

Item 11.3.1 Appendix 1 Part 2

PART TWO: EXPLANATORY SECTION

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01

SITE AND CONTEXT ANALYSIS

1.1 GOVERNANCE CONTEXT

1.1.1 STATE PLANNING FRAMEWORK

Planning in the East Newman Precinct Structure Plan (ENPSP) area is guided by a range of documents including a range of strategies, State Planning Policies (SPP), and other key documents. Those relevant to the ENPSP are summarised in **P2 - Table 1**.

P2 - Table 1: Local Planning Framework Summary

DOCUMENT	OVERVIEW	RELEVANCE TO EAST NEWMAN
SPP 2.0 – Environment and Natural Resources Policy	SPP 2.0 is a broad sector policy and guides the protection, management, conservation and enhancement of the natural environment. The policy promotes responsible planning by integrating environment and natural resource management with broader land use planning and decision-making. SPP 2.0 outlines general measures for matters such as water, air quality, soil and land quality, biodiversity, agricultural land and rangelands, basic raw materials, marine resources, landscapes and energy efficiency.	Integration of the natural environment into the ENPSP design where possible should be a key focus, particularly as the precinct is within a Threatened Ecological Community area.
Draft SPP 2.9 – Planning for Water	SPP 2.9 and the associated SPP 2.9 Planning for Water Guidelines outline how water resource management should be integrated into planning processes, such as the preparation of structure plans. It recognises that planning should contribute to the protection and management of water resources through the implementation of policy measures that identify significant water resources, prevent the degradation of water quality and wetland vegetation, promote restoration and environmental repair and avoid incompatible land uses. It also provides guidance on how future development can be better suited to addressing climate change, and protect public health by ensuring appropriate delivery of wastewater infrastructure.	Guidance is provided on the preparation of Local Water Management Reports which is a requirement of all precinct structure plans. A Local Water Management Strategy has been included as part of the ENPSP, this is provided in Appendix 1 .

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DOCUMENT	OVERVIEW	RELEVANCE TO EAST NEWMAN
SPP 3.7 – Planning in Bushfire Prone Areas	SPP 3.7 provides a framework in which to implement effective, risk-based land use planning and development outcomes to preserve life and reduce the impact of bushfire on property and infrastructure. The policy emphasises the need to identify and consider bushfire risks in decision-making at all stages of the planning and development process whilst achieving an appropriate balance between bushfire risk management measures, biodiversity conservation and environmental protection. The policy applies to all land that has been designated as bushfire prone by the Fire and Emergency Services Commissioner as well as areas that may have not yet been designated as bushfire prone but is proposed to be developed in a way that introduces a bushfire hazard. SPP 3.7 should be read in conjunction with the deemed provisions, Guidelines for Planning in Bushfire in Prone Areas and Australian Standard 3959: Construction of buildings in Bushfire Prone Areas.	It acts as a mechanism for initiating further assessment in the planning and building processes. SPP 3.7 and the associated Guidelines for Planning in Bushfire in Prone Areas provide clear guidance for the role of structure plans. For the East Newman, this means that adequate provisions will be required in Part One to ensure that the risks associated with planning and development in bushfire prone areas is appropriately managed and mitigated.
SPP 5.4 – Road and Rail Noise	SPP 5.4 guides the performance-based approach for managing and mitigating transport noise associated with road and rail operations. This policy applies where noise sensitive land uses are located within a specified distance of a transport corridor, new or major road or rail upgrades are proposed or where works propose an increase in rail capacity resulting in increased noise. The policy also sets out specific exemptions for where the policy requirements do not apply. SPP 5.4 supports noise impacts being addressed as early as possible in the planning process for the purpose of avoiding land use conflict and achieving better land use planning outcomes. Considerations for decision-makers include ensuring that the community is protected from unreasonable levels of transport noise, whilst also ensuring the future operations of transport corridors.	A small number of lots along the precinct’s eastern boundary is within the 200m road and rail noise buffer area as a result of their proximity to the Great Northern Highway. The requirements of SPP 5.4 apply to these lots

DOCUMENT	OVERVIEW	RELEVANCE TO EAST NEWMAN
SPP 7.0 – Design of the Built Environment	<p>SPP 7.0 is a broad sector policy relevant to all local governments. The policy sets out the objectives, measures, principles and processes which apply to the design and assessment of built environment proposals through the planning system. It is intended to apply to activity precinct plans, structure plans, local development plans, subdivision, development and public works.</p> <p>The policy contains ten design principles which set out specific considerations for decision-makers when considering the above proposals. These include, context and character, landscape quality, built form and scale, functionality and build quality, sustainability, amenity, legibility, safety, community and aesthetics. The policy also encourages early and on-going discussion of design quality matters and the use of design review.</p>	<p>The SPP 7.0 ten principles of good design should be integrated into PSP development and design. This is demonstrated through the ENPSP's response to the Design Elements in Section 04.</p>
SPP 7.2 – Precinct Design	<p>SPP 7.2 provides guidance for precinct planning with the intent of achieving good planning and design outcomes for precincts within Western Australia. The policy recognises that there is a need to plan for a broader range of precinct-based contexts and conditions to achieve a balance between greenfield and infill development. Objectives of the policy include ensuring that precinct planning and design processes deliver good-quality built environment outcomes that provide social, economic and environmental benefit to those who use them.</p> <p>Precinct types include activity centres, station precincts, urban corridors, residential infill and heritage precincts. These areas are recognised as requiring a high-level of planning and design focus.</p>	<p>The ENPSP is to be prepared in accordance with SPP 7.2, identified as a 'Residential Precinct'.</p> <p>The PSP will outline land use, density and built form outcomes, movement and access arrangements, infrastructure, environmental assets and community facilities to facilitate future subdivision and development.</p> <p>This guidance will come primarily from the design elements identified in the SPP 7.2 Precinct Design Guidelines and be prepared in accordance with the Precinct Plan Manner and Form.</p>
SPP 7.3 – Residential Design Codes Volumes 1 and 2	<p>SPP 7.3 – Residential Design Codes Volume 1 and 2 provides the basis for the control of residential development throughout Western Australia for single houses, grouped dwellings and multiple dwellings. The purpose of the policy is to address emerging design trends, promote sustainability, improve clarity and highlight assessment pathways to facilitate better outcomes for residents. They are also used for the assessment of residential subdivision proposals.</p> <p>The policy outlines various objectives for residential development, planning governance and development process and sets out information and consultation requirements for development proposals. The policy also makes provision for aspects of specified design elements to be varied through the local planning framework.</p> <p>SPP 7.3 - Residential Design Codes Volume 1 and 2 should be read in conjunction with the supporting Guidelines.</p>	<p>The ENPSP should use SPP 7.3 as a reference document when creating built form controls. Using similar terminology will ensure consistency and certainty to development in the Precinct.</p> <p>SPP 7.3 outlines which elements can be varied by a local government endorsement and which require WAPC approval.</p>

1.1.2 LOCAL PLANNING FRAMEWORK

The Shire of East Pilbara's (SoEP) local planning framework and its relationship to the ENPSP is summarised in **P2 - Table 2**.

P2 - Table 2: Local Planning Framework Summary

DOCUMENT	OVERVIEW	RELEVANCE TO EAST NEWMAN
Shire of East Pilbara Local Planning Strategy	<p>The LPS will guide stakeholders including developers, community, government agencies, shire administration, Council and the Western Australian Planning Commission in land use planning decision making. Such land use planning includes proposed future scheme reviews and amendments, agency referrals, local planning policies, heritage protection, structure plans, local development plans, subdivision and development applications.</p>	<p>The LPS is underpinned, developed and informed by a set of core planning principles which apply to all townsites across the East Pilbara region and remote settlements. The purpose of the principles is to aid in delivery of sustained prosperity and improved liveability within the SoEP.</p> <p>The LPS also identifies specific actions which trigger the need to prepare a PSP:</p> <ul style="list-style-type: none"> + Liaise with mining companies to establish the level and capacity of mining owned housing stock and determine if the resource companies will need these dwellings for employees or if they would consider use by non-employees. (Short Term) + Require Precinct Planning in the East Newman residential area to improve amenity and liveability including formalizing pedestrian access and streetscape improvements. (Short Term)
Shire of East Pilbara Local Planning Scheme No. 4 (LPS 4)	<p>A Local Planning Scheme is a legal document that sets out policies and controls for how land in a particular local government area can be used and developed. It contains information about long term planning and strategies about how infrastructure and development will occur in the area.</p>	<p>The aims of the Scheme are to:</p> <ul style="list-style-type: none"> + To foster efficient, hospitable and aesthetic town centres to serve as residential, civic, cultural, recreational and commercial focal points for the surrounding region; + To assist commercial, industrial and business development in order to maximise businesses and employment opportunities and to sustain and broaden the economic base; + To accommodate infrastructure and townsite development for the beneficial exploration and mining of minerals within the SoEP; + To support housing choice in townsites and neighbourhoods with community identity and high levels of amenity + To support the conservation and wise use of natural resources including land, wetlands, flora, fauna and minerals; + To conserve objects and places of natural, historic and cultural significance; and + To protect routes and corridors for the effective transportation of people and goods with the region.

DOCUMENT	OVERVIEW	RELEVANCE TO EAST NEWMAN
Newman Revitalisation Plan (NRP)	The NRP responds to the shared Pilbara Cities vision of State Government and the SoEP for the revitalisation and growth of Newman, and provides a guide for achieving this vision. The NRP proposes the transformation of Newman from a resource town into a subregional centre. It identifies the economic, social and town planning strategies required at different levels to drive population growth and make Newman a place of choice to work, visit, grow up, raise families and to age in place with dignity.	The NRP identifies East Newman as a key precinct to deliver low to medium density residential growth.
Local Planning Policy No. 1 - East Newman Master Plan (LPP1)	LPP1 aims to guide the development of the East Newman Master Plan area and provide guidance to the Council and others when consider applications for planning and other approvals.	It is proposed that LPP1 and Master Plan will be replaced by the ENPSP.
Local Planning Policy no. 8 - Residential Development Policy (LPP8)	LPP8 applies to land zoned residential R15/40 and provides guidance on the use of the higher density code to ensure Newman provides a range of housing types that cater to the demands of all household types. It identifies suitable locations for multiple dwellings, and provides additional built form requirements when developing at the R40 density.	Development controls and allocation of density will be reviewed through the PSP process.
Newman Futures Strategy	The Newman Futures project was initiated by BHP and the Shire of East Pilbara in 2019 to explore how innovation and new technologies could be harnessed to serve the public interest based on the following key principles: <ul style="list-style-type: none"> + Culture and country - Recognition and acknowledgement of different ways of seeing, interacting and being in the world + Liveability and Well-being - Solid foundations for community and economic participation + Education and Training - Equipping and reskilling people of all ages and demographics to participate in the economy + Economy and Work - Uptake of innovation and technology across small to large and indigenous businesses 	Provides a list of actions and strategies for Newman, including the preparation of a PSP for East Newman.

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1.2 COMMUNITY CONTEXT

The information below provides an overview of the demographics and community context of Newman and demonstrates the urgent need for improved amenity and access to quality housing to improve poor social, educational and health outcomes.

Assessing need in East Newman through the use of publicly-available datasets is difficult due to several factors including the significant net undercount of Aboriginal and Torres Strait Islander people recognised by the Australian Bureau of Statistics in the Post Enumeration Survey (over 17%) and the positioning of ABS statistical areas at the SA1 level, which makes it challenging to delineate between the different population cohorts in East Newman (see data quality statement for further information). As such, this data has been augmented by statistics, records and anecdotal feedback from stakeholder groups working in East Newman.

The challenges involved in demonstrating need and disadvantage in East Newman also speaks to the lack of government support, investment and inquiry in this disadvantaged regional part of W.A.¹

1.2.1 PEOPLE

Newman is Nyiyaparli Country.

Many, many years ago Nyiyaparli asked Martu to look after Jigalong when they travelled from their desert lands.

Nyiyaparli and Martu live with each other in Newman.

The ENPSP captures their vision for Strong Culture and Strong Family in East Newman to keep culture, language and families strong.

POPULATION

Population figures in regional mining towns are heavily reliant on the fluctuations within the resource sector. As such, population increases, and decreases are often out of step with the rest of the State. The town of Newman experienced a 7% population decline between 2016 and 2021 which is consistent with the population decline of the broader Pilbara region (8%) **P2 - Figure 1**. Over the same period Western Australia as a State experienced an 8% growth.

As of 2021 there are 4,239 people living in Newman. Of these residents, just under one quarter (996 people) live in East Newman.



P2 - Figure 1: Newman Population

Source: 2021 ABS Census and WAPC Western Australia Tomorrow - Medium-Term Population Forecasts 2016 to 2031

¹ All data provided in this section is from the Australian Bureau of Statistics 2021 Census data unless otherwise indicated. 'East Newman' data represents three Statistical Area Level 1s covering the East Newman area (51002126809, 51002126806 & 51002126816), and 'Newman' data is drawn from 'Newman' Statistical Area Level 2 (510021268). 'Pilbara' data represents two Statistical Area Level 2s covering the Pilbara area (West Pilbara (51003) and East Pilbara (51002)).

CULTURAL DIVERSITY

A defining characteristic of Newman is its cultural diversity, with 13% of residents (556 individuals) identifying as Aboriginal and Torres Strait Islanders. This is almost four times higher than the proportion of Aboriginal and Torres Strait Islander people across the rest of the State (3%).

Residents born in Australia account for 64% of the Newman population (slightly higher than the 62% across WA) with New Zealand (8%), Philippines (3%) and England (2%) accounting for the majority of overseas born residents.

According to the most recent Census data, there are 171 Aboriginal and Torres Strait Islander people living in East Newman, who make up 17% of the East Newman population. The proportion of Aboriginal and Torres Strait Islander people in East Newman is therefore higher than in the broader Newman community.

Estimates by the ABS in 2016 suggest that the Aboriginal and Torres Strait Islander population living in the Pilbara region will continue to increase over the next decade (Australian Bureau of Statistics, 2019). This could mean that across the region the Aboriginal and Torres Strait Islander population will increase by as many as 2,768 people between 2021 – 2031 (an increase of 21%). As Newman is a regional centre it is likely this overall increase in Aboriginal and Torres Strait Islander people will lead to a higher proportion of Aboriginal and Torres Strait Islander people living in Newman and East Newman.

