

RADIAN
ARCHITECTURE



REMOTE & REGIONAL HOUSING

A SCALABLE MODULAR HOUSING FRAMEWORK FOR AUSTRALIA

Radian's Note



RICHARD TESTER

Founder & Managing Director

Housing delivery in Western Australia is entering a critical period of transition. Increasing demand across metropolitan, regional, and remote locations is placing sustained pressure on traditional construction pathways, requiring new delivery models that can respond with speed, certainty, and quality.

This publication introduces a design-led modular housing framework developed to address these challenges while maintaining architectural integrity, durability, and long-term public value. The approach recognises that housing is not simply a construction output, but a foundational piece of social and economic infrastructure.

The framework presented here is grounded in real delivery experience, technical rigour, and a deep understanding of government requirements. It demonstrates how modular construction, when guided by strong architectural leadership, can accelerate housing delivery without compromising liveability, compliance, or dignity.

Rather than positioning modular housing as an alternative of last resort, this work reframes it as a strategic delivery tool; capable of complementing conventional construction and expanding the State's capacity to respond to diverse housing needs.

This first section sets the context for the framework, outlining the challenges, objectives, and guiding principles that inform the project. Subsequent sections explore the design, technical, and delivery aspects in detail, illustrating how this model can be deployed at scale across Western Australia.

"Strong frameworks enable better outcomes, allowing purpose, care, and clarity to scale. They make it possible to deliver housing that is adaptable, respectful, and built to last."

A Scalable Modular Housing Framework

CO-DESIGN DELIVERY FOR DIVERSE
WESTERN AUSTRALIAN CONTEXTS

This framework presents a modular housing approach developed to respond to the spatial, climatic, and logistical realities of housing delivery across Western Australia. By combining architectural leadership with off-site fabrication and coordinated on-site installation, the model enables faster delivery, improved cost certainty, and consistent quality outcomes. The system is designed to be repeatable, adaptable, and scalable, supporting long-term public housing objectives while maintaining durability, liveability, and compliance.



RADIAN INDIGENOUS HOUSING

Housing design grounded in the specific wellbeing, culture, and needs of people that is based on community-led knowledge.

Grounded in community-led knowledge, our housing design approach responds to the wellbeing, culture, and lived realities of people and place. We create homes that support social connection, cultural practices, and everyday life, ensuring housing is shaped by those who live there. Through collaboration and respect for local knowledge, our designs strengthen identity, dignity, and long-term community resilience.

Community-Led Housing

Housing developed through genuine engagement with residents and Traditional Owners, ensuring design outcomes reflect lived experience, cultural practices, and local priorities.

Wellbeing-Focused Design

Homes that support physical, emotional, and social wellbeing through adaptable layouts, shared spaces, and environments that promote safety, comfort, and connection.

Cultural Responsiveness

Design approaches that embed cultural values, kinship structures, and ways of living, expressed through spatial planning, material choices, and dwelling relationships.

Flexible & Adaptable Living

Housing systems that respond to changing family structures, overcrowding pressures, and multi-generational living through modular and expandable design strategies.



Reference Photo by Go live blog © – Understanding Culture

“

“Well-designed housing creates living connections; between people, culture, place, and everyday life.”

Long-Term Sustainability

Durable, climate-responsive housing that supports ongoing use, easy maintenance, and resilience over time, aligned with community aspirations and future needs.

