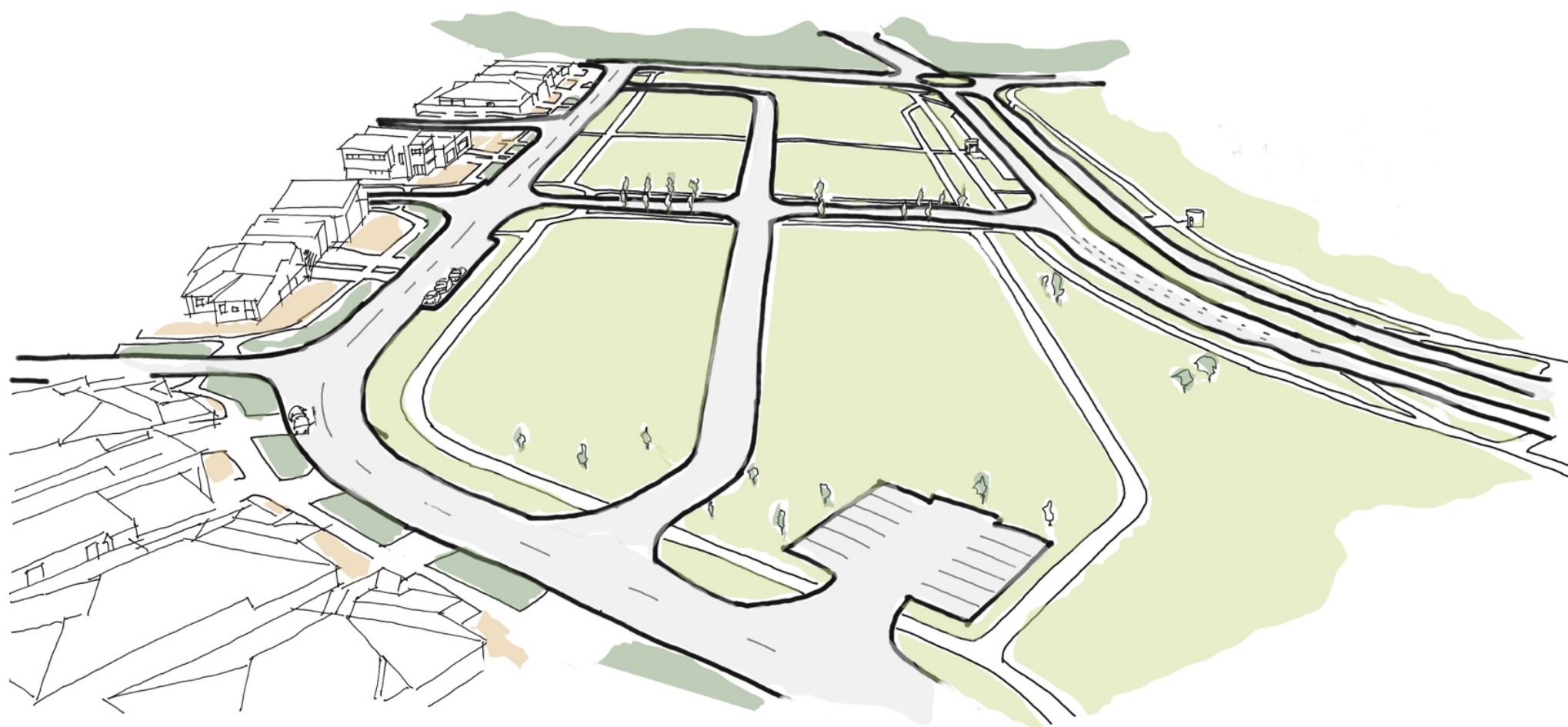


NORTH WRIGHT COMPACT HOUSING PROJECT
STAKEHOLDER ADVISORY GROUP

WORKSHOP #1 (20 Oct.22)
DISCUSSION SUMMARY

SUBURBAN LAND AGENCY

JANUARY 2023



Document Control

Document version history

Revision No	Issue Date	Issued By	Issued To	Reason for Issue
1	09.11.22	E.JUDD	M.DODSON	Client review and approval
2	16.11.22	E.JUDD	M.DODSON	Amended version for approval
3	21.11.22	E.JUDD	M.DODSON	FINAL version incorporating amendments
4	31.01.23	E.JUDD	M.DODSON	FINAL updated version incorporating Advisory Group and SLA final feedback

ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the traditional Custodians of the land where we conduct our work and pay our respects to Ancestors and Elders past, present and emerging.