SEX, AGE AND LIFE STAGE

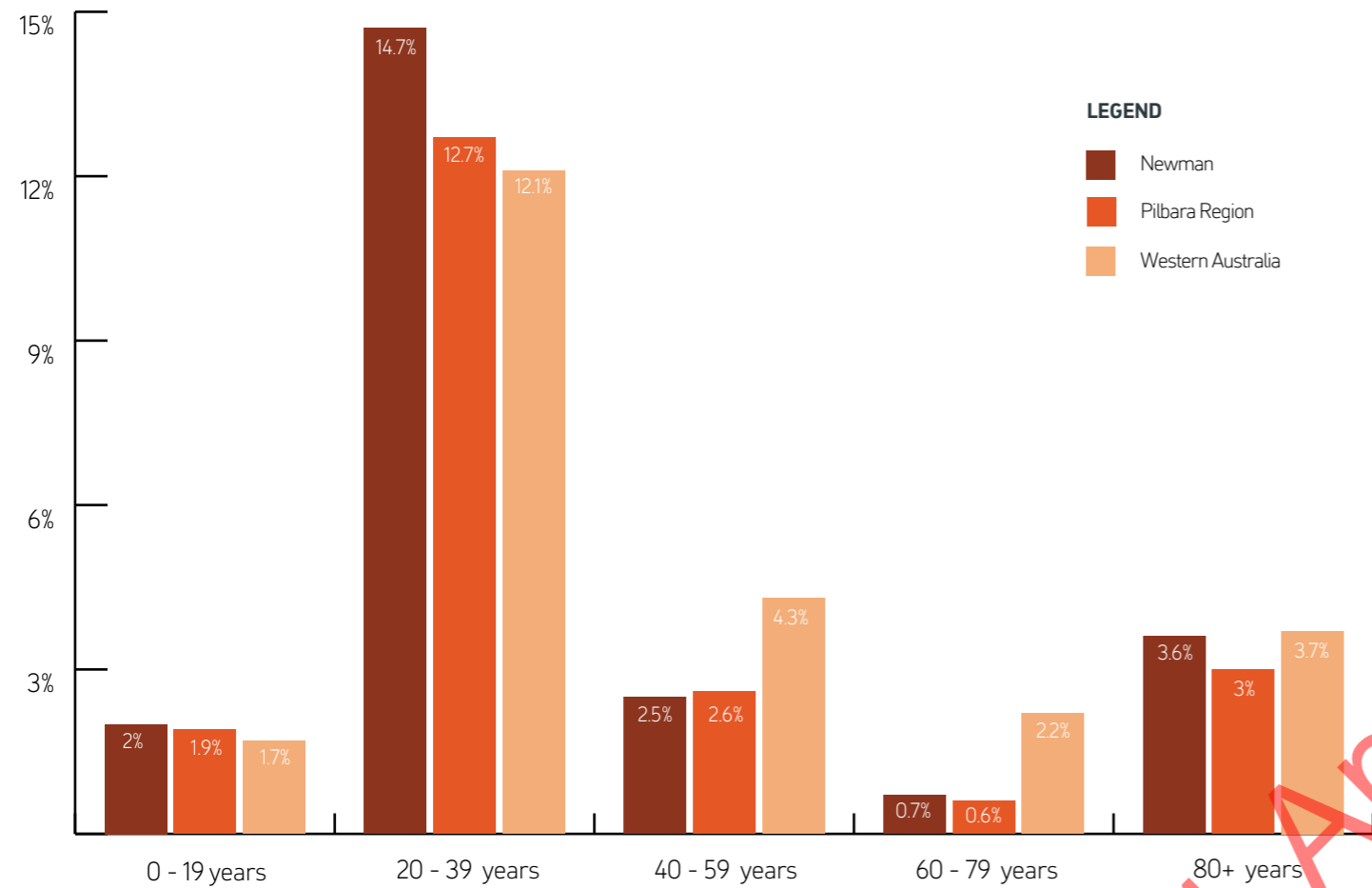
Newman has a relatively even split of males (52%) to females (48%) which differs from the Pilbara region which typically hosts a higher male population (56%) than female (44%).

The median age in Newman is 31 which is slightly below that of the Pilbara region (33), and well below the WA median (38). As illustrated by **P2 - Figure 2**, within Newman there is a significantly higher percentage of residents in the 20-39 years age range than any other defined age ranges.

There is a significantly higher percentage of the Newman population currently aged 0-9 years (19.9%), in contrast to those aged 10-19 years (12.7%).

There are approximately 254 children under the age of 18 (approximately 135 female and 124 male) identifying as Aboriginal and Torres Strait Islanders in Newman. This represents 46% of all Aboriginal and Torres Strait Islander people in Newman, mirroring the generally lower age profile of Aboriginal and Torres Strait Islander people in Australia (due to a range of factors such as higher instances of chronic health conditions and premature death).

In addition, there has been a significant increase in the percentage of children who are considered vulnerable on one or more domains in Newman between 2015 and 2018 with an increase from 22% to 38%. This most likely indicates a decline in social and economic living conditions for 0-5 year old children in recent years (Australian Early Development Census, 2021).



P2 - Figure 2: Newman Population by age
 Source: 2021 ABS Census and WAPC Western Australia Tomorrow - Medium-Term Population Forecasts 2016 to 2031

EDUCATION & QUALIFICATIONS

The percentage of the population having completed year 12 or equivalent is lower in Newman (35.5%) and the Pilbara (33.5%) than that of the rest of WA (45.1%).

Newman faces significantly poorer educational outcomes in children as compared to the rest of the State. 40% of young children in the East Pilbara are classified as 'developmentally vulnerable' in at least one or more Early Development domain, compared to 20% across Western Australia (Australian Early Development Census, 2021).

Educational institutions in Newman and across the State are seeking to improve student attendance through supplementary engagement programs and educational reform (e.g.: NAPLAN). In spite of this, Aboriginal and Torres Strait Islander education outcomes in Newman continue to be held back by poor attendance and low retention rates, with only 20% of Aboriginal and Torres Strait Islander students attending Newman Senior High School 90% or more of the time (My School, 2022). This figure is also 20% for Aboriginal and Torres Strait Islander students attending Newman Primary School and is 26% for South Newman Primary School (My School, 2022).

HEALTH

Health outcomes for residents in Newman, particularly for Aboriginal and Torres Strait Islander residents, continue to be of significant concern. Martu people, who make up the largest proportion of the Aboriginal and Torres Strait Islander population in Newman, experience very high levels of disadvantage in their health outcomes and find current health services challenging to navigate and access (Social Ventures Australia, 2021).

While the latest census figures demonstrate a lower rate of chronic health conditions in Newman than the Western Australian average, this is likely due to under-reporting as this data source relies on self-reporting. In 2016, PHIDU Social Health Atlas listed Newman as having the lowest median age of death in the country at 45 years, nearly half the median age of death for the rest of the country and substantially lower than areas with the next-lowest ages of death which were the APY Lands of South Australia (53 years) and Alice Springs (54 years) (Torrens University Australia, 2021).

This data is supported by a 2016 study by Social Ventures Australia, which used data from the Newman Women's Shelter to show that the median age of death for male Martu was 43.5 years and 37 years for female Martu (Social Ventures Australia, 2016). In 2020, the median age for Martu was updated to 39 years for both male and female. This is compared to Australia's median age of death of 78 years for males and 84 years for females (as of 2018).

There are significantly higher rates of substance abuse disorder amongst Aboriginal and Torres Strait Islander residents in Newman. Death and chronic illnesses amongst the Martu (including those in their 20s and 30s) as a consequence of substance use including alcohol abuse have had devastating impacts on the health system and on the Martu community in Newman (Kanyirrinpa Jukurpa, 2018).

INCOMES

Median weekly household incomes in Newman are high at \$2,995, which is consistent with the Pilbara region (\$2,939), but well above the WA median (\$1,815). The median weekly personal income for Newman residents is \$1,624 which is also well above the WA average of \$848.

However, there is a significant income disparity between those on higher and lower incomes, and the high incomes of much of the population of Newman effectively masks the level of disadvantage that also exists. This is a common phenomenon in high-wealth areas and can lead to a, acute lack of targeted policies and support for disadvantaged pockets within the community.

Contrasting to the high incomes for residents of Newman overall, about 20% of Aboriginal and Torres Strait Islander residents are on an extremely low income (earning \$400 or less per week), which means Aboriginal and Torres Strait Islander people are almost twice as likely to be earning \$400 or less than others in Newman. Keeping in mind that there is a significant undercount in the numbers of Aboriginal and Torres Strait Islander people in Newman, this conservatively indicates there are about 70 Aboriginal and Torres Strait Islander individuals in Newman earning less than \$400 per week. The proportion of the Aboriginal and Torres Strait Islander population with negative / nil income (13% or around 50 individuals) is significantly higher than the rest of the Newman community (6%).

There is also a significant income disparity between residents of Newman and East Newman. This has more than doubled over the past 5 years, from a 6% wage gap in 2016 to a 21% gap in 2021, indicating an urgent need to address structural elements of disadvantage including housing in East Newman.

EMPLOYMENT STATUS & INDUSTRY OF EMPLOYMENT

Employment within Newman is largely dominated by the mining industry (mostly Iron Ore) which employs 47% of the workforce, most commonly in Technician / Trade and Machinery Operator roles. In Newman, the unemployment rate is significantly lower (3%) when compared to the wider Pilbara region (13%) and the whole of WA (5%).

The rate of people in Newman who are unemployed or not in the labour force is 12.0%, whereas the reported rate of Aboriginal and Torres Strait Islander people in Newman who are unemployed or not in the labour force is 25.7%.

SOCIO-ECONOMIC DISADVANTAGE

A significant proportion of East Newman residents have higher levels of social and economic disadvantage than residents of the broader Newman and Western Australian communities, although this is difficult to measure due to a range of complex statistical and reporting elements of Government and other publicly available data. While ABS Census data is the primary method of enumeration of the Australian population, a range of factors continue to hamper the ABS's attempts to accurately record the Aboriginal and Torres Strait Islander people in Australia. Below is one way of highlighting the need experienced by residents of East Newman using the ABS SEIFA indexes.

Australian Bureau of Statistics Socio-Economic Indexes (SEIFA)² provide summary measures derived from the Census and can help users understand the relative level of social and economic wellbeing of a community. SEIFA uses a broad definition of relative socio-economic disadvantage in terms of people's access to material and social resources and their ability to participate in society.

Social and economic data for Aboriginal and Torres Strait Islander people and other residents living in East Newman is significantly different, showing Aboriginal and Torres Strait Islander residents having poorer social and economic outcomes than other residents (whose social and economic wellbeing is similar to the broader Newman and West Australian populations).

Reports from stakeholders have indicated that there are many families in East Newman that have migrated from desert communities in recent years. The statistical data for these families is best shown by ABS data for the desert regions to the east of Newman from the 2016 census. Given this and the other issues with determining need in East Newman discussed throughout this document, considering 'all residents' collectively for East Newman does not provide an accurate representation of the East Newman community that is useful to decision-makers.

SEIFA ratings can assist in demonstrating the inequality between cohorts in East Newman. In 2016 Newman had a SEIFA Index score of 1011 (a score of 1000 is average across all Australian communities). However, the statistical areas of the desert regions east of Newman, Telfer and Gibson Desert North, had SEIFA index scores of 500 and 388 respectively. This makes them among the most disadvantaged communities in Australia. With families from these regions in East Newman exacerbating issues with a lack of quality housing, this indicates that whilst data for East Newman collectively may be average to below average, approximately 20-25% of families have extreme levels of social and economic disadvantage. This is likely a conservative figure and aligns with stakeholder feedback indicating the significant need in some sections of the East Newman community.

² Please note this discussion of SEIFA rankings relies on 2016 Census data as comparable 2021 figures will not be released until 2023

CRIME

Crime has increase alarmingly in Newman in recent years, more than doubling from 894 offenses in 2016 / 17 to 1,857 in 2021 / 22. The majority of these crimes are property crimes (i.e. burglary) which have increased by four times since 2016 (Western Australian Police Force, 2022).

Reports from stakeholders in Newman suggest some of the most disadvantaged groups (i.e. young people who identify as Aboriginal and Torres Strait Islander) have been involved in these crimes because of a complex systemic factors such as wealth inequality, domestic and family violence, disenfranchisement and hunger.

1.2.2 HOUSING

WA is currently in the midst of a nation-wide trend of rising rental prices and low housing stock, particularly in locations heavily tied to the fluctuations of the mining sector (Waterson, 2021). The significant income disparity between the salaries of those working in the mining sector and other members of the community also make it hard for locals to compete in the housing market. Since the development of the Newman Futures Strategy in 2019, housing continues to be identified as one of Newman's biggest challenges and is increasingly a focus for industry, government, NGOs and community.

The highly transient nature of Aboriginal and Torres Strait Islander groups, including Martu, between remote communities and urban / regional centres is another reason it is challenging to obtain an accurate reflection of real population numbers in Newman and East Newman. A recent academic report also notes that assessing overcrowding through tools like ABS Census data is made more challenging by a tendency of householders themselves to be reluctant to self-report the true number of people actually living within their home for fear of the negative implications this could have for their tenancy (Dockery et al., 2021). As some social housing rental models are based on the number of people living in a house, residents may be reluctant to accurately report the number of people actually residing in a house to either the ABS or their housing provider for fear that rent would increase.

Despite these challenges, stakeholders working in East Newman have continued to point to high levels of overcrowding, a lack of housing stock and the dilapidated condition of much of the available housing as one of the primary factors in the enduring social disadvantage of East Newman residents. The World Health Organisation notes the impact of good housing on disease prevention, education accessibility, crime and poverty reduction, and improved quality of life (WHO, 2022). As such, overcrowded and substandard housing is directly linked to the rising inequality and a range of health, education and social issues present in Newman.

It is the aspiration of Nyiyaparli and Martu that there be:

- + 0% homelessness
- + 0% overcrowding
- + Culturally purpose-fit housing
- + Home ownership support
- + Multigenerational housing precincts

These aspirations are aligned to State Government priorities and commitments to ensure equitable access to quality housing. A Housing-first approach are reflected in recent State Government commitments, such as The National Plan to End Violence against Women and Children 2022-2032, Home Stretch WA and Western Australia's 10-Year Strategy on Homelessness 2020-2030 (see reference list for citations of these government strategies / initiatives). Significant funding has been recently invested into programs such as Target 120 and Home Stretch WA to reduce anti-social behaviour in the Pilbara, both programs require access to housing as a core component of their program design.

Through the development of the Master Plan and the ENPSP, access to culturally appropriate housing in East Newman continues to be raised as a priority. This aligns with State Government commitments to improving the wellbeing and reducing the levels of entrenched social disadvantage of Aboriginal and Torres Strait Islander people by securing stable housing that is culturally appropriate (see Department of Communities, 2020).

DWELLINGS AND TENURE

The majority of the housing stock in Newman is made up of low density, separate houses (94% of all dwellings), with only 6% of dwellings to be considered medium density and no high density (REIWA, 2022). The East Newman area is reflective of these statistics with the majority of houses being single detached dwellings developed to the R15 density, and small number of lots using the higher R40 coding and developing grouped dwellings.

Engagement for the Newman Futures project and the East Newman Precinct Structure Plan identified the current housing conditions in East Newman as:

- + Poor state of housing with many boarded up, unoccupied and vandalised (particularly in East Newman).
- + Approximately half of all dwellings in East Newman are unoccupied (52%).
- + Overcrowding is often an issue with houses not having enough bedrooms for larger families.
- + Long waitlists for public housing.
- + Need for short-stay accommodation to enable young people to stay in town for education and for dialysis patients to receive treatments.

Renting is by far the most dominant tenure type in Newman (76.3%), particularly for Aboriginal and Torres Strait Islander people (81.3%), which is well above the WA average (27.3%). The proportion of the population who rent their home in East Newman ranges from 65 – 90% depending on the area. The large proportion of renters is due to the majority of housing stock being owned by mining companies (predominantly BHP) in addition to various government organisations and private owners.

RESIDENTIAL PROPERTY DATA

As Newman is predominantly a mining town, the influence of the resource sector plays a huge role on housing demand and ultimately land prices. Over the longer term (ten-year) timeframe, Newman has experienced a 12% price decline in house sales (refer **P2 - Table 3**) declining at a quicker rate than the 2% decrease across regional WA. In 2011, the State was at the peak of a mining boom which saw property prices inflate drastically (particularly in regional centres), so some recovery in prices over the past decade is to be expected. Despite this overall decrease, the price of houses and units in Newman have surged over the past five years (17% and 16% growth respectively) with prices growing much faster than regional WA as a whole (3% and 0% respectively). In the past year alone, the median house price in Newman has increased 12% and the median unit price has increased by 37%.

Rentals have increased in price more significantly than house sales in Newman. Currently, the median price of rent is \$650 per week (refer **P2 - Table 4**), which has increased 13% in the past twelve months (REA Group, 2022). When viewed over the past five years, however, rental prices have increased a dramatic 81% from \$360 per week in 2017 to \$650 per week in 2022. The median price of renting a unit has also skyrocketed over the past five years, surging 76% from \$242 per week in 2017 to \$425 per week in 2022.