Shaped by People and Place

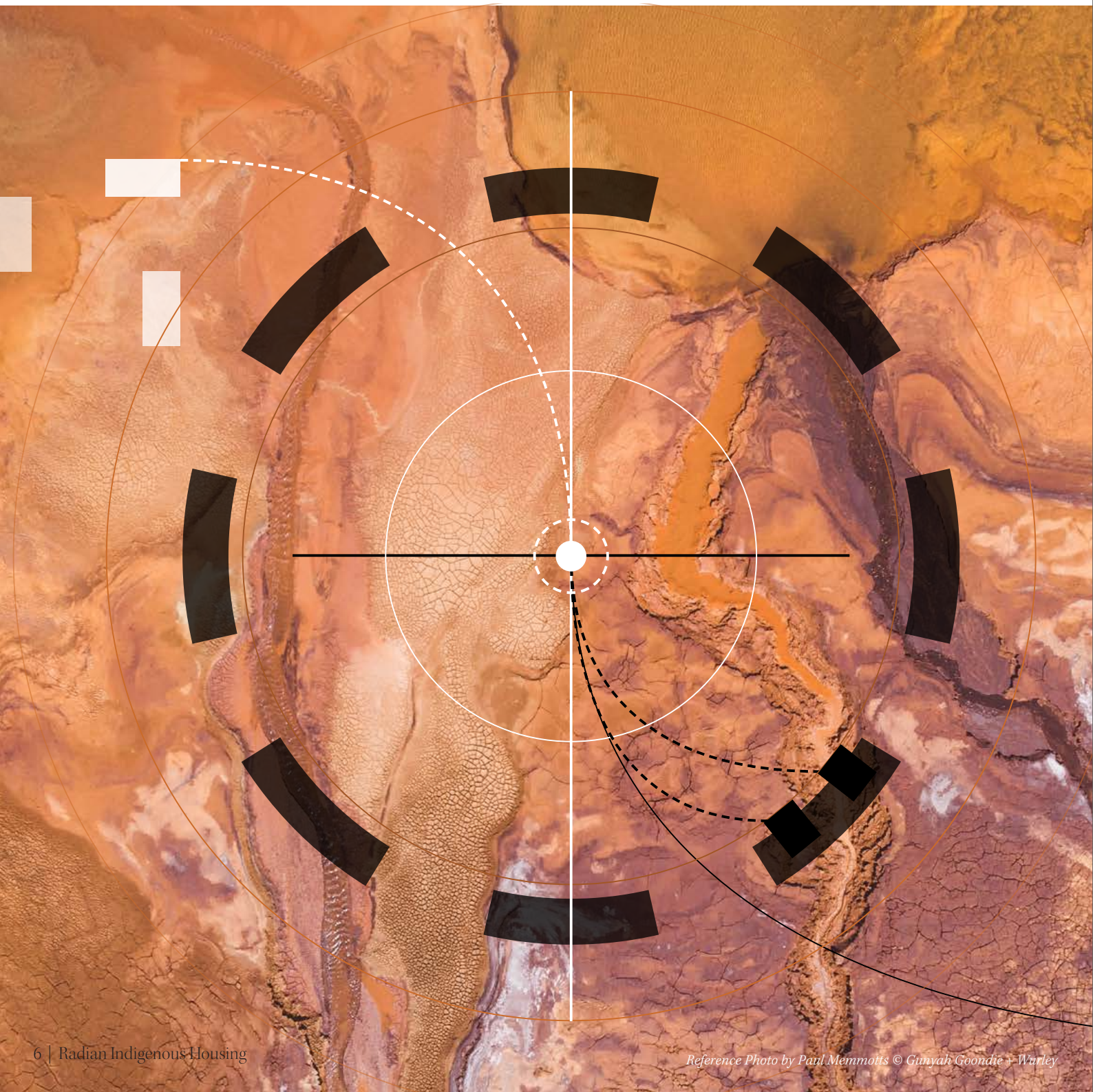
Radian's housing moves beyond standardised models by drawing on community-led knowledge and lived experience, embedding culture, wellbeing, and adaptability into homes that are conceived as part of a broader social, cultural, and environmental system. Through collaboration, listening, and respect for local ways of living, the design supports connection, dignity, and belonging, enabling communities to live, gather, and grow together over time while remaining resilient to change.



Housing beyond shelter

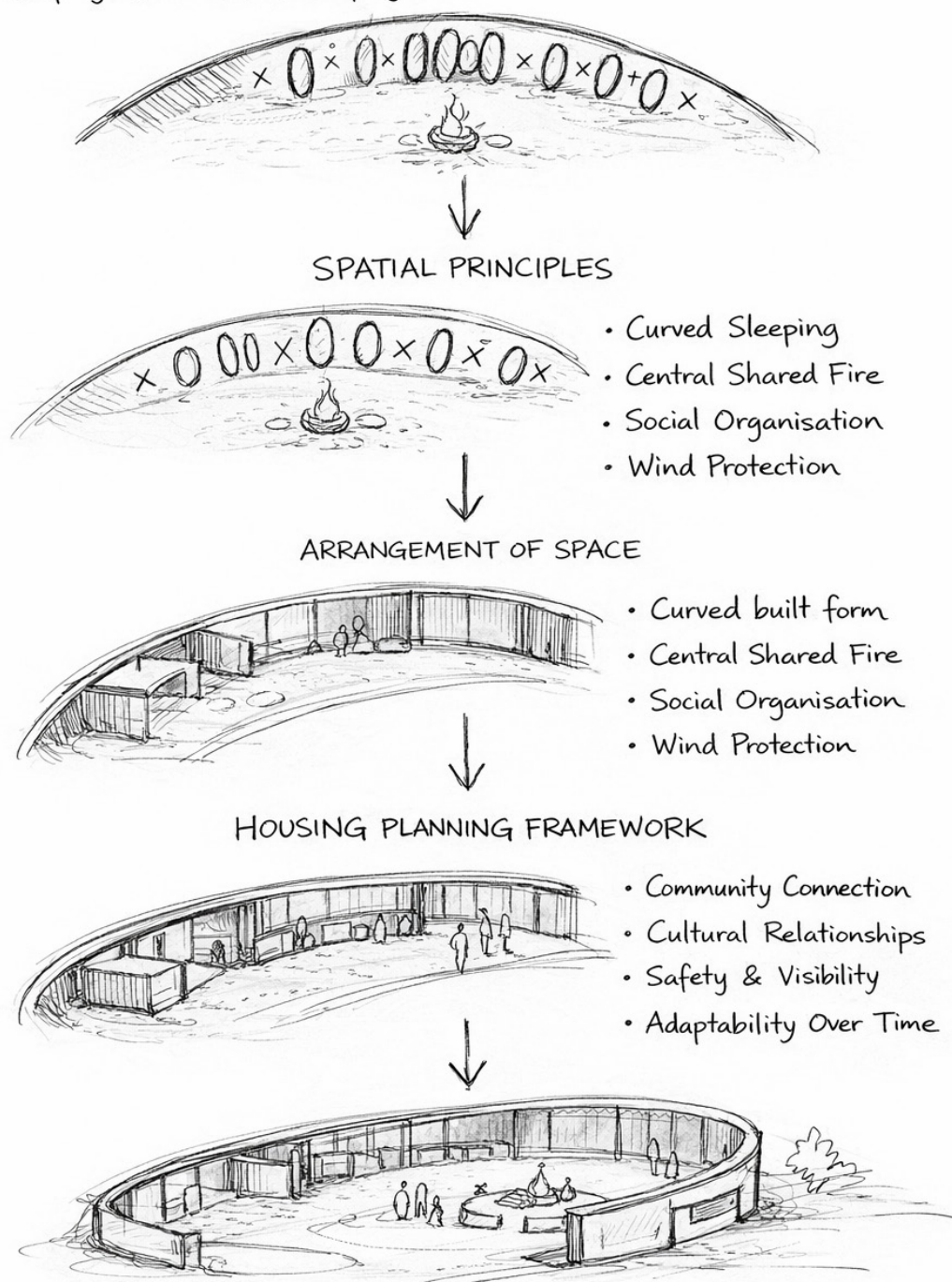
A SYSTEMATIC BASE, SHAPED BY PLACE & PEOPLE