We acknowledge and pay our respects to the Ngunnawal people as the traditional Custodians of the land on which the North Wright Compact Housing Project will be located.

We recognise their continued connection to Country, to land, to sea and to the community.

CONTENTS

INTRODUCTION5

ABOUT WORKSHOP # 16

INTRODUCTIONS, PROJECT OVERVIEW + PLACEMAKING7

INTERACTIVE SESSION: SOFTWARE + HARDWARE 10

BLOCKERS + ENABLERS 16

Q+A SESSION 17

INTRODUCTION

The North Wright Compact Housing Project is a development initiative by the Suburban Land Agency (SLA) that will demonstrate the potential for innovative sustainable medium density housing in Canberra.

Acting as the developer, the SLA will deliver compact and liveable design templates for 43 new terrace homes across two stages in North Wright, while testing a new development approach to placemaking, design and construction. The Project will demonstrate a precinct-based approach to address the gap in sustainable medium density housing – the ‘missing middle’ - in Canberra’s housing market. The new neighbourhood precinct aims to improve housing choice, to deliver whole-of-life affordability and energy efficient design for owner-occupiers and families, and to promote connection to community and to Country.

To enable a Community and Industry voice for the Project, a Stakeholder Advisory Group (the Advisory Group) has been formed, with 21 invited representatives from a diverse range of backgrounds, including people from:

- the local neighbourhood and schools
- peak industry organisations
- the Ngunnawal community
- a range of community and special interest groups including those with an interest in equitable and accessible, sustainable and affordable housing.

The Advisory Group forms an important part of the process, providing input into the Place and Design Vision for the Project and reviewing design documentation for the neighbourhood precinct and landscape masterplan and architectural designs for the new homes at key decision making milestones. The Advisory Group will also take part in the co-design of the verges and open spaces.

Invited members of the Advisory Group include:

- | | |
|---|--|
| • Molonglo Valley Community Forum | • Australian Institute of Architects ACT |
| • Neighbouring residents | • Property Council of Australia ACT |
| • Charles Weston School | • Planning Institute of Australia ACT |
| • Council on the Ageing (COTA) | • Australian Institute of Landscape Architects ACT |
| • Youth Advisory Council | • Master Builders Association ACT |
| • Multicultural Advisory Council ACT | • Housing Industry Association ACT |
| • Dhawura Ngunnawal Caring for Country Committee | • Stellulata Co-housing |
| • Rights & Inclusion Australia | • University of Canberra - Research |
| • ACT Disability, Aged and Carer Advocacy Services (ADACAS) | • ACT Government Architect |
| • See-Change | • ACT Office for Sustainability and Environment |
| • Conservation Council ACT | |

ABOUT WORKSHOP # 1

The first meeting of the Advisory Group – an interactive face to face workshop - was held on Thursday 20 October 2022 at the Denman Village Community Centre from 5.30pm to 8.30pm. A pre-workshop site walk had also been planned for Advisory Group members to familiarise themselves with the project precinct and surrounds. Unfortunately, due to forecast rain the site walk was cancelled.

The objectives of the workshop were to:

- provide an introduction to the project, to the site and to the project team
- enable the Advisory Group to get to know each other
- ‘set the scene’ for the project’s strategic drivers
- encourage thinking about Connection to Country
- invite input into the precinct landscape and placemaking vision and strategy

All members of the Advisory Group were invited to attend the workshop. 16 members were able to participate on the day.

Also in attendance were members of the project team, including:

Suburban Land Agency (SLA):

Petra Oswald, Program Manager Built Form
Melinda Dodson, Senior Development
Manager (Design)
Natalie Bishop, Stakeholder Engagement
and Partnerships Manager

Traditional Owners Advisory Corporation
(TOAC):

Richie Allan, Cultural Director

PLACE Laboratory:

Anna Chauvel, Director
Walter Van Der Loo, Associate Director
Cara Sealey, Landscape Architect
Jocelyn Wu, Graduate Landscape Architect

JUDD.studio:

Elisabeth Judd, Director
Laarni Balila, Graduate Architect

Prior to the workshop, the Advisory Group was provided with the following documents by email:

- Workshop 1 Agenda
- Terms of Reference
- Project Summary and Background Information
- Confidentiality and Conflict of Interest Deed (the Deed)

The Terms of Reference were confirmed by attending members of the Advisory Group at the workshop. All attending members (with the exception of one member who left the workshop early) also returned signed and witnessed copies of the Deed.