P2 - Table 3: Newman Residential Property Data - Sales

	2022 MEDIAN SALE PRICE		GROWTH RATE					
			1 Year		5 Years		10 years	
	Newman	Tom Price	Newman	Regional WA	Newman	Regional WA	Newman	Regional WA
HOUSES	\$337,500	\$450,000	27.4%	8.6%	16.1%	2.5%	-7%	0.7%
UNITS	\$175,000	\$355,000	59.8%	14.7%	15.5%	-0.6%	-8.2%	-2.1%
LAND	\$36,000	NA	-20%	0.6%	-7%	-0.6%	-24.2%	0.1%

Source: REIWA, based on settled sales as at 11 July 2022.

P2 - Table 4: Newman Residential Property Data - Rent

	2022 MEDIAN RENTS							
	2022 Q1				2022 Q2			
	Newman	Tom Price	Karratha	South Hedland	Newman	Tom Price	Karratha	South Hedland
HOUSES	\$650	\$1,800	\$280	\$685	\$725	\$1,550	\$280	\$663
MULTI RES	\$400	NA	\$440	\$525	\$488	NA	\$280	\$475

HOUSING AFFORDABILITY & COST OF LIVING

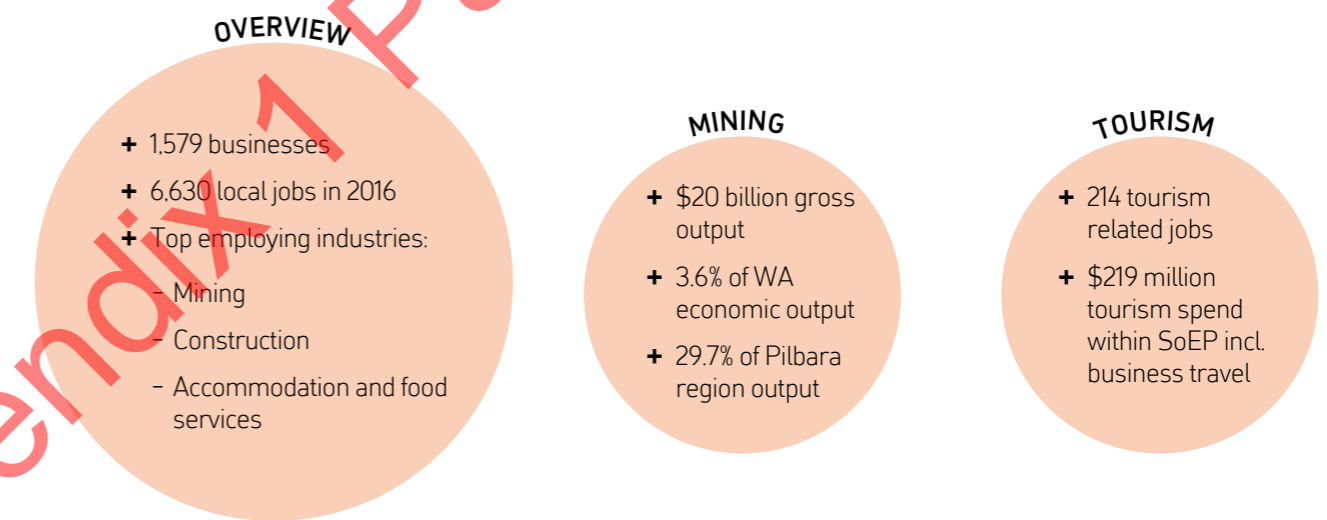
Aboriginal and Torres Strait Islander people in Newman are disproportionately affected by housing affordability and cost of living pressures. Bearing in mind the income figures detailed above, a conservative estimate would put well over 100 Aboriginal and Torres Strait Islander people earning between \$0 - \$400 per week in an environment where the median weekly rental price is \$650 and growing.

While property and power prices are less volatile in Western Australia than in the rest of Australia, there are currently a range of other cost of living pressures that are impacting on individuals and families in WA, particularly in regional areas.

The State Government's Regional Price Index (RPI), which contrasts pricing levels of a range of goods and services in regional locations to pricing levels in the Perth Metropolitan area, shows that the cost of housing in the Pilbara is currently higher than anywhere else in the State (Department of Primary Industries and Regional Development, 2021). These figures demonstrate an overall trend of increases in price and decreases in sale and rental availability of housing stock in Newman since 2016, leading to the current urgent need for investment in housing.

1.2.3 ECONOMY

The economy of Newman is largely driven by the mining sector where more than 30,000 mining related jobs (local and FIFO) are estimated within the SoEP. Mining within the SoEP produces half of Western Australia's iron ore and the total dollar value of commodities mined within the SoEP, represent over 20% of the Australian resource and energy exports market.



Source: Shire of East Pilbara Economic Development and Tourism Strategy 2021 - 2026

The Newman Futures Strategy launched in 2019 set out with the shared vision to build a sustainable and diverse economy that is inclusive to all. As part of the Newman Futures Strategy, a Social and Economic Snapshot was developed which identified the following limits to growth:

- + Provision of good housing and services does not meet demand.
- + Aboriginal and Torres Strait Islander people are the fastest growing demographic, and the broader population is becoming increasingly diverse.
- + For those who complete high school, education outcomes are good, however, fewer young people are participating in educational or employment pathways in Newman compared to Western Australia.
- + Income in Newman is higher than State averages but income disparities and reports of crime are increasing.
- + While Newman is growing, its population is transient and fluctuates with the rise and fall of industry.
- + The mining sector continues to dominate the economy and BHP has a significant footprint.
- + Cost of living is high and there are difficulties in attracting a skilled workforce.
- + While there is a sense of connectedness community contribution is impacted by transience and shift rosters.

1.2.4 SOCIAL INFRASTRUCTURE AND SERVICES

As part of the consultation process, the proponents (KNAC, JYAC and PAMS) and key stakeholders advised of the need for the following additional facilities, social infrastructure and services in East Newman.

PAMS SHORT STAY ACCOMMODATION AND CULTURAL AND WELLNESS SPACE

PAMS, an Aboriginal Community Controlled Health Service providing culturally responsive primary health care services to the communities of Jigalong, Parnngurr, Punmu, Kunawarrtji and Newman requires the provision of short stay accommodation for its clients receiving dialysis treatment at their Newman clinic. Ancillary to this is the need for associated staff housing, administration and management buildings and a cultural and wellness space.

The site for this use has been strategically identified on five currently owned BHP lots on Arika Place. Within this site, the following is envisaged:

- + Ten, two-bed short stay units.
- + Two family units.
- + Administration building incorporating a with meeting space, commercial kitchen, washing and ablution facilities.
- + Housing for two staff members.
- + A cultural and wellness space providing patients and community a meeting space, location for cultural transmission and general wellness.

It is envisaged the site will be developed to provide an aesthetically pleasing sense of arrival at the southern entrance of East Newman and for the buildings to be designed and orientated to provide passive surveillance opportunities onto the Arika Place, Nimingarra Drive and Miners Promise Park.

MARTU AND NYIYAPARLI YOUTH FACILITY

To complement the existing community uses on Armstrong Way and to meet the expressed need for spaces for Martu and Nyiyaparli young people in Newman, an additional youth facility has been identified on Armstrong Way. This currently comprises two BHP lots and is strategically located opposite the EPIS facility and neighbouring the JYAC student hostel.

NEIGHBOURHOOD CENTRE

The need for a Neighbourhood Centre in East Newman was identified during the scoping phase of the project. The Neighbourhood Centre location on Bondini Drive adjacent to the central park has been selected based on engagement throughout the development of the Master Plan. The Neighbourhood Centre seeks to provide East Newman with a central space where the community can come together throughout the year and to activate central park which we understand has cultural significance.

The Neighbourhood Centre proposal also reflects the Social Plan prepared by Creating Communities, as part of the Master Plan.

The Neighbourhood Centre proposal provides for the following:

- + A hub for the delivery of essential community services in East Newman, including wrap-around services, ablution facilities, computer facilities, consulting rooms and a small enterprise (i.e., shop or laundry service) to develop a one-stop-shop.
- + Finds a balance between a place that reflects Martu and Nyiyaparli history and culture, and is welcoming to all community members and visitors.
- + Allows for a wide range of activation initiatives within and connected to the space, i.e., adjoining open space.
- + Is in an accessible and central location, which creates new routes and opens up underutilised open space..

PROGRAMS CURRENTLY OPERATING

There are several programs already operating in East Newman which aim to address the social and activation needs of the community. These programs launched after the Master Plan was finalised in 2020 and include:

EPIS ASSISTED LIVING COMPLEX (COMPLETE)

East Pilbara Independent Support (EPIS) Assisted Living Complex of Armstrong Way was recently complemented. The Assisted Living Complex provides housing for elderly people from the Martu community to reside near community and Country, whilst still being able to access required health and social services.

MARTUKU JIJIKU MAYA - JYAC STUDENT HOSTEL (COMPLETE)

In 2022, the JYAC student hostel, Martuku Jijiku Maya opened on Armstrong Way in close proximity to the EPIS complex. This facility is available for both Martu and Nyiyaparli young people and provides boarding for Martu and Nyiyaparli young people to obtain education opportunities, both traditional lore and Australian curriculum, whilst remaining close to family and Country.

MARTU PATROL (IN DELIVERY)

A Martu-led night patrol has been developed in response to growing concerns about anti-social behaviour in Newman. The Martu Patrol concept was initially identified by the Martu Leadership Team and was reinforced during engagement conducted by Newman Futures in 2019. In 2021 the Martu Patrol was designed as a rapid response program and implemented in response to anti-social behaviour and increasing crime in Newman. The Martu Patrol is currently delivered by Newman Women's Shelter, operating 7 nights per week to reduce youth crime rates in Newman, improve the safety of Martu children at risk, increase employment opportunities for Martu and improve community safety and cohesion. It is envisaged this will eventually become an Aboriginal controlled, led and managed program.

The Patrol requires three essential elements:

- + A bus or large van and provision for its maintenance.
- + Martu staff for the patrol.
- + Organisational support.

At the time of writing, a pilot of this project has been completed through the Newman Women's Shelter in partnership with the Newman Futures Project, with funding secured from BHP allowing program delivery to continue until 30 June 2023. The next phase of the program involves developing a sustainability framework and developing a strategy for the program to focus on succession planning and transition to Martu ownership, as well as increasing active youth diversionary programming and inter-agency collaboration where Martu are at the forefront to represent their community, acknowledge social issues and voice their vision for change.

EAST NEWMAN ACTIVATION PROGRAM (IN DELIVERY)

Through the East Newman Activation Program, stakeholders are working collaboratively to grow a safe, vibrant and connect East Newman.

The East Newman Activation Program successfully responds to the key findings from engagement with Niyaparli and Martu community members, Newman Futures stakeholders and the broader Newman community by:

- + Providing things for children, young people and families to do in a safe environment
- + Providing educational opportunities for children and youth
- + Facilitating better connections between East Newman residents and Newman's established social support services
- + Enhancing collaboration and coordination between service providers in the day-to-day delivery of operations which benefit those living in East Newman
- + Ensuring activities and services in East Newman are being led by Niyaparli and Martu, or by those trusted by Niyaparli and Martu
- + Promoting positive relationships between neighbours, East Newman community members and the broader Newman population
- + Improving understanding and interaction with local culture and heritage
- + Growing connection to place

Miners Promise Park (Train Park) in East Newman was selected as the logical location to create a "community hub", where community connection and pride could be built in a highly visible and accessible location.

Since the program's inception in March 2021 and until July 2022, the program has achieved:

- + 3,800+ community engagements
- + 140 community activities
- + 45 partners participating
- + 1,200 estimated in-kind hours from partners

Following a successful delivery of the East Newman Activation Program, sustainability planning is being undertaken to determine the next phase of the program.

1.2.5 CULTURE, VALUES AND IDENTITY

Engagement with community groups has been the key to preparation of the ENPSP. The ENPSP has been co-designed with Niyaparli and Martu to improve outcomes for families living in East Newman. The project is a solution for local landowners, service providers and the community.

Through a considered approach to investment in housing, community facilities and infrastructure new foundations will be laid to support Strong Culture and Strong Families.

1.3 PHYSICAL CONTEXT

1.3.1 BROADER CONTEXT

The SoEP is the largest local government area (by geographical area) in Western Australia (WA). It forms part of the Pilbara Region which spans the breadth of Central WA, bounded by the Town of Port Hedland and Shire of Ashburton (to the west), Kimberley Region (to the north), and the Mid West and Goldfields Regions (to the south).

Despite its size, the SoEP is sparsely populated. At the 2021 Australian Bureau of Statistics (ABS) census the total population of the Shire was 9,760 (representing a decline of 831 people from the 2016 census). This population is concentrated primarily in the SoEP's major settlement areas, which include Newman (4,239 people), Nullagine (1,159 people), and Marble Bar (927 people).

The SoEP also contains numerous Aboriginal settlements including Jigalong, Punmu, and Parngurr. Aboriginal Town Based Settlements are also located in Nullagine (Irrungadi community) and Marble Bar (Goodabinya). Aboriginal people have lived in the Pilbara for more than 40,000 years. Today there are more than 31 Aboriginal cultural or language groups across the region. Including Niyaparli people who were the traditional custodians of the area now known as Newman. In 2018, they were granted native title over 40,000 square kilometres of traditional country including the Newman Townsite.

As demonstrated on **P2 - Figure 3**, the East Newman Precinct is located in the Newman Townsite which is located approximately 1,186km northeast of Perth. The town was established in 1968 by the Mt. Newman Mining Company as an accommodation centre for employees at its nearby iron ore mine. Newman grew rapidly over the next 20 years and, in 1981, management of the town was sold to the SoEP.

Conservation of indigenous culture and the land, to which they have traditional custodianship, is central to the respect and recognition of the part such culture plays in the identity of the Pilbara. The ENPSP recognizes the importance of Aboriginal heritage and acknowledges that Aboriginal heritage must be preserved (so far as is reasonably practical) in accordance with the Aboriginal Heritage Act 1972.