Housing for Aboriginal communities must begin with a deep understanding of social, emotional, and community wellbeing. Research consistently shows that wellbeing is not individual, but collective, shaped by family, culture, and enduring connection to Country. Housing is therefore more than shelter; it is a critical framework that supports how people live, gather, care for one another, and sustain cultural practice.



ANTHROPOLOGICAL CAMPGROUNDS (1957)

Sleeping • Fire • Social Grouping



- ▲ Based on anthropological documentation of Aboriginal camp layouts recorded by Paul Memmott (2003), this diagram illustrates the spatial organisation of an Aboriginal camp as a highly ordered social system. While represented as a technical sketch, the arrangement reflects relationships, roles, cultural protocols, and patterns of daily life, rather than formal building boundaries or rigid architectural typologies. This understanding of space as relational and culturally informed underpins the Radian housing framework, which accommodates social structure, family groupings, and cultural practice as a core design principle rather than an applied layer.

DESIGN BLUEPRINT

PRIMARY BLUEPRINT

UTILISING A CIRCULAR FORMULA,
EACH RING AND SECTOR ALLOWS
THE BUILDING TO EXPAND
OR CONTRACT IN ANY
DIRECTION AS
REQUIRED.

1 SECTOR:

22 m^2 AREA

25 m^2 AREA

2 SECTORS:

48 m^2 AREA

1 CIRCLE:

56 SECTORS

2 CIRCLES (PRIMARY WALLS):

112 SECTORS

6 CIRCLES:

336 SECTORS

USER CREATED DESIGN

MED ROOM

CARPORT / WORKSHOP

SHADING (EXT)

BEDROOM

SLEEPOUT (EXT)

DINING ROOM

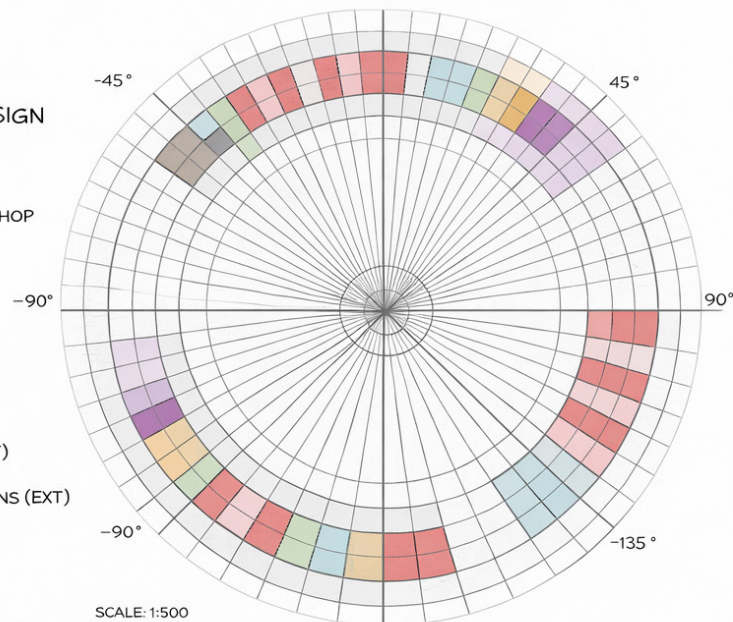
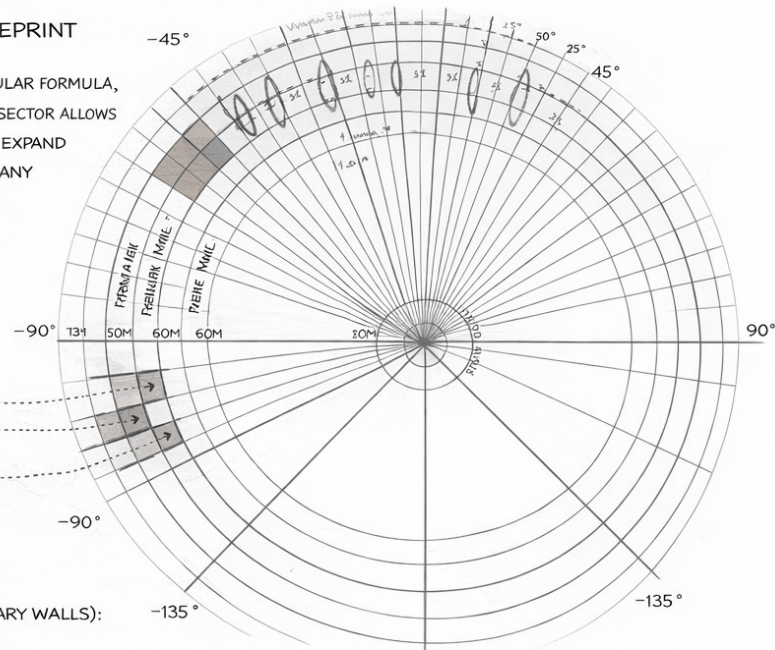
LOUNGE AREA (EXT)