A link to an online survey was also provided to the Advisory Group members prior to the workshop to better understand housing needs. To enable more time for Advisory Group members to complete it, the final results of the online survey were shared with the group at the next workshop session in December 2022.

INTRODUCTIONS, PROJECT OVERVIEW + PLACEMAKING

The workshop included three components:

- an introduction to the team and the Advisory Group
- an overview of the project and presentation on Connecting with Country
- a presentation on the potential for placemaking as part of the landscape masterplan, and an interactive session (with group work and a plenary discussion).

Highlights from the project introduction and overview (Petra Oswald and Melinda Dodson, SLA):

- Driving this project is the objective to offer Canberra homeowners lower cost innovative housing options with smarter design – the team is looking to deliver something different to what is currently being offered by the market. Key concepts in discussion are land use, sustainability, housing diversity, place-led landscape, community activation, whole of life low carbon living and construction leadership.
- The aim is to achieve a well-balanced agenda, working towards better social and environmental outcomes while balancing the financial viability.
- As part of considering the precinct's landscape approach, and responding to a deeper understanding of the site's cultural context, the team will be exploring ways to conceive this project as a 'precinct in the bush' - approaching landscape restoratively.
- It's important to take stakeholders on the journey as deliberations and negotiations are made, drawing on the many different backgrounds of the people in the room.
- The hope is that the Advisory Group will contribute to the project team's social learnings, offered as part of the safe conversations during the workshops.
- The project neighbourhood is in the heart of the Molonglo Valley, close to recreation facilities, open spaces and public transport. Landmarks that are also close to the site include Stromlo Forest, Denman Prospect shops, Coombs local shops and the Stromlo Leisure Centre.
- The project is an opportunity to address housing choice offering a range of housing options in order to meet the needs of Canberra's diverse community. The team will be looking at demonstrating quality of design and carbon-wise landscapes for medium density housing - often referred to as the "Missing Middle" – providing a lower cost sustainable housing type option and more bespoke sustainable housing types.
- Stage 1 of the project will commence building in mid 2023. Stage 2 will start the following year, in early 2024.
- Stage 1 will be a mix of low-cost low-carbon townhouses that are solar passive (with a 7 star energy rating) and some will be designed as extendable townhouses, with 'room to grow' from 2 to 3 bedrooms. These houses will be flexible in design and a replicable product.
- Stage 2 will deliver a mix of premium prefabricated Passivhaus homes and 8 star energy efficiency homes. The aim is that Stage 2 will be a way to test new prefabrication methods for a higher performance building envelope and more efficient construction. The house designs will be bespoke and have efficient use of technology, renewable energy production, materials and wastage, leaving a drastically reduced carbon footprint. The intention is to consider how longer-term sustainability in design can be achieved and how these houses with efficient and compact floorplans and low operational costs will be used over the term of their lives.

An introduction to Connecting to Country (Richie Allan, TOAC):

- Often the discussion about Country is a discussion about ‘Us’ and ‘Them’, about Ngunnawal Country versus Canberra, about Western building and landscape versus cultural building and landscape.
- We need to ask ourselves to consider the master planning from a cultural perspective, to think about ‘belonging and contributing’ to the land rather than just ‘owning’ the land, about building a community.
- It’s about appreciating living under the real stars not just in our 8 Star homes. It’s about living amongst the native trees, the grass and the habitat – it’s a landscape narrative that should be about sensory experience, education, play, water and trees.
- If we’re going to be building community then we need to think about what this actually means, and what are we building?
- We should be thinking about the importance of the water and trees, to make sure that the community is connected to the landscape. Because a disconnection from Country is a disconnection from Community.
- We should look to the Ngunnawal Plant Use field guide to see the plants and grasses that belong here, to ensure that whatever has been taken out of the ground can be put back into the landscape, around the buildings or even on top of them, and then we need to take care of that landscape and respect it.
- We should create spaces that connect directly to the natural space – to encourage people onto the grass, into the Bush. Giving access and encouraging people into the landscape improves mental health – gives them access to bush medicine which is better than anything you can buy at the local pharmacy.
- This is the true Australia and this is what we should be building within.
- We need to ask ourselves for future generations – how do we want people to be experiencing Country and their community? If we don’t think about it now then this is the Dreaming that will be a figment of our imagination.
- Let’s put this back now as part of the master planning. Aim high, don’t aim low. Every living thing has a role to play – and our role is to ensure that the native and cultural landscape is there for generations to come.