P2 - Figure 3: Broader Area Context

1.3.2 CLIMATE

The climate in East Newman is typical of the Pilbara Region, the key characteristics are summarised below:

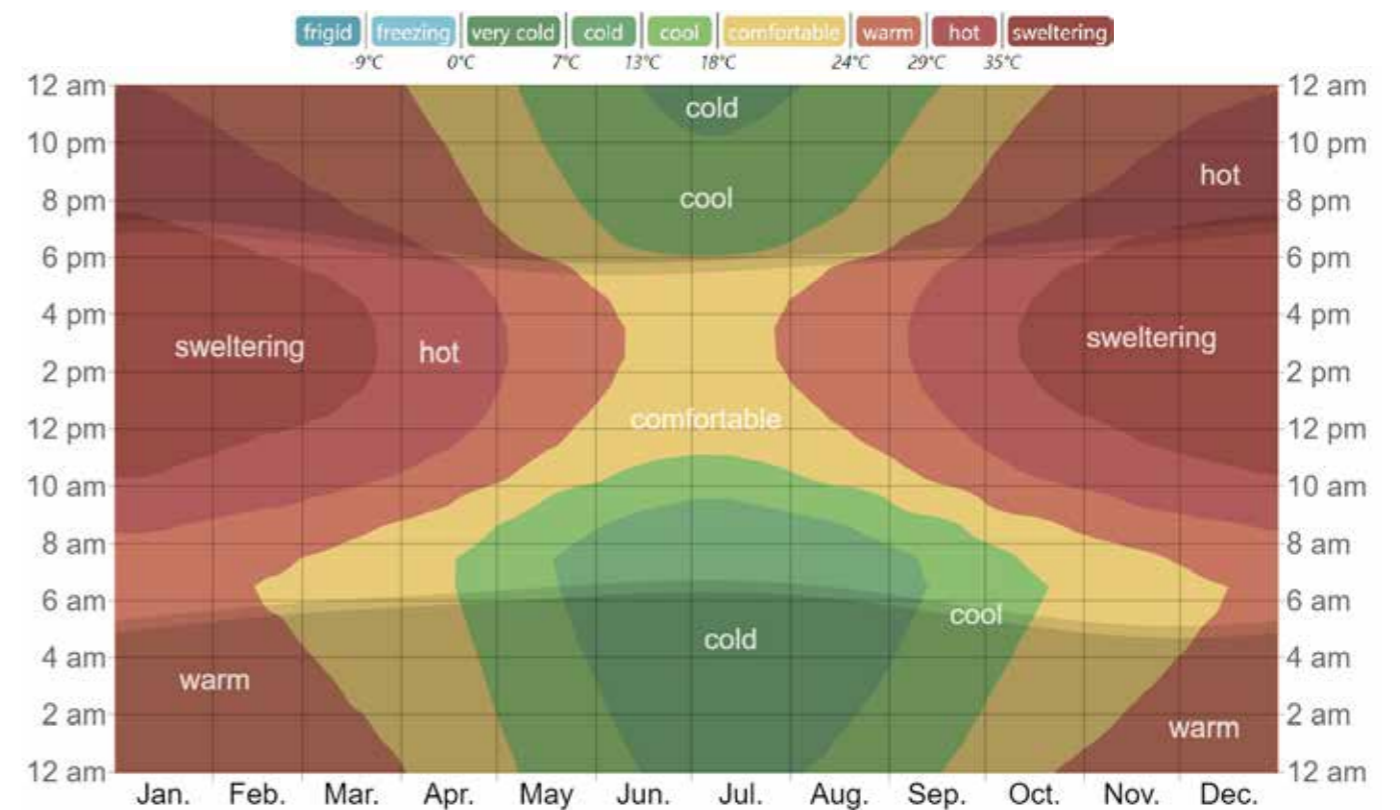
- + Long summers (which are hot and dry), this season lasts for approximately 4 months, between October and 3 March, with an average daily high temperature above 37°C. The hottest month of the year is January, with an average high of 39°C and low of 25°C.
- + Winters are short winters, the 'cool season' lasts approximately 3 months, between May and August, with an average daily high temperature below 26°C. The coldest month of the year in Newman is July, with an average low of 8°C and high of 23°C.
- + Average rainfall is approximately 315mm, which typically occurs between November and July with the wettest months being January (62.2mm) and February (76.4mm). The majority of this rain results from cyclones, which cross the coast and travel inland. On average, it rains just 42 days each year. Humidity also peaks during the wetter months of January and February
- + Newman lies too far inland to be affected by sea breezes and does not generally experience a daily reversal of winds, with winds primarily occurring from the east. Given its inland location, Newman is not at major risk to winds associated with tropical cyclones, though they can cause damage. The greatest impact of inland cyclones is likely to be flooding from heavy rainfall. **P2 - Figure 4** illustrates the areas of the ENPSP area which are susceptible to flooding.



P2 - Figure 4: Climatic Conditions

Under the National Construction Code, the Newman is classified as Climate Zone 3 'hot dry summer, warm winter'. **P2 - Figure 5** provides an illustration of the average hourly temperature in Newman. For the majority of the year, Newman's days are either 'hot' or 'sweltering' with average temperatures routinely above 30 degrees. In winter, day time temperatures are much more comfortable, though the nights and morning are cold.

An analysis of housing in the ENPSP (see **Section 1.3.11**) has determined that current designs lack the ability to embrace local climatic conditions. Given the unique climatic conditions, there are several opportunities for the ENPSP to provide provisions which enable future development to embrace the existing climatic conditions which may result in an improved comfort for residents, connection of homes to country and minimisation of running and maintenance costs for housing. These strategies could allow for house designs to respond to the Newman temperatures throughout the year, provide the provision for well shaded outdoor spaces and considered indoor spaces, improves natural ventilation throughout the home and increases the potential for water storage. Additionally, the public realm (particularly streets and parks) can be better designed to provide more comfortable spaces which can be used throughout the year.



P2 - Figure 5: Newman Average Hourly Temperature

Source: Weatherspark.com

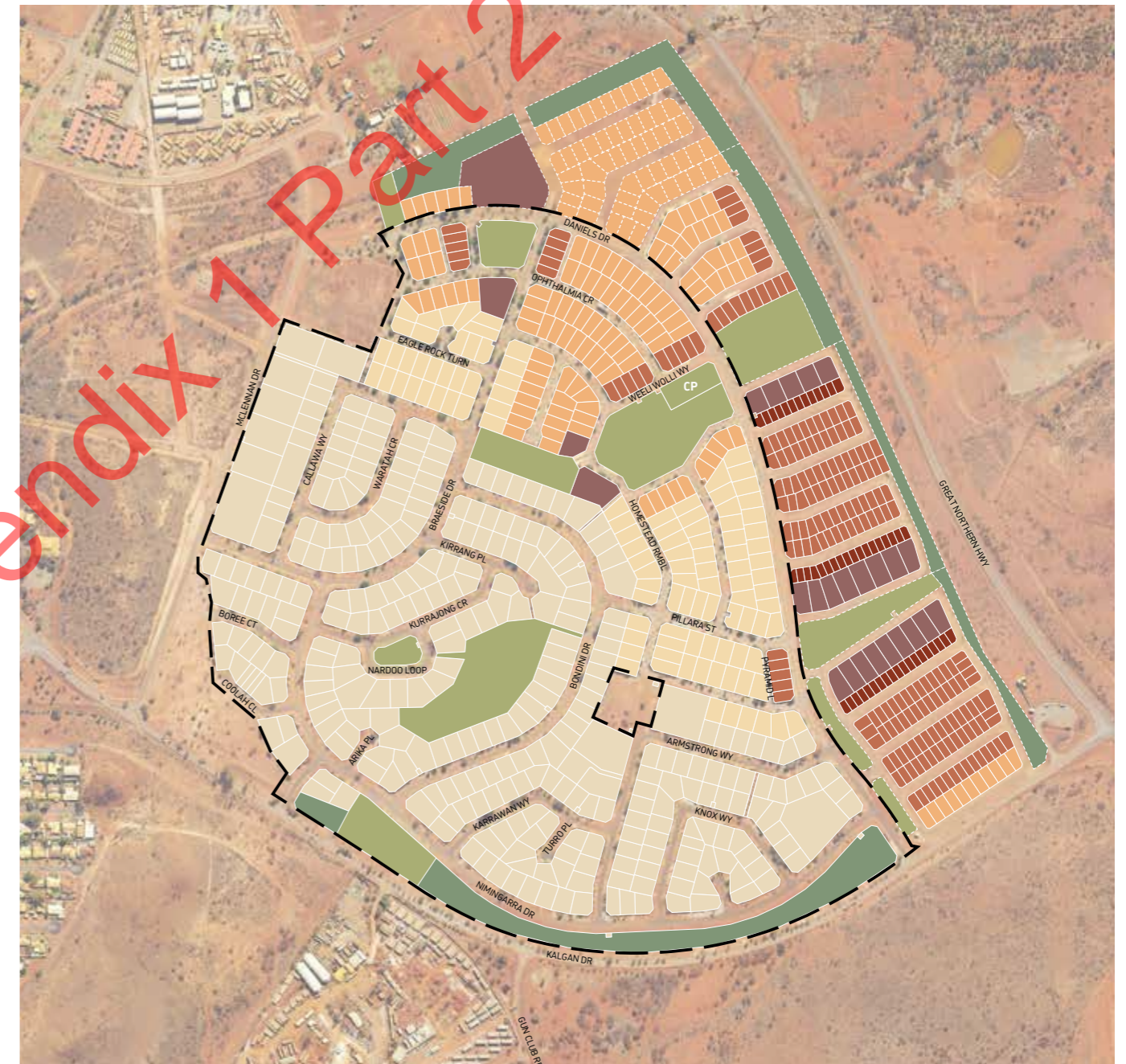
1.3.3 LAND USE

As illustrated in **P2 - Figure 6**, the ENPSP area is primarily comprised of land zoned 'Residential' under LPS4.

The precinct character is currently defined predominantly by single and two storey residential homes. The future Development WA zone to the east of the catchment zone indicates an increase in the zoning to R40 for Single Residential Lots and Grouped or Multiple Dwellings Lots. This allows for a potential height up to three storeys largely in areas fronting public open space. There is an opportunity to consider potential areas within the catchment zone which may be increased in density in line with current state planning policies (i.e. Design WA). A number of lots depending on future needs analysis may require a scheme amendment varying the potential use.

Dual Code Lots R15/40 where applicable have been amalgamated and redeveloped to provide a number of grouped dwellings on a lot. Potential changes to policies and design guidelines in line with future medium density policy have the potential to reconsider the planning and architectural response to these lots. The community purpose site noted in the north-eastern portion of the character zone is to be reviewed with Development WA to determine potential uses.

Item 11.3.1 Appendix 1 Part 2



LEGEND

- ENPSP Boundary
- Parks and Public Open Space (POS)
- Community Purpose Site
- Drainage Corridors
- Mixed Use
- R15 Single Residential Lots
- R20 Single Residential Lots
- R30 Single Residential Lots
- R40 Single Residential Lots
- R40 Grouped or Multiple Dwellings
- R15/40 Single Residential Lots

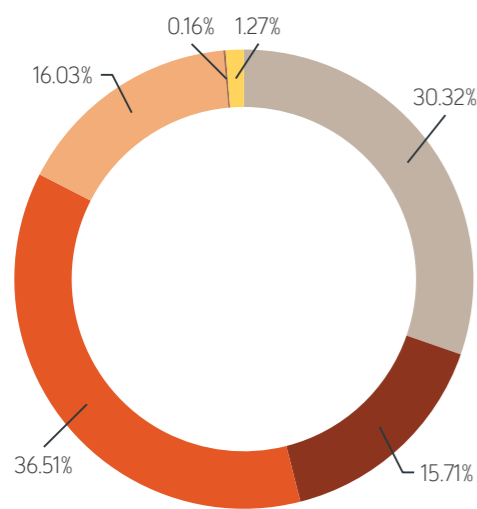
P2 - Figure 6: Land Use

1.3.4 LAND OWNERSHIP

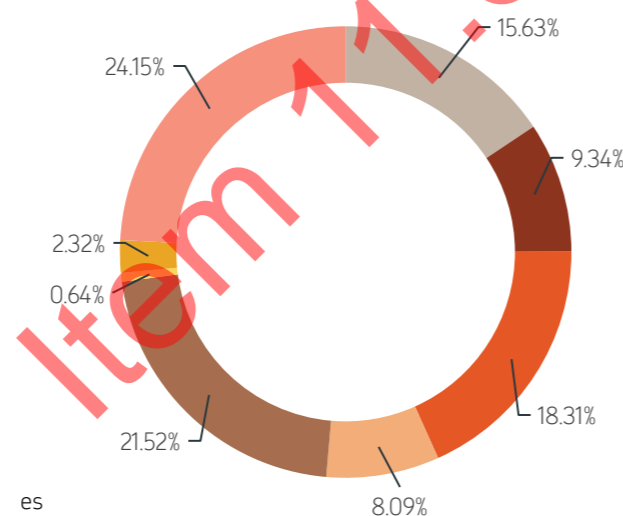
Previous work undertaken on the Home in East Newman Master Plan provided an analysis of the current land ownership throughout the East Newman area. The land ownership indicates lots owned by BHP, Housing Authority, The State Housing Commission, Government Employees' Housing Authority, The State of Western Australia, Development WA, private landowners, commercial landowners and the Shire of East Pilbara. Lots are also defined in relation to Strata Title, Green Title, Public Open Space and Parks and those currently undeveloped and retained under ownership by an organisation.

The analysis highlighted areas in the ENPSP area that enable the potential for redevelopment where:

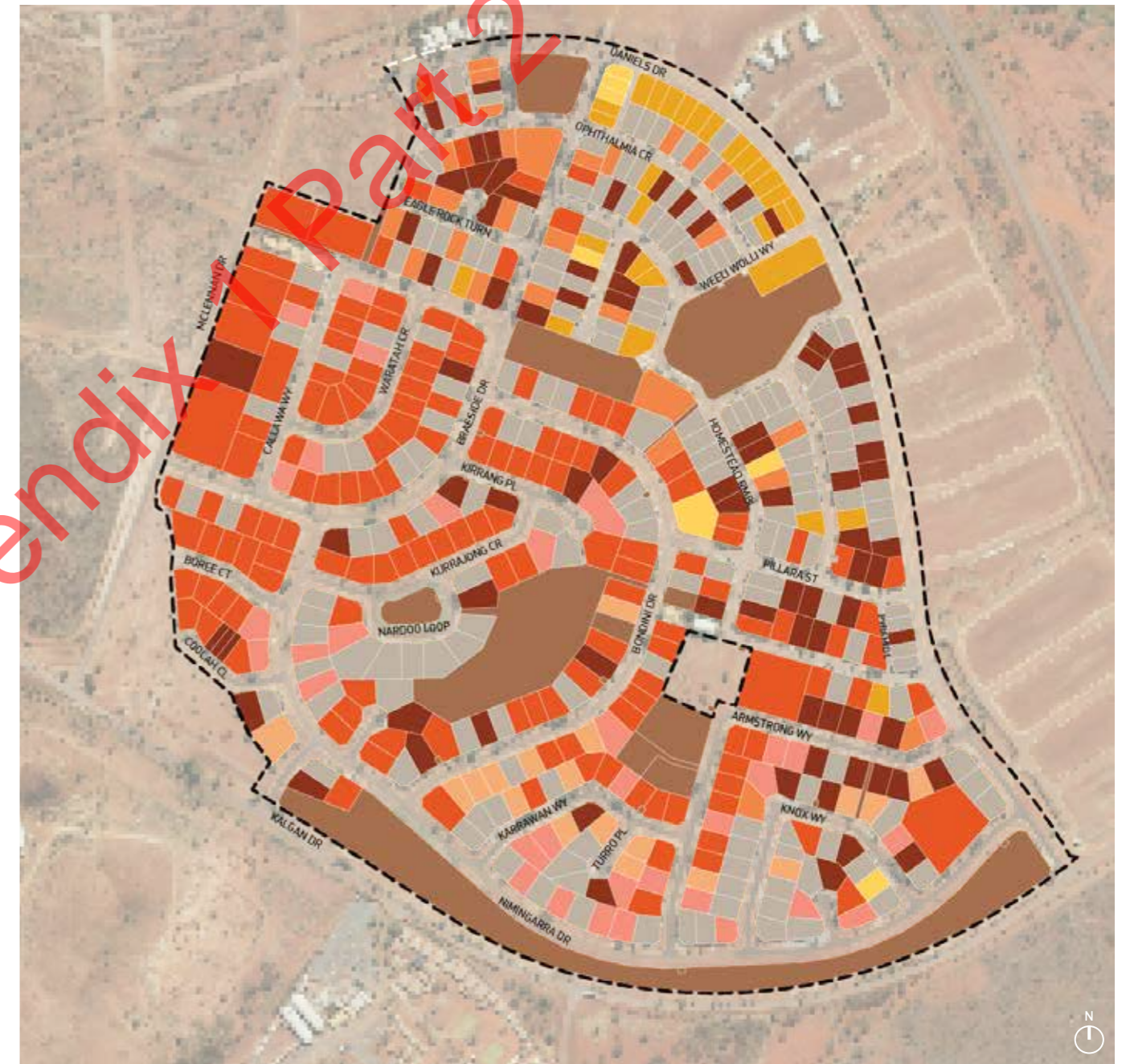
- + BHP lots have the potential to be:
 - Amalgamated with neighbouring lots to enable a higher yield if redevelopment were required.
 - Redeveloped to utilise the dual frontage of lots where the lot fronts a road reserve and public open space; and
 - Redeveloped to enable wider than current public access-ways whilst enabling a higher yield.
- + State-owned land has the potential to be:
 - Redeveloped for additional housing, and
 - Considered in relation to character and use where this is a public open space.