PROTECTED GARDENS (EXT)

AMENITIES

KITCHEN

COMMUNITY AREA (EXT)



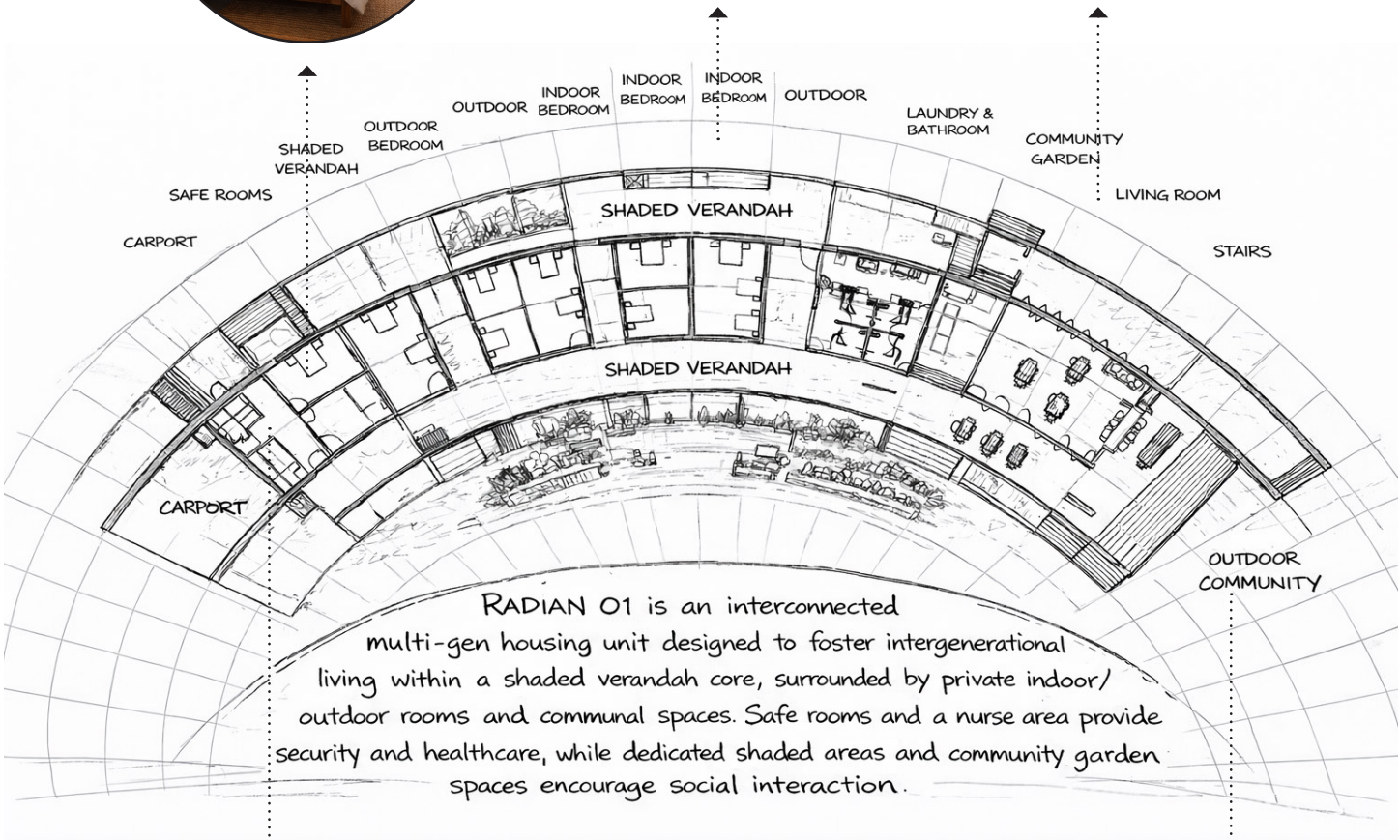
SCALE: 1:500

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Shared Verandah

Community Garden

Private Bedroom



RADIAN O1 is an interconnected multi-gen housing unit designed to foster intergenerational living within a shaded verandah core, surrounded by private indoor/ outdoor rooms and communal spaces. Safe rooms and a nurse area provide security and healthcare, while dedicated shaded areas and community garden spaces encourage social interaction.