Key moments from the presentation on place-led precinct masterplanning (Anna Chauvel and Walter Van Der Loo, PLACE Laboratory):

- It’s a special opportunity to be considering the concept of place and landscape before work has been done to develop the architectural design of the buildings.
- This is a project about community and the public realm and about what it is that will unite the people that live there. It’s an opportunity to think about wellbeing, intentional community, neighbourhood liveability and place-led landscape.
- The team will be looking at how to take what is a very modified landscape, but one which has great connections back to the broader environment and landscape context, and how we can connect people to that and to each other.
- A ‘place-led’ landscape is about people coming together to think deeply about what makes a place special and how that impacts the human experience.

- Doesn't matter if it's designing a city or a public space or a neighbourhood, the fundamental principles are the same to make a great place and community:
 - Sociability
 - Access and linkages
 - Uses and activities
 - Comfort and image
- Keen to explore what the Advisory Group thinks would make this a great neighbourhood, and particularly what 'software' and 'hardware' are needed to achieve this.
 - Hardware is the physical attributes that contribute to a place - such as the grass, trees, pathways, playgrounds, and the infrastructure and utilities, the homes and their gardens. These form the foundations of a thriving place and we need to think about how they can reinforce the community.
 - Software is like the personality of a place. It's what brings a place to life - the culture of a place and the values of the community that will be shared. Software comes down to the human experience.
- Think about the things that make a suburb a place where you live and a home.

Just like a computer, places have software as well as the hardware of places

The hardware of a place is the physical attributes. It's usually delivered by urban designers, landscape architects and engineers and includes roads, trees, footpaths, utilities, services etc.

Whilst vital, the hardware can't give a place soul, character or feeling on its own.

The software of a place is less tangible: the people; activity; vibrancy; the 'vibe'; the personality of the place; feelings; confidence and enthusiasm.

The software is provided by local businesses, landowners, residents and visitors.

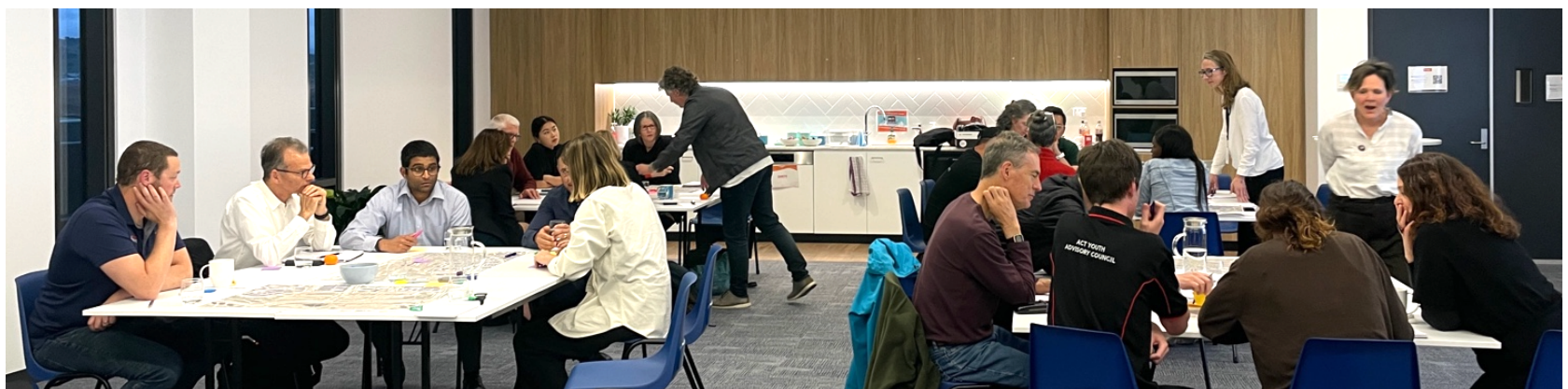
Whilst critical, the software can't always 'paper over' major hardware faults or missing pieces.

INTERACTIVE SESSION: SOFTWARE + HARDWARE

Participants were asked to consider *what makes a great neighbourhood* - to explore the 'things' and 'experiences' that make people love the streets and surrounds of where they live.

Split into four tables, the Group was instructed to discuss the 'hardware' and 'software' that would contribute to a great neighbourhood, with consideration of:

- the site context, conditions and physical elements
- who might live there and what will be important to them
- the types of likely housing to be built
- other great places you know and why they are great
- any important trends or issues to address regarding the changing world we live in



The Advisory Group teams engaged in spirited discussion on the topic, providing insightful and exciting ideas about how the new neighbourhood might be enhanced by strategic interventions / infrastructure, placemaking activities and community building initiatives.