P2 - Figure 7: Dwelling Ownership Breakdown



P2 - Figure 8: Land Ownership Breakdown



LEGEND

- | | | |
|--|--|---|
| Private Landowners | WA State Government | S Strata Lot |
| Companies | Shire of East Pilbara | * Undeveloped Lot |
| BHP | Development WA | - - - Precinct Boundary |
| Department of Communities | Roads and Road Reserves | P Park / Open Space |
| | | CP Community Purpose |
| | | SA Student Accommodation (Martu) |

P2 - Figure 9: Overall land ownership

1.3.5 OPEN SPACE AND DRAINAGE

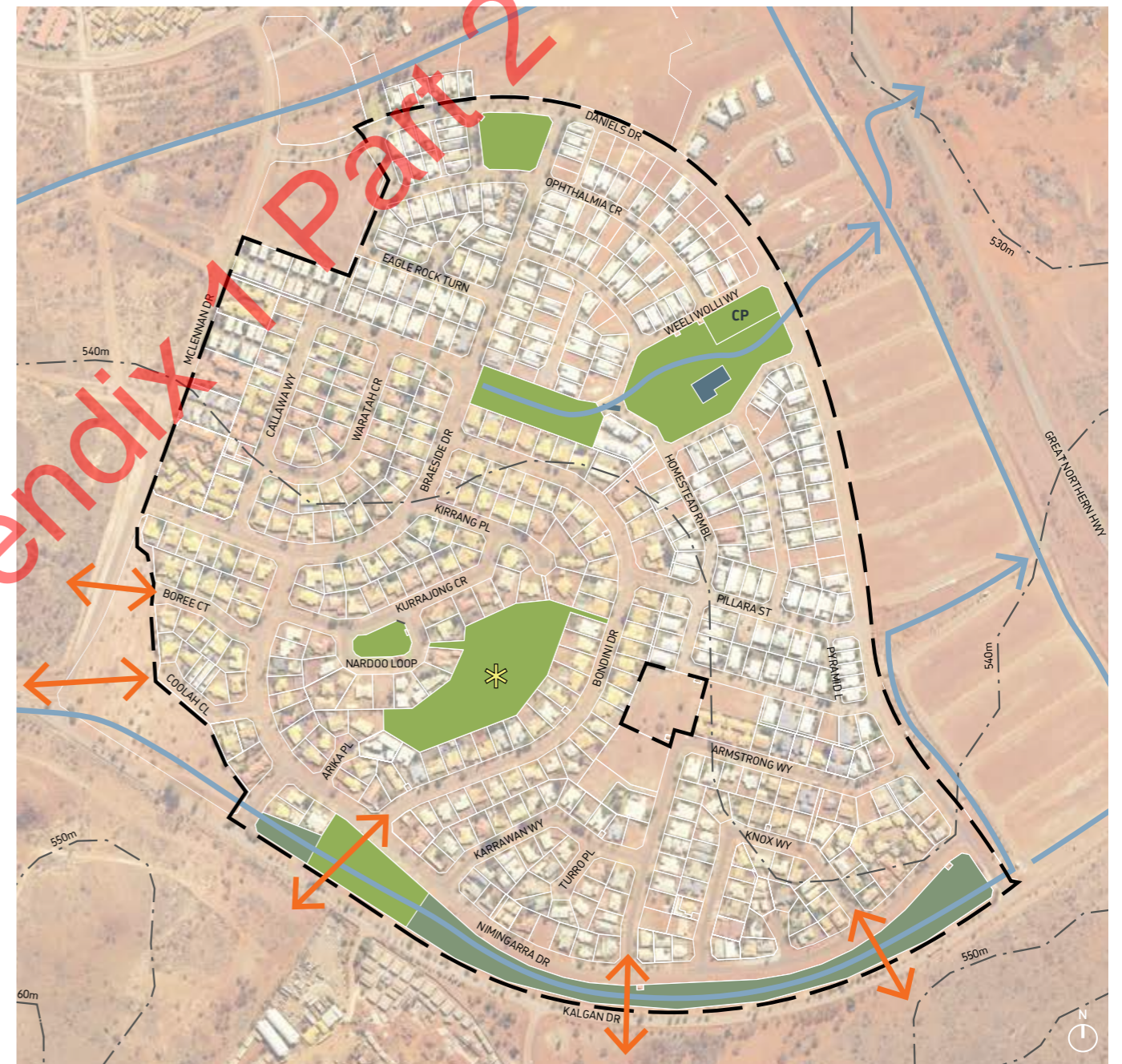
OPEN SPACE

Several existing parks and spaces are provided in the ENPSP area as shown on **P2 - Figure 10**. Many of these spaces are well used though others are underutilised or require an increase in maintenance (with associated costs). There is an opportunity to reconsider the public open space strategy to define parks which have a clear identity, character, and use where the spaces provided enable a number of activities to co-exist in a complementary way. There is also an opportunity to revitalise these spaces to enhance the ability to connect with Country and to better align with Nyiyaparli and Martu uses of public open space. There is also potential for consolidation of open spaces currently provided, with opportunities for future development or enhancements to occur.

DRAINAGE

P2 - Figure 10 notes the existing drainage lines and swales within the catchment zone. These are largely located to the edges of the catchment zone and will need to be maintained. The Newman Revitalisation Plan Growth Volume 2 (p. 26) highlights that the majority of these swales remain unlined with variable degrees and conditions of native vegetation cover. These creeks are seasonal and for most of the year remain dry. As Newman is subject to extreme weather events, drainage is of primary concern and the provision of sufficient systems to deal with the major weather events has had to be employed. Unfortunately, the existing systems have low visual quality and divide communities as the channels carve their way through the town. There is potential to look at a landscape strategy for these swales to connect the catchment zone into the surrounding area and provide a visual character of these swales through appropriate replanting.

Item 11.3.1 Appendix 1 Part 2



LEGEND

- High Point
- Community Purpose Site
- Existing Parks
- Swales and Drainage Corridors
- Water Corporation Pump Station
- Potential Connections
- Built Drainage Corridors
- 10m Contours
- Precinct Boundary

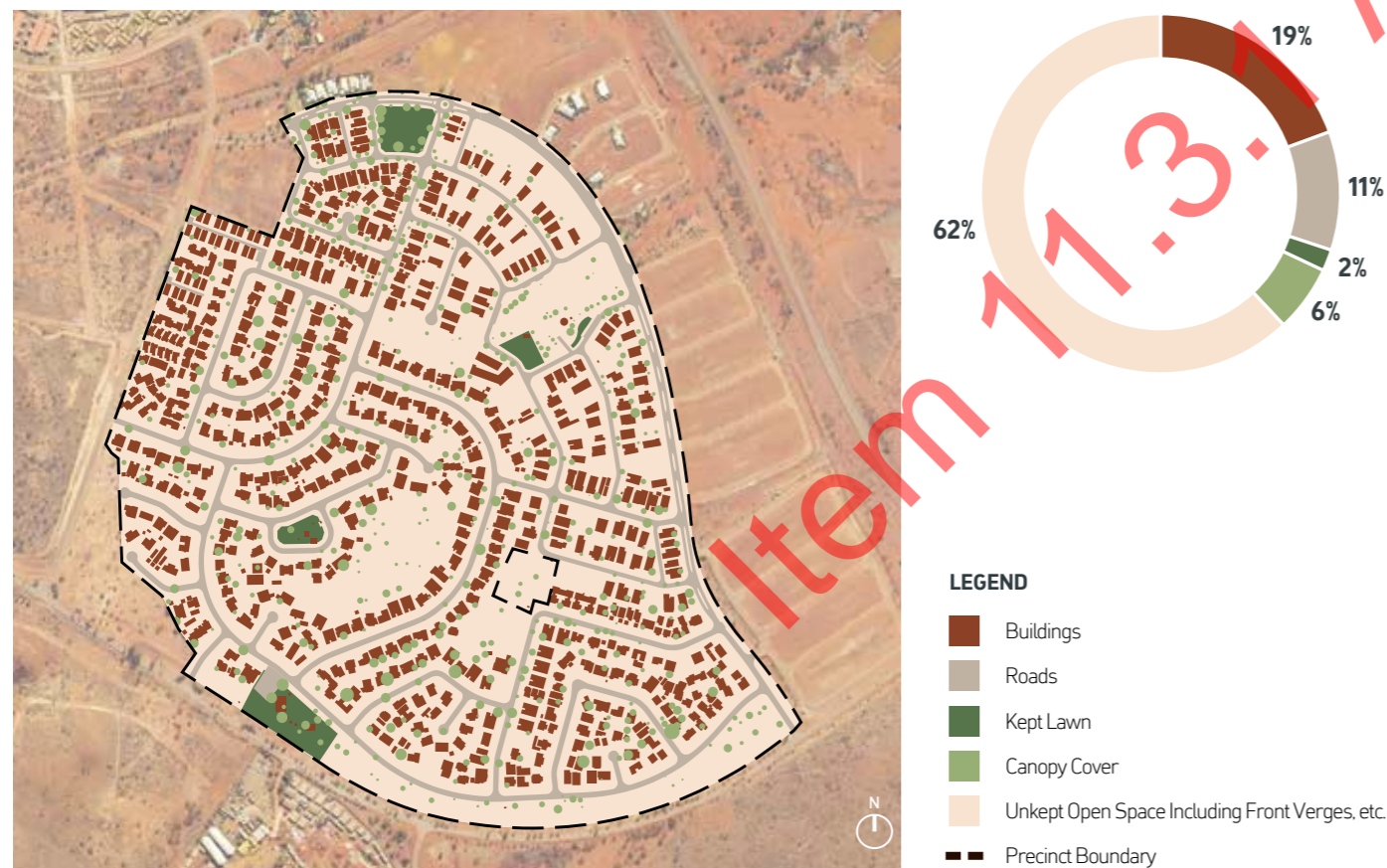
P2 - Figure 10: Open Space and Drainage

1.3.6 LANDSCAPE

PRECINCT LEVEL LANDSCAPE ANALYSIS

P2 - Figure 11 depicts the current breakdown of hard and soft surfaces across the ENPSP area. The precinct is largely characterised by unkept open spaces with a low tree canopy percentage. This highlights the potential increase in temperature in the precinct above the actual recorded temperature during the day together with increased maintenance of streets, footpaths, and buildings. A landscape strategy which looks at how to utilise the areas of unkept space, improve the tree canopy and shaded spaces would be beneficial.

Due to low canopy cover and kept lawn there is potential for consideration of increasing these elements through the ENPSP. As a comparison, we have reviewed another sample area of Newman, see P2 - Figure 12. The intention would be to provide a similar or better percentage outcome as indicated in this example (see over) for East Newman.



P2 - Figure 11: Precinct Level Landscape Analysis

COMPARISON LANDSCAPE ANALYSIS

P2 - Figure 12 reflects the current breakdown of hard and soft surfaces across the comparison block, which is bordered by Mindarra Dr, Hilditch Ave, Wurangura St and Warman Ave in Newman. The area features a higher percentage of kept lawn and tree canopy cover, which results in additional shading to the area and a reduced heat island effect.



P2 - Figure 12: Comparison Landscape Analysis

1.3.7 LANDSCAPE AND BUILT FORM CHARACTER

The street character within the ENPSP area is a mixture of a single and two storey residential dwellings with either hipped, gabled or skillion roof profiles, which feature a mixture of boxed and exposed eaves. The homes are well setback, about 6-10m from the front boundary and have approximately 1m side setbacks. Where nil setbacks are provided, the length of the wall on the boundary is up to 9m in length.

Generally, the window opening sizes vary throughout the precinct. Where able, a large window is provided to front the street and provide surveillance from major living spaces. A large majority of the window openings provided to homes within the precinct are not shaded appropriately. Where these windows are shaded, the unique orientation has not been considered. Several windows are provided with minimal opening sizes, which do not provide adequate natural ventilation to homes.

Each dwelling features either single or double carports, with the roof design of the carport generally integrated into the house design. In a number of cases where lots are narrower, the carport is detached and located at the front of the home. Many dwellings are provided with concrete or brick paved driveways that extend into the carport.

The material character of homes within the ENPSP area are largely brick and weatherboard, for older dwellings, or colorbond, for newer dwellings. Roofs are generally colorbond throughout. There is a lack of a coherent character of homes with this mix of materials.

A character trait of earlier dwellings is the use of solid colorbond fencing to the side, rear and front of lots. This fencing approach mitigates any connection of the home to the street. Newer permeable fencing utilised in a number of refurbished BHP-owned homes provides an improved street interface.

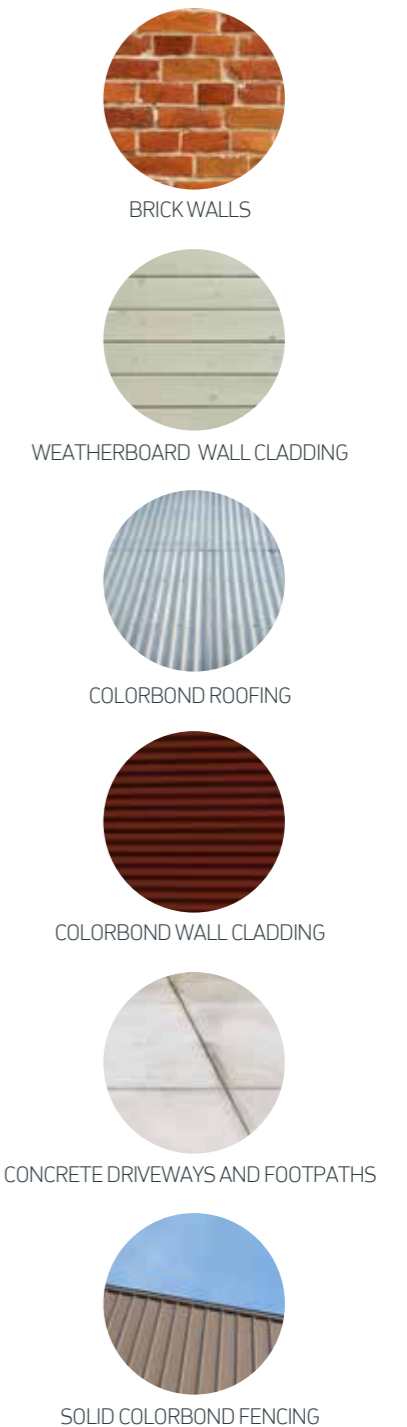
The use of concrete for driveways, footpaths and hardstands is prevalent throughout, and adds to the heat island effect within East Newman.

Future housing concepts that will cater more appropriately to East Newman's people and its climate will be provided in the ENPSP. These proposed approaches will, along with the aspirations of housing for existing landowners and residents, consider improvements in the way in which housing and landscape design can respond effectively to the challenges noted throughout this context analysis.

Item 11.9.1 Appendix 1 Part 2



P2 - Figure 13: Existing East Newman Character



P2 - Figure 14: East Newman Material Character

1.3.8 ENVIRONMENT

ENVIRONMENTAL CONDITION

PGV Environmental undertook a site inspection of the ENPSP area on 4 July 2022. The results of the site inspection are as follows. The Structure Plan area consists of the following land uses, with environmental qualities described as follows:

- + **Roads and road verges** - All the streets in the ENPSP area contain street trees, ranging from newly planted to quite mature trees that were planted many years ago. The most commonly planted trees are Poinsettias and native Eucalyptus trees.
- + **Residential lots with dwellings** - Most residential lots contain trees and shrubs in the garden which have been planted over time.
- + **Vacant residential lots** - There are approximately 20 residential lots that do not contain dwellings. All lots are completely cleared.
- + **Large underutilised public open space** - A large 1.87ha lot is located between Nardoo Loop and Bondini Drive. The lot contains some native shrubs, mainly Acacia species, but is mostly weedy and is not considered remnant intact native vegetation.
- + **Public Open Space for recreational purposes** - Several areas of POS with a recreational function are located within the Structure Plan area including Daniels Drive Park (Plate 4), Nardoo Loop Park and Miners Promise Park. The parks are all grassed and contain some planted trees around the outside.
- + **Reserves for Drainage** - Several reserves are located in the ENPSP area that provide a stormwater drainage function. One long, curved drainage reserve occurs along the southern boundary of the Structure Plan area between Nimigarra Drive and Kalgan Drive. The reserve is sparsely planted and does not contain any intact remnant native vegetation (Plate 5). Another series of linked drainage reserves occurs between Braeside Drive and Daniels Drive. The reserves are sparsely planted and do not contain any intact remnant native vegetation (Plate 2).