Outdoor Community Area

Living Area



RADIAN REMOTE

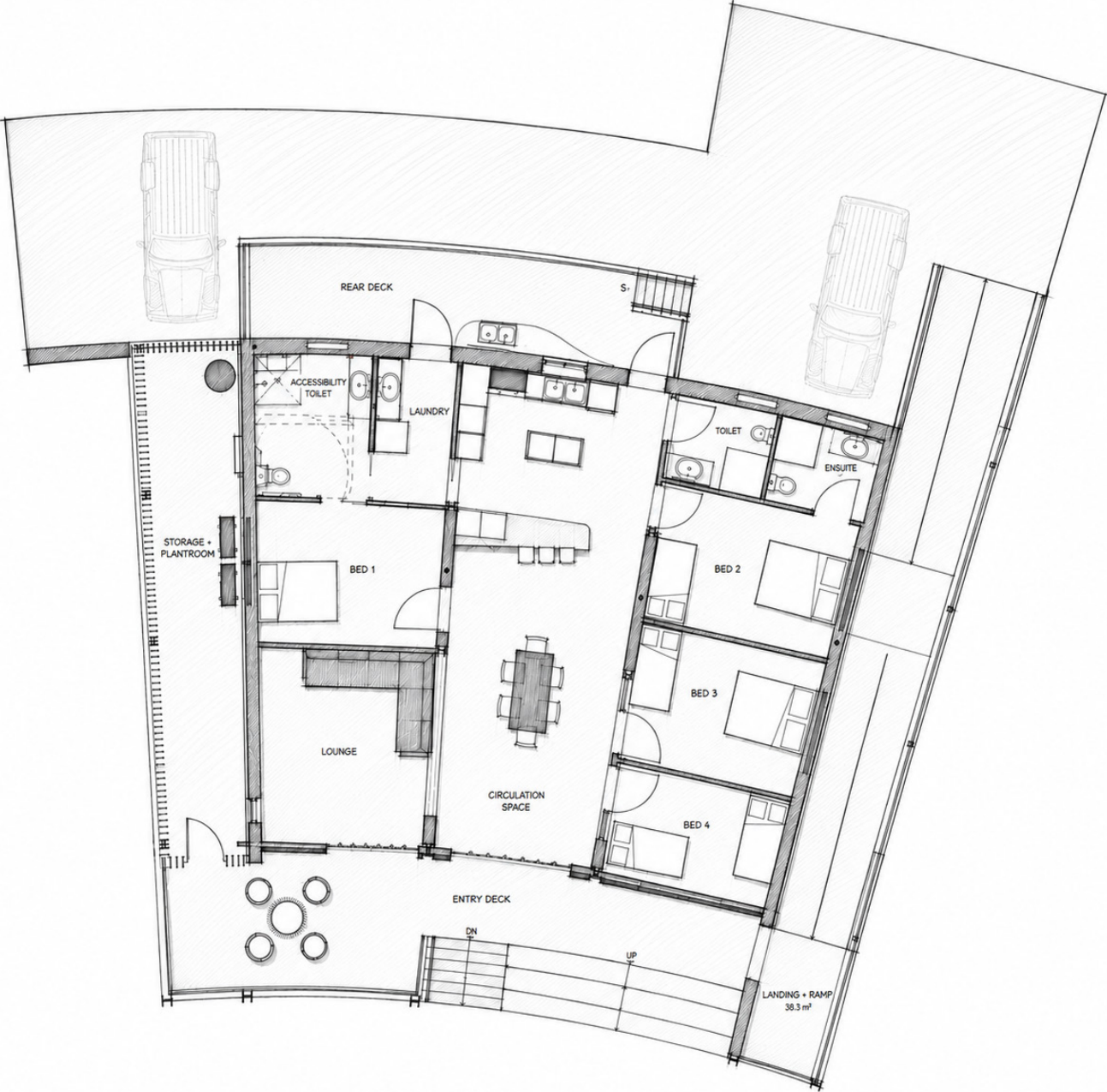
/Framework for Community Living

Radian Housing brings together two distinct yet connected housing models, developed from a shared modular system that supports adaptability, dignity, and long-term community wellbeing across Western Australia.

Radian Remote is conceived as a multi-generational housing model, designed to support extended family living through a clear balance of shared and private spaces. The arrangement prioritises separation of sleeping zones, generous communal areas, and strong connections to outdoor living. Curved planning, oversized decks, and internal gardens create a setting that supports gathering, cultural practices, and everyday life while maintaining comfort and privacy for multiple households.

Building on the same framework, Radian Remote introduces integrated safe rooms and a central core, responding to communities requiring enhanced safety, care, and future growth. The circular configuration strengthens visibility, wayfinding, and shared oversight, while safely accommodating increased occupancy. Safe rooms are embedded discreetly within the plan, ensuring protection is provided without stigma or disruption to daily living.