During the course of the session, a number of key themes became apparent:

- **A PEDESTRIAN FRIENDLY PRECINCT:** the precinct needs to be designed to promote pedestrian priority, with universally accessible pathways throughout (ensuring access for wheelchairs, walkers and prams too), narrowing of the road width with limited speeds / reduced access for vehicles through laneway connections, and safe road crossings, lighting to ensure safe access at night.
- **A COMMUNITY FOCUSED PRECINCT WITH LANDSCAPE AT ITS CORE:** provide infrastructure to support community activities grounded in the shared landscape, with community vegie gardens, shared tools and sporting equipment housed in a community shed, community meeting spaces (large and small areas, BBQ and seating with communal tables), attractive and flexible street furniture, outdoor kitchen, beehives and fruit trees.
- **A PLACE FOR ALL GENERATIONS TO ENJOY:** offer space in the public areas for kids to play including the potential for waterplay, natural / incidental play areas and potentially a graffiti wall. Establish a kids' market day. Enable sensory discovery and spaces for reflection – edible verge planting, plant wildlife corridors to encourage native animals and birdlife into the precinct, create a frog pond. Create opportunities for people to 'run into' each other and connect with their neighbours – a central letterbox area, a street library.

- **SHOWCASE NATIVE FLORA:** prioritise native plantings in the shared landscapes to encourage local wildlife and insects and establish the precinct as being grounded in the bush. Select hardy native species endemic to Country and prioritise plantings that offer a broader sensory experience (including native perfumes and flowering plants, and ‘bush medicine’). Exotic plantings might be used to enhance sustainability outcomes (such as deciduous trees planted on northern verges).
- **ENCOURAGE ACTIVE TRANSPORT:** provide communal and lockable bike racks / sheltered bike storage, establish community bike tours and a kids’ bike club. Install a ‘portable’ bus stop that can be moved dependent on resident locations and abilities.
- **PROMOTE COMMUNITY INTERACTION:** establish a community website and physical noticeboard to provide neighbourhood information. Empower the community to coordinate events and activities (regular, one off, small and larger scale). Events / activities might include: garage sale trail, recipe club, planting day / gardening group, share/buy/swap/sell group, street party / carpark takeover, yoga group, Ngunnawal education, paid sustainability officer (local youth engagement).



Some other great ideas that were raised during the discussion:

- Laneway coffee cart
- Seating on route to shops and enhanced connection to established facilities
- Vertical walls / greening
- Pedestrian 'markers' to help people find their way home (to help enable ageing in place)
- Shared neighbourhood battery
- Outreach to adjoining neighbourhood
- Strategic fence placements
- Open / adaptable carports to enable 'livable' flexible garages for non-car owners
- Dog poo bin/composter
- Street art program
- Dog park / dog run



Table 2 discussion record

	HARDWARE	SOFTWARE
.TABLE 1.	<ul style="list-style-type: none"> • Native plants – scented • Gathering places large and small • Public art • Beehives • Seating • Fruit trees • Outdoor kitchen • Adaptable dwellings eg. livable garages for non-car owners • Noticeboard • Street library • Garden beds mean activity, meeting and gathering • Dog poo bin/composter • Shared tools and equipment shed (sporting gear) • Active travel (pedestrian first network) • Street art • Kids market day 	<ul style="list-style-type: none"> • Community events – green roots and festivals • Paid sustainability officer (teenager?) • Buy swap cell • Street parties and car park take over • Ngunnawal planting guide • Committee to organise and promote activities eg. yoga
.TABLE 2.	<ul style="list-style-type: none"> • Frog Pond • Pedestrian friendly lane entry • Space for kids to play • Vegie garden • Tool shed • Shared neighbourhood battery • Safe road crossings and intersections for walks/bikes • Entry constraints in laneway and or intersections • Minerals and graffiti wall • Deciduous trees on the north • One-way lane to slow cars • Wildlife corridors and native understory planting • Safety lighting • Bouldering wall • Bike racks • Vertical walls/Greening • Low number of units allocated for display home • Barbecue area and seating • Physical community noticeboard 	<ul style="list-style-type: none"> • Accessible spaces • Website for residents • Planting day gardening group • Engagement program with future residence 200 meter meetings visiting site at key stages • Opportunities to run into other people • Trust • Connection to Neighbours • Toolshed and shared tools • Sharing systems • Park CareGroup • Active travel • Bike tours