The ENPSP area contains numerous, sparsely planted trees and shrubs in road reserves, POS and drainage reserves. No areas of intact remnant native vegetation occur in the area. Therefore, no plant species or vegetation types of conservation significance would occur in the ENPSP area.

BUSHFIRE MANAGEMENT

Majority of the subject site has been previously cleared with residential housing and POS areas established. No re-vegetation is proposed within the development and landscaping will be maintained in a low-threat state. Areas of native vegetation on-site were present with multiple large patches proposed to remain. Changes to this assumption can be addressed through future BMPs prepared to support more detailed planning applications (e.g. subdivision applications etc.).

Two lots within the ENPSP area are subject to BAL-FZ and BAL-40, however both of these are existing properties with established dwellings and reductions to the bushfire risk is not possible due to the classifiable vegetation affecting BALs being situated within an area subject to Native Title. Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to the Bushfire Management Plan.

The subject site has areas of natural vegetation on-site that have not been managed for a number of years. There are several existing fire breaks on-site and plots of vegetations with cleared or gravelled understorey within and surrounding the subject site. In future, management of fuel loads and onsite vegetation may reduce the potential bushfire risk and reduction of radiant heat affecting the development.

Further information of bushfire can be find in **Appendix 3 Bushfire Management Plan**.

ROAD AND RAIL NOISE

A number of the residential lots along the north-eastern boundary of the precinct are located within the road and rail noise buffer area. Most of these lots have been developed with single houses, however in accordance with SPP 5.4 – Road and Rail Noise, a notification on title would be required if the lots were redeveloped.

1.3.9 PEDESTRIAN MOVEMENT

NIYIYAPARLI AND MARTU WALKING TRAILS

Walking trails were noted through engagement with the Niyiyaparli and Martu community. The walking trails demonstrate pedestrian access (formal and informal) within and external to the ENPSP area.

These trails lead to significant surrounding areas and include:

- + Martumili;
- + Newman Town Centre;
- + Residential housing to the south-west of East Newman;
- + South Newman Primary School;
- + Newman Senior High School;
- + Goanna Oval, Capricorn Oval and Newman Recreation Centre; and
- + Parnpajinya Community.



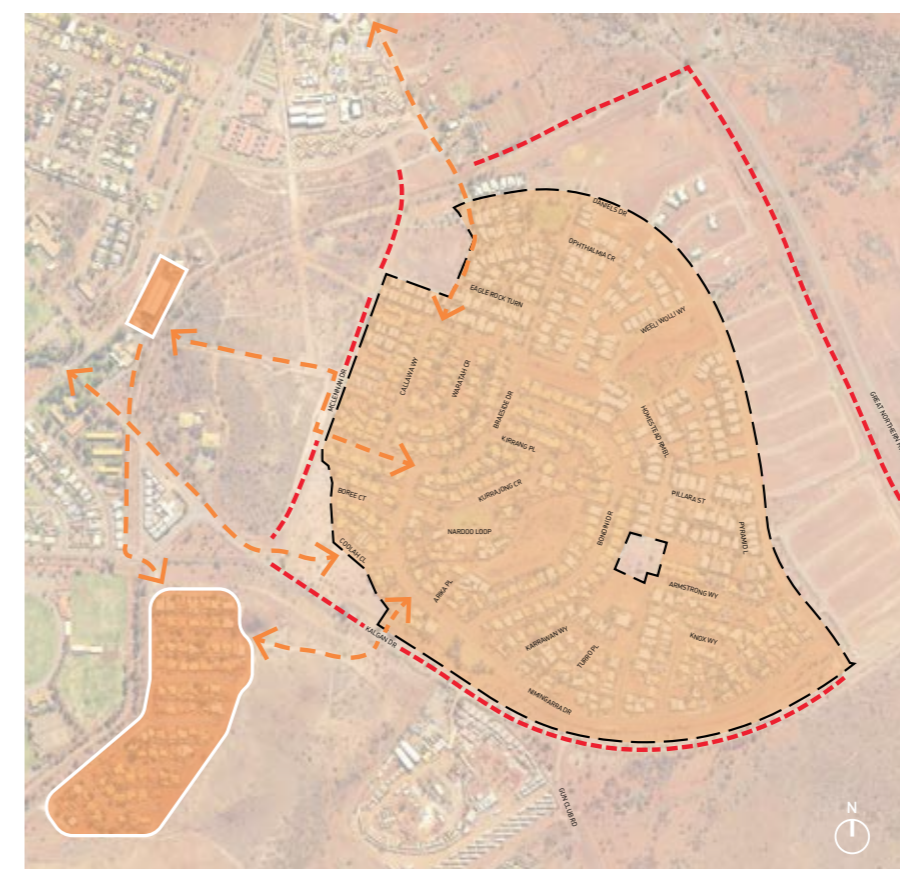
P2 - Figure 15: Niyiyaparli and Martu Walking Trails

CONNECTION TO SURROUNDING AREA

Through engagement, it has been outlined pedestrians move into and out of precinct from a range of locations within close walking distance. These locations include but are not limited to Parnpajinya Community to the north, Martumilli and the Newman Town Centre to the west.

Currently the planning has resulted in the ENPSP area becoming an island segregated from the surrounding Newman area due in part to the location, orientation and extent of swales to the south and eastern edge of the catchment zone and major arterial roads surrounding the precinct to the west, south and east.

There are opportunities for the ENPSP to improve the porosity at the edges of the precinct with an approach to provide considered safe enjoyable pedestrian movement connections to the locations noted above that could also build on existing movement patterns, and drive future development needs in specific locations.



P2 - Figure 16: Connection to Surrounding Area

1.3.10 ROAD NETWORK

Vehicle access into the ENPSP is gained primarily from the southern end of the precinct, from McLennan Drive, Corunna Way and Daniels Drive off Kalgan Drive. According to the Main Roads WA hierarchy, Kalgan Road is classified as a local distributor, and all other roads within the ENPSP area are local access roads.

The existing road network within the ENPSP area provides poor connectivity reflective of Radburn Design principles. Whilst there are potential opportunities of how this could be reconsidered, the road network will largely remain unchanged as these roads provide a vehicle access to individual lots.

Several key services, such as sewer, stormwater and power, will be retained throughout road reserves. Locations that provide opportunity within the road network for reconsideration include the entry points into East Newman, road intersections and potential improvements for way-finding through considered landscaping, street signage, and street lighting.



P2 - Figure 17: Road Network

1.4 RESPONSE TO CONTEXT

P2 - Table 5: PSP - Key Design Considerations

REF.	ISSUE / OPPORTUNITY	DESIGN CONSIDERATIONS / ACTIONS
URBAN ECOLOGY (UE)	UE-1	Major opportunity to enhance recognition and celebration of Aboriginal heritage and culture for both Nyiyaparli and Martu people. <i>Linked to PR-1, PR-2, PR-3</i> <i>Linked to MO-1</i> <i>Linked to BF-1</i>
	UE-2	Low canopy cover and large amounts of hardscape areas highlights the potential increase in temperature in East Newman above the actual recorded temperature during the day. <i>Linked to PR-1, PR-3</i>
	UE-3	As Newman is subject to extreme weather events, drainage is of primary concern and the provision of sufficient systems to deal with the major weather events should be employed. Existing systems have low visual quality and divide communities as the channels carve their way through the ENPSP area. The current state of these drainage corridors dissects the town separating neighbourhoods. <i>Linked to UE-2</i>
URBAN STRUCTURE (US)	US-1	Nyiyaparli and Martu walking trails are not formalised and often cross through private residential lots. <i>Linked to MO-1, MO-3</i>
	US-2	Large number of lots fronting onto public open space and abutting PAWs provides an opportunity to better interact with key public spaces. Frontages of future residential development onto parks to be enhanced to improve amenity for residents. Widening existing and creating additional PAWs can increase permeability to parks and open spaces, whilst increasing safety through better designs. <i>Linked to PR-4</i> <i>Linked to MO-3</i> <i>Linked to BF-3, BF-4</i>
	US-3	Majority of residential lots in the ENPSP area are currently owned by BHP Billiton and the Department of Communities. Potential for consolidation and amalgamation of residential lots in specific locations where an increase in yield and density is considered appropriate. <i>Linked to LU-2</i> <i>Linked to BF-4</i>
	US-4	Improvements to landscaping and greater attention to the external aspect of lots at the precinct's entrance points will be important in enhancing the arrival experience. Ensuring the views toward East Newman are more attractive and provide a sense of entry, presenting visitors with a local housing perspective that is reflective of the character of the place. <i>Linked to PR-2</i> <i>Linked to MO-2</i>

REF.	ISSUE / OPPORTUNITY	DESIGN CONSIDERATIONS / ACTIONS
PUBLIC REALM (PR)	PR-1	Harsh climatic conditions adversely impacts the functionality and usability of existing public spaces. <i>Linked to UE-2</i> <i>Linked to PR-2, PR-3</i>
	PR-2	Several existing parks and spaces are provided in the ENPSP area. Whilst some of these spaces are well used others are underutilised or require an increase in maintenance (with associated costs). Public open space strategy to define parks which have a clear identity, character, and use where the spaces provided enable a number of activities to co-exist in a complementary way. There is also an opportunity to revitalise these spaces to enhance the ability to connect with Country and to better align with Nyiyaparli and Martu uses of public open space. There is also potential for consolidation of open spaces currently provided, with opportunities for future development or enhancements to occur. <i>Linked to UE-1, UE-2, UE-3</i> <i>Linked to PR-1, PR-3, PR-4</i>
	PR-3	Informal Nyiyaparli and Martu walking trails do not provide a pleasant pedestrian environment and are characterised by lack of shade and essential amenity such as quality footpaths. Improve the comfort of Nyiyaparli and Martu walking trails through improving public realm amenity and increasing tree canopy and shade coverage. Provision of resting points along key connections on open spaces. <i>Linked to UE-2</i> <i>Lined to US-1</i> <i>Linked to MO-1, MO-3</i>
	PR-4	Poor passive surveillance of public spaces leading to adverse safety impacts. Public realm design based on CPTED principles and focused on houses fronting onto open spaces and abutting public access ways. <i>Lined to US-2</i> <i>Linked to BF-3, BF-4</i>
MOVEMENT (MO)	MO-1	Pedestrian movement patterns of Nyiyaparli and Martu people vary from the existing pedestrian network within the ENPSP area. Opportunity to provide alternative pedestrian movement corridors through the catchment zone. This approach may enable a respect for the Nyiyaparli and Martu people, potential for developing land around these trails, divestment of land ownership, potential locations for an East Newman specific Neighbourhood Centre. <i>Linked to UE-1</i> <i>Lined to US-1</i> <i>Linked to PR-3</i>
	MO-2	East Newman is an island segregated from the surrounding Newman area due in part to the location, orientation and extent of swales to the south and eastern edge of the catchment zone, fenced land under state government ownership to the west, major arterial roads surrounding East Newman to the west, south and east and large extents of development with minimal connection through the development to the west. Opportunities to provide a strategy to improve the porosity at the edges of the catchment zone with an approach to provide considered safe enjoyable pedestrian movement connections to the locations noted above that could also build on existing movement patterns and drive future development needs in specific locations. <i>Lined to US-4</i>

REF.	ISSUE / OPPORTUNITY	DESIGN CONSIDERATIONS / ACTIONS
MO-3	Vehicle and pedestrian permeability limited in certain areas and does not reflect the user experience or journey.	Opportunities to create new roads and pedestrian access ways (PAW) to improve connectivity within the precinct for both cars and pedestrians. <i>Lined to US-1</i> <i>Linked to MO-1</i>
LAND USE (LU)	LU-1	Strong need for community facilities and social infrastructure with associated wrap around support services. Provide the underlying planning framework that enables the provision of essential community services and infrastructure in line with community needs.
	LU-2	Importance of family and culture in the future planning from East Newman. Changes to land use that responds and aligns with cultural and family values.
	LU-3	Currently defined by a residential character of single and two storey residential homes. Existing residential density supports opportunities for increased density / diversity. Consolidation and amalgamation of lots, and future redevelopment and refurbishment of housing. Opportunity to consider potential areas within the ENPSP area which may be increased in density in line with current state planning policies (i.e. Design WA). <i>Lined to US-2, US-3</i> <i>Linked to BF-1, BF-2, BF-4</i>
BUILT FORM (BF)	BF-1	Current housing stock does not reflect the demographics and does not meet the needs of the East Newman community. A large proportion of housing provides limited amenity and are in poor condition. Facilitate upgrades to existing housing and develop options for redevelopment to provide for greater liveability and variety of homes including multigenerational homes, providing housing for older people in the community. <i>Linked to UE-1</i> <i>Linked to LU-2</i>
	BF-2	Current housing stock is not well suited to the Newman climate. Provide built form controls to ensure homes are climate responsive, improving comfort for residents, connection of homes to country and minimising running and maintenance costs. <i>Linked to LU-2</i>
	BF-3	Built form relates poorly to the public realm and provides limited opportunities for passive surveillance and connection to the street and open space. Opportunity for built form to better relate to the streets and parks, providing passive surveillance and building community connections in the precinct. Improving the amenity and liveability of housing <i>Lined to US-1</i> <i>Linked to PR-4</i>
	BF-4	Reconsideration of the way that the frontage of future developed private residential lots onto parks can improve the amenity to the landowner/resident. Identify opportunities for redevelopment of housing, focusing on corners and lots along parks leading to better connection to open space and increased safety <i>Lined to US-1</i> <i>Linked to PR-4</i>



02

STAKEHOLDER AND COMMUNITY PARTICIPATION



Item 11.3.1 Appendix 1 Part 2

2.1 PRE-LODGEMENT ENGAGEMENT

In 2022, the KNAC and JYAC boards voted to support and become proponents of this Precinct Structure Plan in conjunction with PAMS.

The ENPSP has been informed by findings from the East Newman Master Plan, which was developed through a Steering Committee with representatives from BHP, Shire of East Pilbara and Department of Communities.