Both models share a common modular framework, ensuring consistent delivery while allowing flexibility to respond to different social, cultural, and community needs. Designed to adapt over time, the system supports growth, change, and long-term resilience without altering the core construction approach.



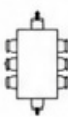
ENTRY EXPERIENCE

Welcoming entry deck with direct access to main living areas.



INDOOR-OUTDOOR CONNECTION

Living spaces open to front and rear decks, extending daily living outdoors.



SOCIAL HEART

Kitchen, dining and lounge form the social core, encouraging gathering and connection.

PRIVATE RETREAT



ACCESSIBILITY

Accessible toilet and step-free entry ensure inclusive living.



SERVICE EFFICIENCY

Laundry and storage areas are centrally located for efficient daily use.



1. Existing housing choices
2. Existing option to sleep in open space
3. Existing Bedroom Options

From Existing Conditions to Designed Outcomes

Before - Existing Conditions

Many communities across regional and remote Western Australia continue to live within housing environments that were not designed to support long-term wellbeing, cultural practices, or changing household needs. Existing dwellings often lack appropriate space for extended families, outdoor living, and climate-responsive comfort, resulting in informal adaptations over time.

Sleeping, gathering, and everyday activities frequently extend beyond the interior of the home, reflecting both cultural patterns

and the limitations of existing housing stock. These conditions highlight the need for housing that is flexible, respectful, and capable of supporting community life in a way that feels safe, dignified, and familiar.

Transition - Design Intent

Our approach begins by listening to how people already live. Rather than imposing fixed solutions, the proposal builds on existing patterns of use, social connection, and outdoor life, translating them into a clear, understandable, balanced and adaptable architectural framework.

After - Proposed Outcome

Our master plans, pavilions, and community amenities are designed to balance practical functionality with long-term sustainability. Each project remains adaptable, climate-conscious, and resilient, allowing buildings to evolve alongside the communities they serve.

The proposed housing supports everyday living through flexible layouts, shaded outdoor spaces, and strong connections between indoors and outdoors. By prioritising comfort, cultural expression, and shared spaces, the design encourages gathering, interaction, and a sense of belonging, while remaining efficient to deliver and maintain over time.



Reference Photo by Jumeirah Lowndes © – Wellbeing & Care

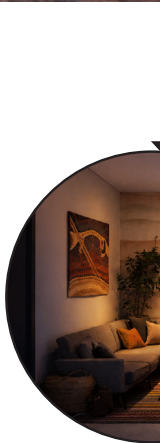


Reference Photo by Jumeirah Lowndes © – Wellbeing & Care

Section 01



Section 02





Design Highlights

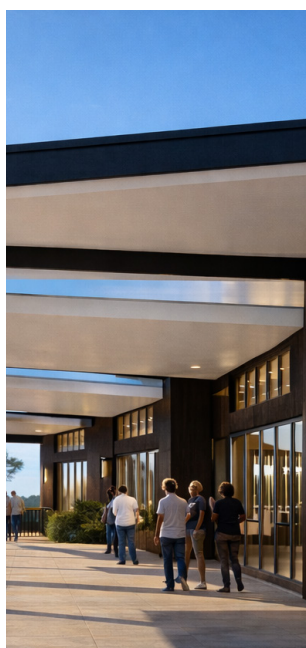
Key design decisions are embedded in the modular system, ensuring that material choice, spatial arrangement, and climate response work together as a cohesive whole.



#1

Shaded Outdoor Living

Deep verandahs and covered circulation extend living spaces outdoors, supporting climate comfort and everyday use.



#2

Adaptable Module Arrangement

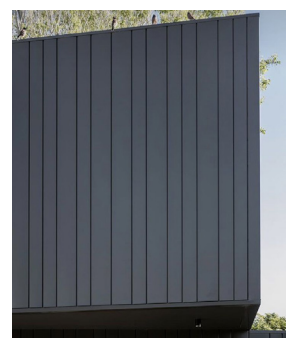
Modules are configured to respond to site, orientation, and patterns of living without altering the core construction system.



#3

Material Intelligence

Materials are selected for durability, climate performance, and long-term maintenance across urban and remote contexts.



#4

Climate-Responsive Planning

Building form and orientation respond to sun, wind, and seasonal use. Shaded verandahs, operable openings, and cross-ventilation support passive comfort, reducing reliance on mechanical systems and improving everyday living conditions.



#5

Adaptable Spatial Systems

The modular layout allows spaces to expand, contract, and change over time.



RADIAN REGIONAL

/Framework for Community Living

Housing demand across Western Australia spans urban, regional, and remote contexts. The proposed modular housing framework is designed to operate across this full spectrum, providing a consistent delivery system that can be adapted to site conditions, climate, and community needs without reworking the core design.