	HARDWARE	SOFTWARE
TABLE 4.	<ul style="list-style-type: none"> • Universal design generally • Pathways • Accessible verges (linkages all universally designed) • Shade trees (deciduous?) • Appropriate planting (appropriate for frost and dry conditions) • Edible verges/community gardens and bush medicine • Sensory planting (visible, physical, olfactory) • Portable bus stop • Intergenerational spaces • Steps/seating • Indigenous planting • Waterplay • Coffee cart to Lane • Seating on route to shops... Allowing F2F gatherings • Flexible use street furniture • Paving treatments to flag pedestrians • Educational programming – wayfinding and first nations • Guerrilla gardening 	<ul style="list-style-type: none"> • Placemaking/both ways across north right (cross cultural and intragenerational) • Get Ian Moody Lane line can may be made narrow but need to allow flexibility to insure pedestrian/wheelchair trafficable • Favour pedestrian access • Demo project to have out reach to adjoining neighbourhood • Gardens for wildlife
TABLE 5.	<ul style="list-style-type: none"> • Communal tables • Parkland – animals/wildlife • Veggie patch/boxes • Safety lighting • Open carport • Close lane ways (either end) to local traffic • community title • Grass, barbecues • Connection to established facilities • Strategic fence placements • Speed limit • Grouped letterboxes • Bicycle storage 	<ul style="list-style-type: none"> • Garage sale Trail • Recipe club • Kids bike club

Table discussion records from the Hardware + Software interactive session

TABLE 2	
HARDWARE	SOFTWARE
VEGETABLE GARDEN + BBQ + TOOL SITES	Gardening days Gardening group
NATIVE UNDERSTORY PLANTING → WILDLIFE CORRIDOR	Parkcare group
SAFE CROSSINGS + INTERSECTIONS ENTRY CONSTRAINTS in "LIVE" or "INTERSECTIONS"	Active travel like towns
SAFETY LIGHTING	

Physical Community notice board. ☺

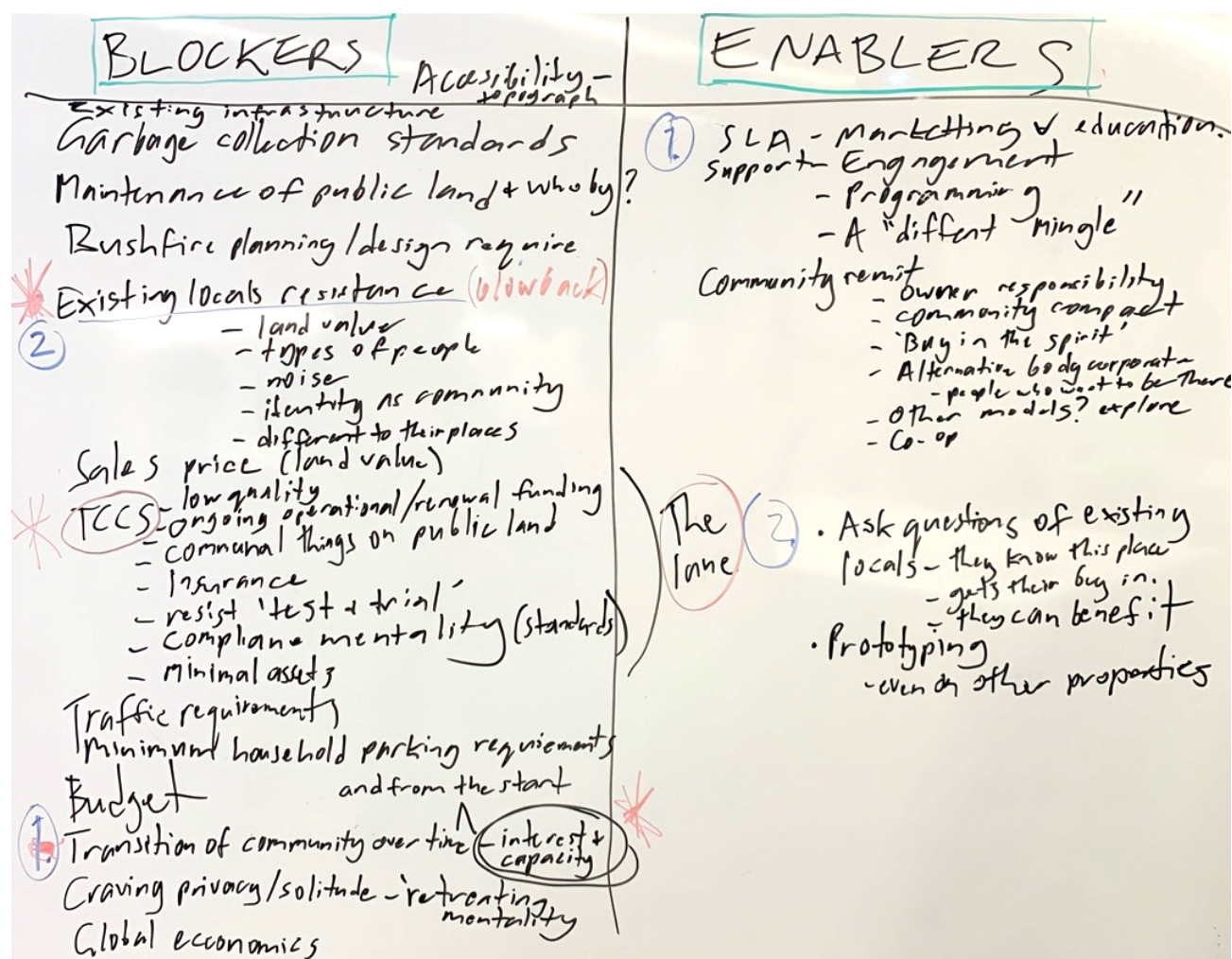
TABLE 1.	
HARDWARE	SOFTWARE
Native plants - scented ☺	Committee - organize + promote activities as JJA
Gathering Places large + small	Public Art
Seating	Bee hives
Adaptable dwelling of liveable garages for non car owners	Community events - grounds → festivals
Noticeboard of street library	PAID sustainability officer teenager?
Shared tool & equipment shed (from shed from JJA)	Brill Sweep Sell
Active travel (pedestrian first network)	Street parties & carpark take over
Street art	Ham No manual. plantings guide
Kids Market day	Community gathering (rings) JJA
	Education workshops
	Car share EV chargers
	power outlet in public realm