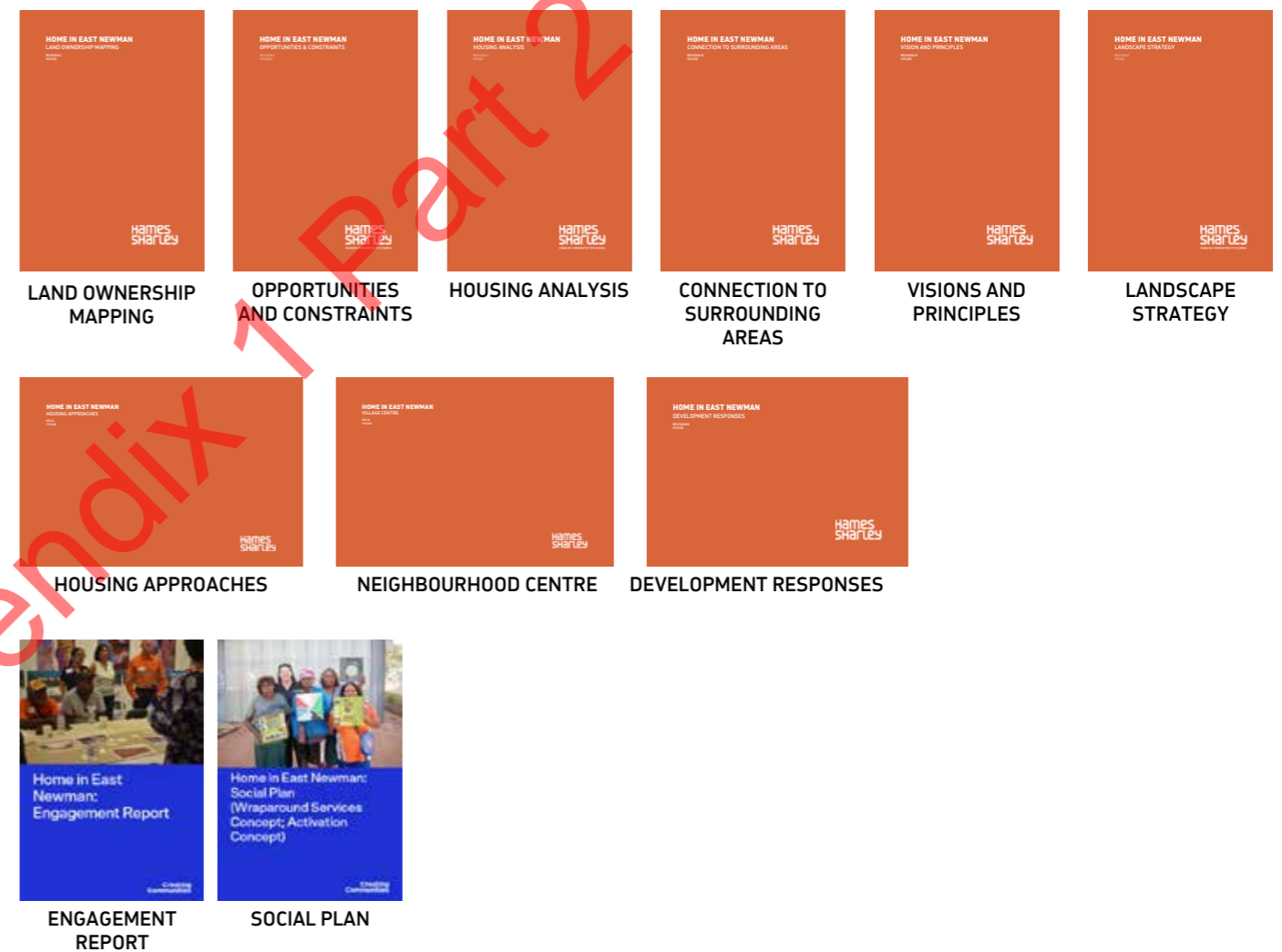
Whilst the Master Plan is not a statutory planning document, it established future renewal and improvement options for East Newman to deliver more social housing, intergenerational housing options, an Aboriginal-managed hostel for Newman children engaged in school, a Wellness and Cultural Space, improvements to parks and a Neighbourhood Centre (previously referred to as Village Centre).

Co-design workshops and other engagement initiatives in preparing the Master Plan and ENPSP has been facilitated by Creating Communities with KNAC and JYAC members and administration, PAMS, Department of Communities, BHP, Shire of East Pilbara and other community stakeholders. The total number of engagements/consultation to date, includes the following:

- + 57 engagement initiatives were conducted (i.e., meetings and workshops)
- + Over 330 instances of engagement with stakeholders and community members (this includes instances of recurring engagement with the same individual)
- + Approximately 150 individuals were engaged, with approximately 60 of those individuals having recurring engagement in the project (anywhere from 1 repeat engagement, to approximately 10 repeat engagements for Steering Committee members)
- + Findings, key elements and recommended actions from the Master Plan have been presented to the Shire of East Pilbara Council (December 2020).

From consultation undertaken to date, there has also been a significant number of reports prepared, as identified in **P2 - Figure 18**.

Item 11.3.1 Appendix



P2 - Figure 18: Home in East Newman - Reports and Strategies prepared to date

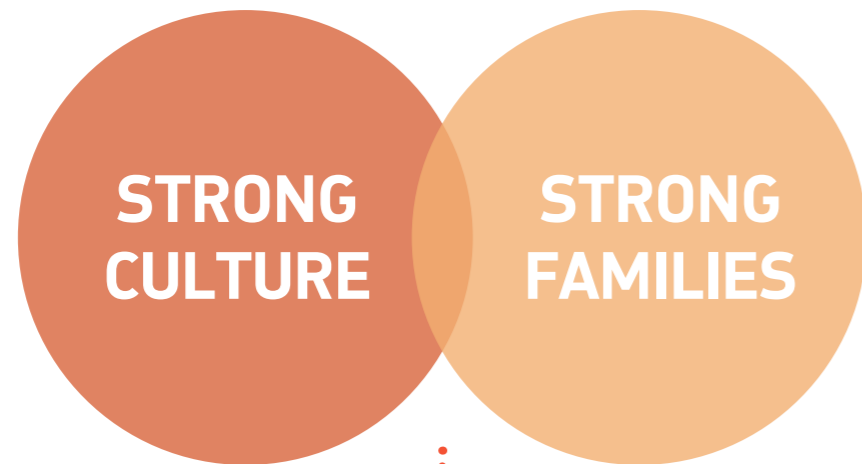


03

VISION

3.1 VISION

3.1.1 NYIYAPARLI AND MARTU ASPIRATIONS



COMMUNITY FACILITIES

- + PAMS short stay accommodation and cultural & wellness space
- + Niyaparli & Martu youth facility
- + A Neighbourhood Centre to accommodate a convenience store, laundry, ablution facilities, a community services triage centre, space for other enterprise
- + Establishment of a Niyaparli and Martu faculties entity to support a local facilities management enterprise

HOUSING

- + Multi-generational housing precincts
- + Increased social housing / home ownership support
- + Culturally sensitive housing
- + Built form controls for housing to respond to climate
- + Redevelopment opportunity to provide connection with the street and opportunity for passive surveillance
- + Opportunity for construction trade programs

PUBLIC REALM AND CONNECTIVITY

- + Culturally sensitive improvements to key areas of open space including the undeveloped Central Park, Train Park (Miners Promise Park) and the drainage reserve adjacent to Nimingarra Drive
- + Provision of amenity in public realm, such as shade
- + Streetscape upgrades
- + New road and pedestrian connection
- + Community care programs



Place and Country



Community and Gathering



04

DESIGN ELEMENTS



Item 17.3.1 Appendix 1 Part 2

4.1 URBAN ECOLOGY

- 01.1 To protect, enhance and respond to the ecological systems of the precinct.**
- 01.2 To enhance sense of place by recognising and responding to Aboriginal, cultural and built heritage.**
- 01.3 To reduce the environmental and climate change impacts of the precinct development.**

RESPONSE TO CONTEXT

NIYIAPARLI AND MARTU ASPIRATIONS

Specific aspirations of Niyaparli and Martu in this context is to:

- + Provide culturally sensitive upgrades to the public realm, including parks, streetscapes and drainage reserves.
- + Maintenance programs for the public realm, which provide the opportunity for young people to be employed and learn skills

DESIGN CONSIDERATIONS

As described in **Section 1.4**, key design considerations for **Design Element 1: Urban Ecology** can be summarised as follows:

- + Public realm and housing designs to better respond to cultural heritage and reflect the needs of local residents.
- + The urban design and landscape strategy to utilise the areas of unkept space, improve landscaping and tree canopy and provide more shaded spaces.
- + Landscape strategy for swales to connect the catchment zone into the surrounding area and provide a visual character of the swales through appropriate replanting.

DESIRED OUTCOMES

The landscape strategy provided in **Appendix 7** is built on community, sustainable and climate responsive principles to achieve long-term outcomes for East Newman. The strategy aims to establish a desired urban landscape that is a distinct character, yet promoting diversity and reinforcing the character of the surrounding landscape.

Community consultation with the Niyaparli, Martu and East Newman community established the following objectives that underpin the Landscape Strategy:

- + Building a landscape for the community by the community
- + Creating a sustainable and climate-responsive living environment
- + Providing a safe amenity for the residents and visitors
- + Supporting local business
- + Selection of native and edible based planting
- + Improving the overall landscape quality
- + Phasing landscape works with long term outcomes

4.1.1 NATURAL ENVIRONMENT

The ENPSP area is largely developed with residential development and as a result, only small segments of remnant vegetation remain along road verges, residential lots and in public open space/drainage swales. While the precinct is within an identified Threatened Ecological Community area, the environmental assessment did not identify any major environmental considerations within the ENPSP area.

A Bushfire Management Plan was prepared for the precinct and identified that current vegetation and landscaping will be maintained in a low-threat state, and that any changes to this can be addressed through future BMPs prepared to support more detailed planning applications (e.g. subdivision applications etc.).

Throughout the engagement process, the importance of the natural environment, improvements to landscaping and connection to Country has been a common theme. It is critical that the landscape strategy and the proposed upgrades to the public realm are focused on improving the natural environment through quality landscaping and connectivity of the green network. Proposed upgrades to POS and the movement network will ensure more residents have access to the natural environment.

4.1.2 WATER MANAGEMENT

The Water Management Strategy (WMS) is provided in **Appendix 1**, and has identified the following opportunities and constraints:

- + The site has an existing and functioning stormwater management system and with minor land use change occurring as part of the development the existing infrastructure would be expected to be able to service the modified residential estate.
- + Soil types and topography would result in little infiltration with the majority of stormwater runoff and discharge from site to the east and across Great Northern Highway.
- + The redevelopment of lots provides opportunities to implement water use saving strategies and devices to reduce the demand on groundwater supply.
- + Reconsidered POS areas to improve the value of the space also provides opportunities for water harvesting and retention to mitigate increases in irrigation.
- + Location within the Newman Water Reserve warrants consideration of implementing biofiltration techniques to maintain/improve discharge stormwater quality to the environment.
- + Any areas with existing issues of flooding in or adjacent to lot areas have the opportunity to implement increased development levels.

The design principles and criteria of the WMS have been provided in **P2 - Table 6**:

P2 - Table 6: WMS Design Principles and Criteria

STRATEGY ELEMENTS	METHOD AND APPROACH	
Water Use and Sustainability	Water Efficiency	<ul style="list-style-type: none"> + Water efficiency implementation consistent with Building Codes of Australia requirements + Aim for less than 100 kL/person/year water use + Establish "Waterwise" Public Open Space
	Water Supply	<ul style="list-style-type: none"> + Minimise use of scheme water for non-drinking purposes + Water Corporation supply for lots + Treated wastewater via the Waste Water Treatment Plant for POS irrigation
	Wastewater	<ul style="list-style-type: none"> + Reticulated sewerage
Stormwater	Ecological Protection	<ul style="list-style-type: none"> + Establishment of biofiltration areas in changed landuse areas and/or redeveloped POS/drainage areas to treat first 15mm of runoff
	Serviceability	<ul style="list-style-type: none"> + Maintain existing road and easement drainage flow paths
	Flood Protection	<ul style="list-style-type: none"> + Maintain established large open drains to convey flows east towards Great Northern Hwy + Establish minimum habitable floor levels of redeveloped lots at 0.5m above the 1% AEP flood level and 0.3m above the road drainage network
Groundwater	Fill and Subsoil Drainage	<ul style="list-style-type: none"> + No fill required to provide clearance to groundwater + Fill potentially required for redevelopment areas subject to flooding + Subsoil only within installed biofiltration areas as required to prevent long term ponding

The stormwater management strategy provides the following recommendations:

- + Provide biofiltration areas to treat the first 15mm for newly introduced hardstand areas as well as providing attenuation for any additional flow. This includes mixed business areas, community centres and roads.
- + In any redeveloped park areas with an existing stormwater function, seek to implement biofiltration areas to provide water quality treatment for their contributing stormwater catchment areas. Also any modified open drains should be designed to, at a minimum, maintain their existing stormwater capacity.
- + Ensure modified areas and new access ways are constructed to maintain existing drainage catchments and flow paths.
- + Establish minimum habitable floor levels of redeveloped lots at 0.5m above the 1% AEP flood level and 0.3m above the road drainage network.

4.1.3 ABORIGINAL HERITAGE

In preparing the Structure Plan, Aboriginal Heritage consideration has been led by Nyiyaparli Traditional Owners and Martu. Through their individual boards, the prescribed body corporates KNAC and JYAC, in partnership with PAMS, are joint proponents of the ENPSP.

JYAC and KNAC administration and members have provided advice on Aboriginal Heritage and culturally sensitive design informing the plan.

In providing an overall context of the importance of Newman for Aboriginal heritage, a Nyiyaparli Elder confirmed Newman is Nyiyaparli Country. The significance of Newman has been described as a place where Nyiyaparli ancestors would come to make rain. There is a registered Aboriginal Heritage Site- Kiripirna (site number 15715) located within the Newman townsite with address to Calcott Street. This site represents the location where three stones were located and is understood to be the location from where the rain making ceremony was undertaken.

Specifically, based on advice from KNAC, land included within the ENPSP has been considered in accordance with Native Title. As illustrated in **P2 - Figure 19**, Native Title identified land adjacent to the Structure Plan is located to the south west (defined by purple diagonal lines) and is not within the ENPSP boundary. The Native Title land within the centre of the ENPSP (purple diagonal lines), comprising an undeveloped lot on Armstrong Way, has been excluded from the ENPSP.

Specific engagement with Traditional Owners in preparing/informing the ENPSP, has included the following:

- + Three workshops with Nyiyaparli and Martu community members. These workshops each had a different focus and were conducted at key stages of the East Newman Master Plan project, which has informed the ENPSP. The first workshop, to inform the development of the project scope, was conducted with Martumili artists. The second workshop, to further understand areas of East Newman that should be the focus for key initiatives, included a site visit with Nyiyaparli and Martu Elders, the KJ Martu Leadership Team and Martumili artists. The third workshop with Nyiyaparli and Martu Elders and leaders was conducted to determine the priority actions and processes for the next stages of the project. A total of 34 Martu and four Nyiyaparli individuals participated in these workshops, with the majority of participants returning to two or three of these sessions
- + A ENPSP workshop with KNAC and JYAC administration and management, which included six Nyiyaparli and two Martu Elders. The purpose of the workshop was to provide an update on, gain feedback on East Newman revitalisation planning and discuss the PSP. The workshop confirmed the importance on culture and country and the need for the PSP to provide outcomes for families through improved access to quality housing, more housing to support intergenerational living, short stay accommodation for patients undergoing medical treatment, youth spaces and accommodation, community facilities, parks and services.
- + A meeting to brief KNAC and JYAC administration and members of the ENPSP design progress, the main initiatives and priorities. This meeting was attended by three Nyiyaparli and two Martu Elders and confirmed the ENPSP design reflected the intent of consultation undertaken with Nyiyaparli and Martu to date.