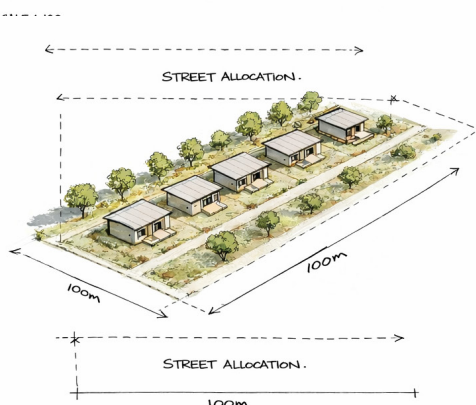
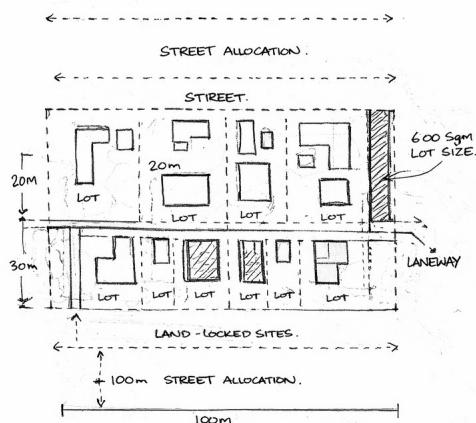
In urban settings, the framework supports efficient land use through compact footprints, shared infrastructure, and flexible configurations, enabling higher yields on constrained sites while maintaining amenity, outdoor access, and quality of life. In regional and remote locations, the same system allows housing to be delivered with reduced construction complexity and minimal site disturbance, responding to climate, orientation, and patterns of outdoor living while preserving surrounding land.

Across all contexts, the modular approach delivers land and area efficiencies through standardised components, predictable costs, and repeatable detailing, without compromising liveability. By functioning as a scalable framework rather than a fixed solution, the proposal supports responsible land use, reduced environmental impact, and long-term adaptability, balancing efficiency with dignity to support sustainable growth and community wellbeing across Western Australia.

*“Designed around community, not streets;
housing that adapts, connects, and endures.”*

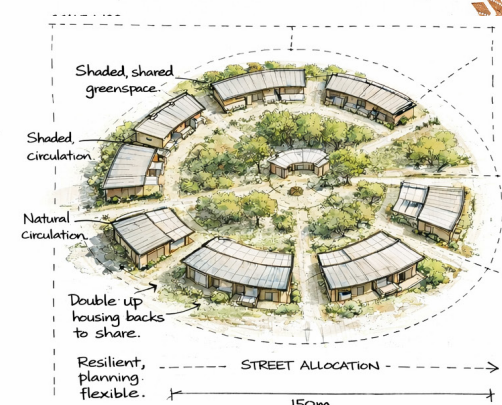
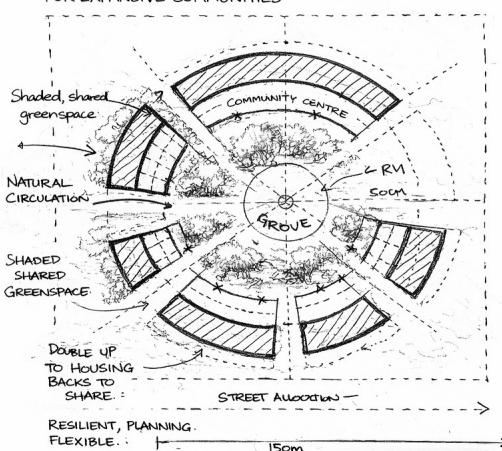
LINEAR – STANDARD

BIDYADANGA - WA SITE
6000 SQM LAND SIZE - 600-SQM AVG. LOT SIZE
4-PEOPLE PER HOUSE AVG, X10 = 40 PEOPLE
FOR LAND-LOCKED SITES

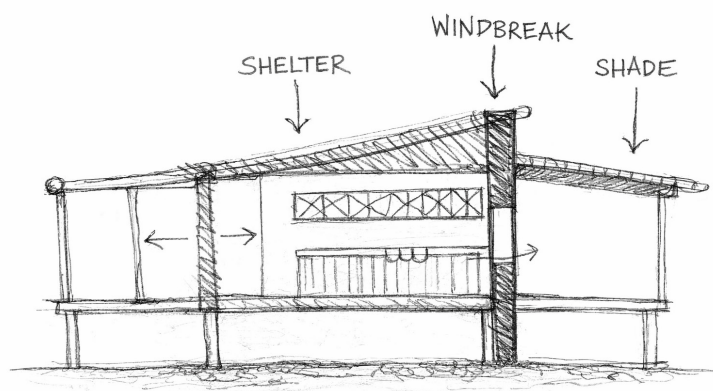


RADIAN – PROPOSED

BIDYADANGA - WA SITE
22500 SQM LAND SIZE - 1400SQM PER 4X3 HOUSE
4-10 PEOPLE PER HOUSE X 8 = 32-80 PEOPLE
FOR EXPANSIVE COMMUNITIES



- ▲ The linear model reflects a typical subdivision approach used on land-locked sites. Housing is arranged along streets with fixed lot sizes, resulting in long street allocations, fragmented outdoor space, and limited shared areas. While familiar, this model prioritises vehicle movement and lot boundaries over community interaction, often leading to inefficient land use and reduced flexibility as household sizes and needs change.

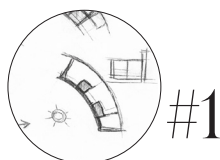


- ▲ A climate-responsive housing section using shade, shelter, and windbreaks to support natural ventilation and comfortable outdoor living.