TABLE FIVE	
HARDWARE	SOFTWARE
COMMUNAL TABLES	GARAGE SALE TRAIL
PARKLAND - ANIMALS/WILDLIFE	RELIQS CLUB
VEGE PATCH / BOXES	KIDS BIKE CLUB
SAFETY - lighting?	
OPEN CAR PORTS	
CLOSE LANEWAYS (OTHER END) TO LOCAL TRAFFIC	
GRASS, BARBECUES	
CONNECTION TO OUTDOOR FACILITIES	
STRATEGIC FENCE PLACEMENTS	
SPEED LIMIT	
GROUPED LETTERBOXES?	
BICYCLE STORAGE	

TABLE 4	
HARDWARE	SOFTWARE
(NOTING SOME COULD EXTEND BEYOND SITE)	BOTH WANTS
UNIVERSAL DESIGN GET.	'PLACE MAKING' AROUND NORTH WRIGHT (CROSS-CULTURAL & INTERGENERATIONAL)
PATHWAYS	
ACCESSIBLE VERGES (LANES ALL UNIVERALLY DESIGNED)	
SHADE TREES (DECIDUOUS?)	
ADAPTABLE PLANTING (ADAPT. FOR FRUIT & DRY CONDITIONS)	
EDIBLE VERGES / GARDEN	
SENSORY PLANTING (VISIBLE, PHYSICAL, OLFATORY)	
PORTABLE BUS STOP	
INTERGENERATIONAL SPACE	
STOPS / SEATING (E.G. MULTI-USE)	
INDIGENOUS PLANTING	
WATER PLAY	
COFFEE CART TO LANE	
SEATING EN ROUTE TO SHOPS ... ALLOWING FZF GATHERING (E.G. MULTI-USE)	
FLEXIBLE STREET FURNITURE	
PAVING TREATMENTS TO 'FLAG' PEDESTRIAN	
	LET IAN WOLF LANE 'LINE' CAN BE MADE NARROW. BUT NEED TO ALLOW FLEXIBILITY ENSURE PEDESTRIAN / WHEELCHAIR TRAFFICABLE FAVOUR PEDESTRIAN ACCESS
	EDUCATIONAL PROGRAMMING - WAYFINDING (TRANSPARENT) + FRUIT NATIONS
	DEMO PROJECT TO HAVE OUTREACH TO ADJOINING NEIGHBOURHOOD.
	GUERRILLA GARDENING.
	GARDENS FOR WILDLIFE

BLOCKERS + ENABLERS

The Group was engaged in a final plenary brainstorm session to explore potential project risks / challenges, and mechanisms to overcome them.