Design Highlights

The housing layout is structured to maximise spatial efficiency, safety, and shared living through a clear modular arrangement.



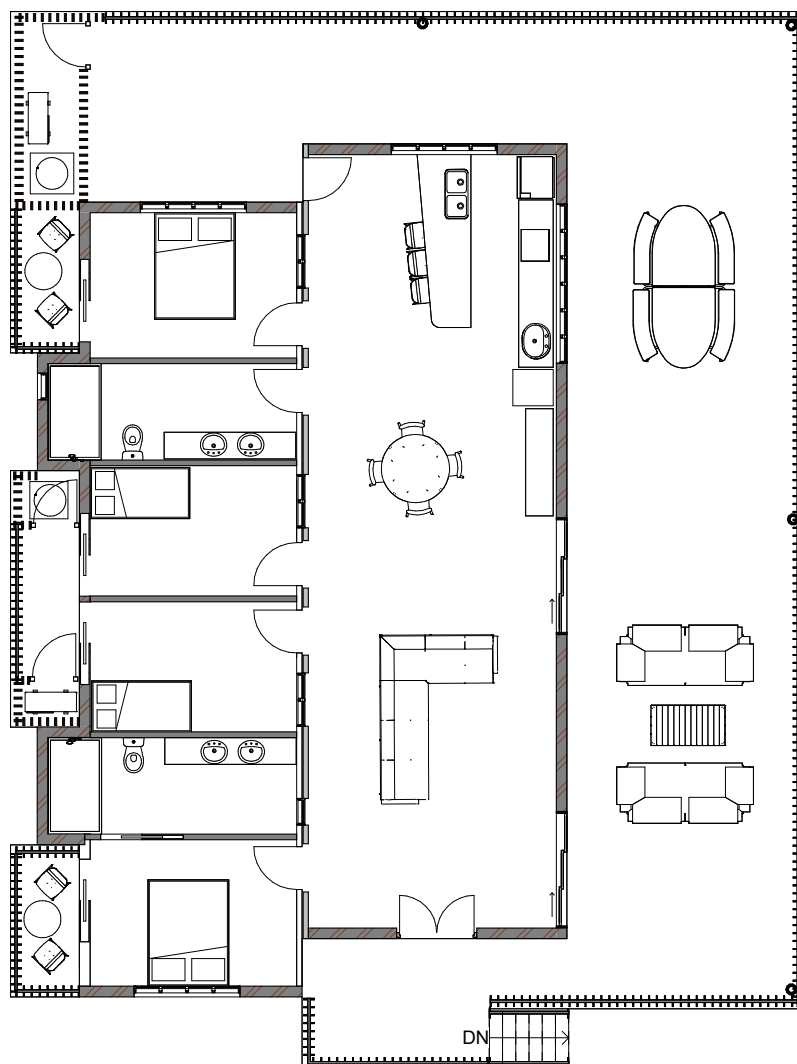
Modular Unit Pairing

Two modular units (5,500 × 15,500) are arranged with a centrally located 5,000 mm undercover verandah or deck, forming a shared living threshold between dwellings.



Open-Plan Living

Kitchen, dining, and living areas are configured as open-plan spaces, removing hallways and corridors to maximise the usable architectural footprint.



#3

Spatial Efficiency

The elimination of residual and unused spaces improves clarity, visibility, and functional use throughout the dwelling.



#4

Safety Through Design

By creating thoughtful, welcoming spaces that support everyday use, the design improves visibility, encourages connection, and promotes comfort and



#5

Shared Outdoor Living

Centrally located outdoor living areas support community gatherings and extended family activities, reinforcing shared use, connection, and everyday social interaction.



/Conclusion

This proposal sees housing as something that grows with people and communities over time, rather than a fixed or one-size-fits-all solution. The approach is designed to support everyday living, respond to climate and place, and adapt as households and communities change, while remaining clear, practical, and easy to deliver.

At the heart of the proposal is a modular system that provides a simple and reliable base. This base can be arranged and combined in different ways to suit local needs, allowing housing to respond to site conditions, cultural practices, and patterns of daily life without redesigning the core structure each time. This makes the system efficient to deliver while giving communities flexibility and choice.

The design places strong emphasis on spaces that support connection and wellbeing. Shaded verandahs, outdoor living areas, and flexible rooms create opportunities for family life, gathering, and time spent outdoors. These spaces are treated as essential parts of the home, encouraging interaction, visibility, and a sense of belonging.

Durable materials and straightforward construction help reduce maintenance and support long-term use. This ensures housing remains comfortable, safe, and dignified over time, while allowing communities to grow and change without the need for major intervention. Overall, the proposal delivers housing that is adaptable, respectful, and grounded in everyday living, offering lasting value for residents, communities, and funding partners alike.

"Design intelligence expressed through clarity of structure, adaptability over time, and a deep understanding of how housing supports life."





WHERE ARCHITECTURE MEETS CULTURE & CREATIVITY

Radian Architecture unites innovation with cultural knowledge to shape spaces that inspire and endure. Our teams work across Australia, translating vision into outcomes that balance creativity, sustainability, and community impact. Every project is more than design; it is a shared story of connection and purpose.