Whiteboard record of group discussion

The discussion identified a number of challenges for the project, and in particular, challenges associated with innovation to achieve improved outcomes for community landscape, pedestrian prioritisation and community building activities. These typically related to:

- the existing regulatory environment, particularly related to the maintenance of public land and waste collection, parking requirements, communal infrastructure on public land and associated insurance implications
- economic factors, including budget constraints for the project and sale price of the house and land packages
- the impact of resident 'churn' / transition of the community over time and people's willingness and / or capacity to contribute to the neighbourhood initiatives
- a potential negative reaction from the broader neighbourhood to the precinct's community and landscape initiatives
- environmental factors such as bushfire risk or future drought
- topography of the site and the associated impact on accessible access

The group identified some key solutions to mitigate those challenges. Notably:

- the potential for SLA to be more directly involved in the establishment of community programs and associated management groups

- an opportunity to demonstrate the application of a ‘community compact’ / community agreement committing to a neighbourhood approach to verge and public open space management, community care and shared activities programming (for example)
- consideration of bringing key government agencies ‘into the tent’ to ask for their input into how the requirements for municipal maintenance might be met while also allowing the potential for the new community to achieve its key aspirations
- engaging early with the broader neighbourhood on intended initiatives and potential outreach to extend those neighbourhood building programs to adjoining streets.

The Advisory Group was optimistic about the potential to navigate the possible challenges for the project and remained excited and positive about future discussions.

Q+A SESSION

The workshop included breaks for questions and answer sessions. A summary ‘Frequently Asked Questions’ document (including a glossary of terms) is being prepared as a living document to inform future Advisory Group discussions.

The following questions were raised during the Q+A discussion:

Questions	Answers
<i>When you say ‘intentional community’, will there be scope to identify residents prior to the project completing?</i>	<p>The SLA won't know residents up front (before the homes are built) but is undertaking market research. The role of the Advisory Group will be to inform the design in the interests of potential future residents, drawing on the diversity and experience of the group to consider diverse demographics.</p> <p>‘Intentional community’ means designing an environment that will encourage the creation of community.</p>
<i>Will there be affordable build to rent as part of the innovative affordability mix? If the SLA is aiming for true community diversity then the price point and affordability will be very important.</i>	<p>The team is exploring different ways to take the homes to the market, but at this stage the main focus is to achieve homes for owner occupiers that provide quality architecture and lower energy costs (through sustainable design) at a lower price point rather than exploring innovative affordable rental housing options such as build to rent.</p>
<i>What is meant by ‘missing middle’</i>	<p>There is typically a spectrum for housing ranging from single detached ‘average’ housing (ca. 250m² floorspace) through to high-density apartments. At the ‘middle’ there are duplexes and townhouses which are typically more compact than detached houses but also more flexible in terms of who they might suit. There appears to be higher demand for this type than the market is providing (hence 'missing middle'). Those homes can be one to three storeys and are similar in size to houses from about 50 years ago (e.g. ex govies - around 100m²) and are typically attached with one or more shared boundaries which can also improve thermal efficiency.</p>

<i>What is meant by 'surveillance dwellings'</i>	There is a planning requirement to ensure a certain number of homes to enable passive surveillance of streets, but also to activate the 'laneway'. The project may go further in the design to similarly activate other spaces onto the laneway in other properties too (e.g. with multipurpose or open carports).
<i>What is meant by 'whole of life'</i>	The project will be looking at lifecycle carbon assessment of the houses and the whole precinct. One element is the energy used and carbon emitted to run the house, the other is the 'embodied carbon' in materials used to build the house and also the ongoing maintenance of the building. 'Whole of life' looks at how the house is constructed, used and then also how it is demolished (and whether it can be dismantled / reused). The focus is on the total carbon footprint of materials and operation, not just energy efficiency of the design.
<i>What is meant by 'Passivhaus'</i>	The <i>Passivhaus</i> product goes beyond standard energy efficiency and contributes to a much more airtight house (0.6 air changes per hour vs. 4-8 air changes per hour typical for new 7 or 8 star houses. The <i>Passivhaus</i> relies on bringing air through a mechanical heat recovery system rather than natural ventilation and does not need heating/cooling.
<i>What's the difference between 7 and 8 stars for sustainability?</i>	7 stars is more ambitious than the typical required energy efficiency standard in Canberra and provides an excellent sustainability outcome at a lower price point. An 8 star home would increase the price of the home (e.g. requires more insulation, better performing windows, designed to carefully consider the extent of windows). All homes will include rooftop solar and battery storage to help reduce energy costs and lower the carbon footprint.