Legend

- KNAC RNTBC Area
- Karika Land Enterprises Pty Ltd
- East Newman Structure Plan

0 50 100 150 m

Projection: MGA Zone 50
Datum: GDA2000

Karika
Community, built at its core

Job Ref:
Produced at 10:07 AM ON September 27, 2022

The Karika Nyiyapali Aboriginal Corporation does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequences which may arise from relying on any information depicted. Roads and tracks may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.
Claim boundaries: National Native Title Tribunal, September, 2022.
Raster Digital Maps: © Commonwealth of Australia (Geoscience Australia) 2008.
SLIP Imagery, Cadastre and Tenure: © Western Australian Land Information Authority (Landgate) (September, 2022)

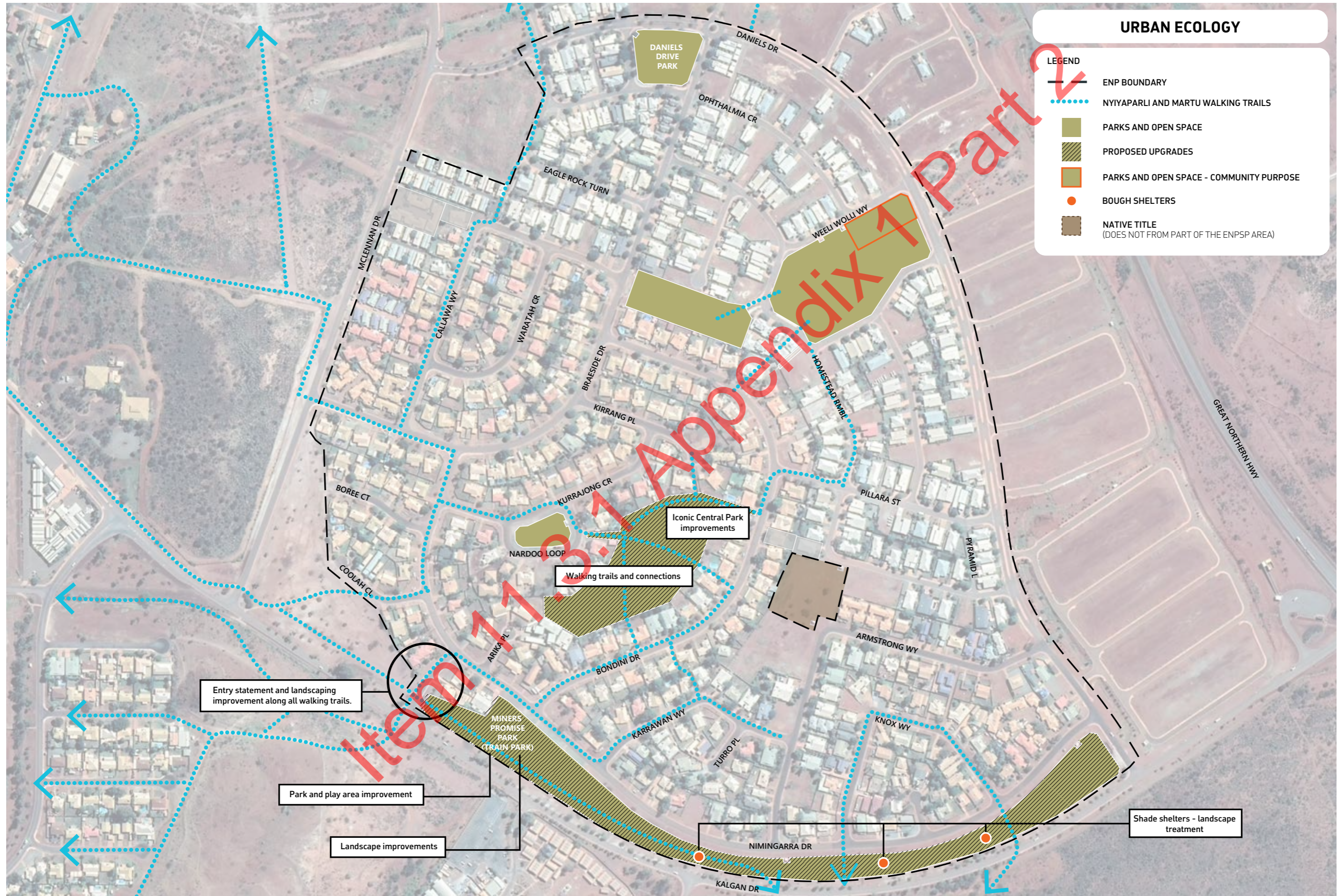
4.1.4 ENERGY AND CLIMATE CHANGE

The impacts of climate change are proposed to be mitigated through the landscape design precinct and built form response in the ENPSP area. measures include:

- + Increased landscaping in the public realm and focus on the creation of an urban tree canopy that provides shade to key public spaces and pedestrian connections
- + Increased landscaping requirements for residential development
- + Climate responsive design of housing such as shading and orientation requirements to help reduce running costs

Further information regarding the proposed built form design initiatives is provided in **Section 4.6.3**.

P2 - Figure 19: East Newman Native Title



P2 - Figure 20: ENPSP Urban Ecology

4.2 URBAN STRUCTURE

02.1 To ensure the pattern of blocks, streets, buildings and open space responds and contributes to a distinct, legible precinct character.

02.2 To promote an urban structure that supports accessibility and connectivity within and outside the precinct.

02.4 To ensure an adaptable urban structure that can respond to and facilitate change within a precinct.

02.3 To ensure the urban structure supports the built form, public realm and activity intended for the precinct.

RESPONSE TO CONTEXT

NYIYAPARLI AND MARTU ASPIRATIONS

Specific aspirations of Nyiyaparli and Martu in this context is to:

- + Provide culturally responsive walking trails that connect up community facilities in the precinct

It is the intention of Nyiyaparli and Martu to hold a housing summit in the first quarter of 2023 to initiate discussions with the major landholders in East Newman, including BHP and DoC, to progress this.

DESIGN CONSIDERATIONS

As described in **Section 1.4** key design considerations for **Design Element 2: Urban Structure** can be summarised as follows:

- + Formalise through-block connections to improve pedestrian legibility in the precinct, including the creation of new PAWs where possible.
- + Frontages of future residential development onto parks to be enhanced to improve amenity for residents.
- + Widening existing and creating additional PAWs can increase permeability to parks and open spaces, whilst increasing safety through better designs.
- + Potential for consolidation and amalgamation of residential lots in specific locations where an increase in yield and density is considered appropriate.
- + Ensuring the views toward East Newman are more attractive and provide a sense of entry, presenting visitors with a local housing perspective that is reflective of the character of the place.

DESIRED OUTCOMES

Lot and street block sizes respond to context, support active transport, and can accommodate a variety of land uses and building types.

- + Urban structure to allow for increased pedestrian connectivity in throughout the precinct
- + Consolidation and amalgamation of lots to provide opportunities for increased residential yield in accordance with the current density coding and improved built form outcomes
- + New development to consider flexibility and adaptability to accommodate future land use change
- + Urban structure supports development fronting onto streets and public open space, and provides a sense of entry to the precinct.

4.2.1 URBAN STRUCTURE APPROACH

P2 - Figure 21 articulates potential areas of improvement in planning and built form through a long-term response. This includes both improvements to existing housing and the approach for future development in the area. Leveraging the BHP owned lots identified on **P2 - Figure 9**, as well as those lots that can deliver a park or external aspect, will collectively deliver an improved outcome for East Newman. Widening existing and creating additional PAWs can increase permeability through to parks and open spaces with an increase in safety.

As the long-term response is largely proposing areas for redevelopment over refurbishment, additional detail regarding residential design is provided in **Section 4.6**.

The long-term response also demonstrates how the Nyiyaparli and Martu trails can inform several improvements in public realm, i.e. footpaths, PAW, POS, and road design, and informs the Neighbourhood Centre location. Furthermore, as shown in **P2 - Figure 21**, a cultural corridor is proposed, which could convey the story of Nyiyaparli and Martu people in Newman.

4.2.2 CONNECTIONS

This report considers the existing connections to surrounding land, development and facilities within a walkable catchment from East Newman, which, as noted in the opportunities and constraints report, is largely disconnected from the majority of Newman. This disconnection results in the need to strengthen, formalise and solidify the existing links for the benefit of residents.

Recent engagement and on-site inspections have determined the below connections as integral for consideration of the future of East Newman, for both its current and future residents. These include:

- + Martumili;
- + Newman Town Centre;
- + Residential housing to the south-west of East Newman;
- + South Newman Primary School;
- + Newman Senior High School;
- + Goanna Oval, Capricorn Oval and Newman Recreation Centre East Pilbara Shire;
- + Parnpajinya Community.

The approach taken in considering each connection was to review the current linkage, provide comment on its existing suitability and to propose a low intervention and high intervention strategy - each with smaller built form, infrastructure and landscaping approaches.

4.2.3 FRONTAGE ONTO PARKS

The intent is to enable reconsideration of the way that the frontage of future developed private residential lots onto parks can improve the amenity to the landowner/resident. In the long-term response, redevelopment of the residential lots is strongly encouraged rather than the refurbishment approach presented previously.

This redevelopment may include the potential for an increase in yield on lots, better considered setbacks and frontages. It also encompasses housing types that encourages full utilisation of the park frontages in terms of both access and landscape outcome.

4.2.4 SENSE OF ENTRY

This approach reconsiders the sense of entry that is in keeping with the previous short-medium term response, yet reflects a redevelopment of the residential lots rather than the refurbishment approach presented in the other responses.

The long-term response reconsiders the interface of private residential lots externally. Improvements to landscaping and greater attention to the external aspect of lots, especially at the six entry points, are critical.

These entry points relate to enhancing the edge condition of existing swales, pedestrian corridors, and underutilised open space in line with the landscaping strategy.

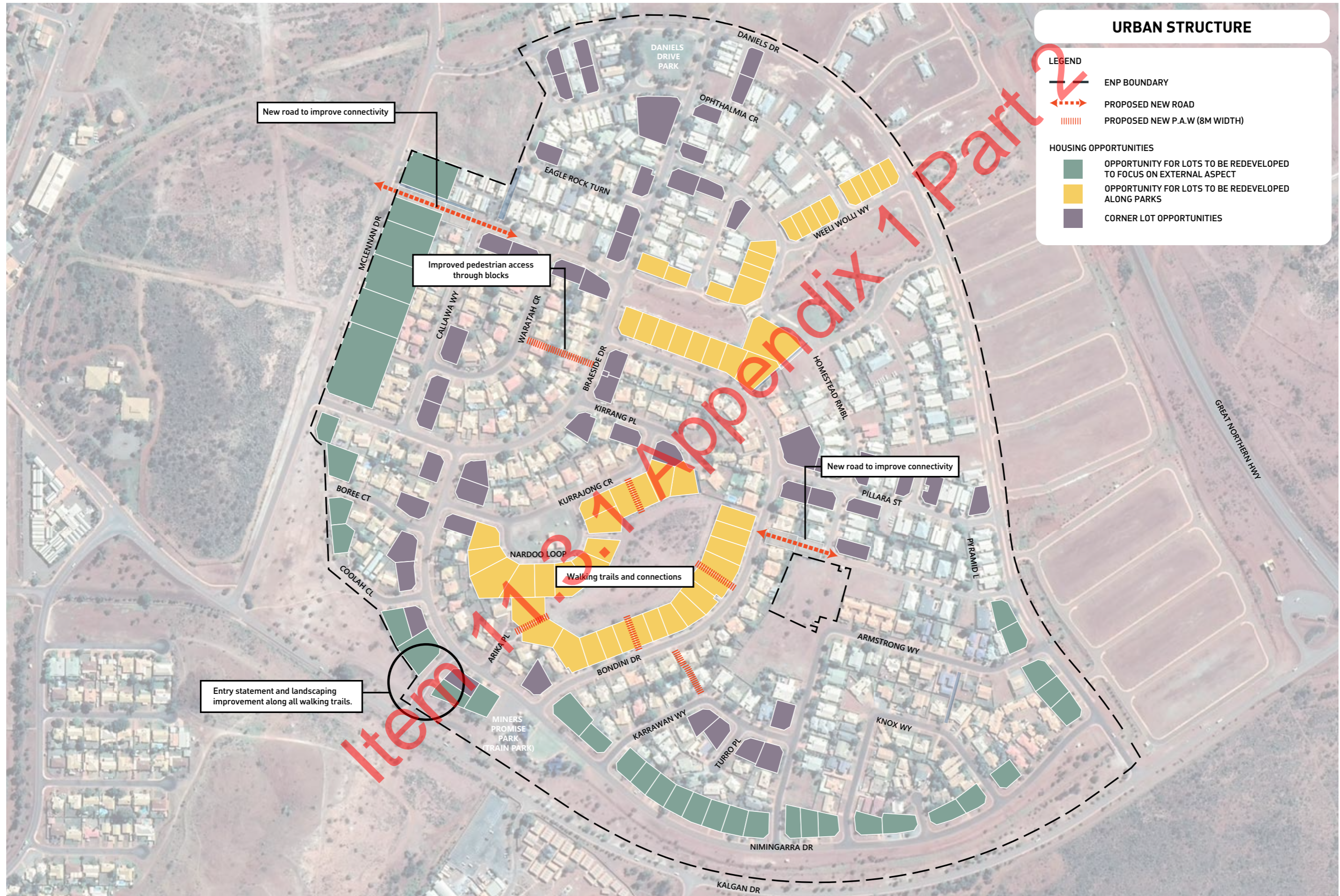
Ensuring the views toward East Newman are more attractive and present visitors with a local housing perspective that is reflective of the character of the place.

4.2.5 CONSOLIDATION OF LOTS

The long-term response proposes the potential for amalgamation of residential lots in specific locations where an increase in yield and density is appropriate. These locations are highlighted in **P2 - Figure 21** and are generally on:

- + Existing corner lots enabling dual access from major and secondary streets;
- + Lots fronting open space or public accessways where amalgamation can provide housing fronting multiple frontages i.e. parks, road reserve, PAW, or wider and more appropriate PAWs
- + Existing strata lots;
- + Lots fronting the edges of East Newman; and
- + Majority ownership by BHP and DoC where lots could be consolidated to provide multi-generational housing.

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P2 - Figure 21: ENPSP Urban Structure

4.3 PUBLIC REALM

03.1 To ensure the public realm is designed to promote community health and wellbeing.

03.2 To enable local character and identity to be expressed in public realm design to enhance sense of place.

03.3 To ensure that key environmental attributes are protected and enhanced within the public realm.

03.4 To ensure the public realm is designed to be inclusive, safe and accessible for different users and people of all ages and abilities.

03.5 To ensure public realm design is integrated with the built form, movement network and landscape of the precinct.

RESPONSE TO CONTEXT

NYIYAPARLI AND MARTU ASPIRATIONS

Specific aspirations of Nyiyaparli and Martu in this context is to:

- + Provide areas of shade for gathering
- + Open space provision for cultural purposes
- + The cultural significance of Newman being reflected in the central POS
- + Upgrades in streetscapes

It is the intention of Nyiyaparli and Martu to invite SoEP, BHP and other stakeholders to a public realm workshop in 2023 to initiate discussions, to progress the above.

DESIGN CONSIDERATIONS

As described in **Section 1.4** key design considerations for **Design Element 3: Public Realm** can be summarised as follows:

- + Upgrades to existing outdoor spaces, parks, etc. to enable culturally sensitive well-designed spaces that can be used throughout the year.
- + There is also an opportunity to revitalise these spaces to enhance the ability to connect with Country and to better align with Nyiyaparli and Martu uses of public open space.
- + There is also potential for consolidation of open spaces currently provided, with opportunities for future development or enhancements to occur.
- + Public open space strategy to define parks which have a clear identity, character, and use where the spaces provided enable a number of activities to co-exist in a complementary way.
- + There is also an opportunity to revitalise these spaces to enhance the ability to connect with Country and to better align with Nyiyaparli and Martu uses of public open space.

- + There is also potential for consolidation of open spaces currently provided, with opportunities for future development or enhancements to occur.
- + Improve the comfort of Nyiyaparli and Martu walking trails through improving public realm amenity and increasing tree canopy and shade coverage. Provision of resting points along key connections on open spaces.
- + Public realm design based on CPTED principles and focused on houses fronting onto open spaces and abutting public access ways.

DESIRED OUTCOMES

Upgrades to public open space and parks, and improve connections throughout the area, including:

- + Improvements to parks and public spaces such as central park and 'Train Park' including play areas and bough shelters to provide shade
- + Upgrades to streets, ensuring safety and comfort through landscaping and increased tree canopy
- + New road and pedestrian connections to improve access
- + Planning and design of public areas and location of community facilities focused on key Nyiyaparli and Martu walking trails

The following principles will be used to guide public realm upgrades:

- + Connection to community
- + Shade
- + Connection to the street
- + Temperature reduction
- + Usable parks and open space
- + Optimum use of outdoor spaces

4.3.1 POS NETWORK

There are currently a few well established parks and open spaces within the ENPSP area, these are summarised in **P2 - Table 7** and on **P2 - Figure 28**.

P2 - Table 7: POS Types and Function

TYPE	SIZE	FUNCTION	EXISTING / PROPOSED POS
LOCAL	0.4Ha - 1Ha	Passive Recreation	Nardoo Loop (0.21 ha)
		Active Sport	Miner's Promise Park (0.34 ha)
		Nature	Daniels Drive Park (0.48 ha)
			Braeside Way (0.71 ha)
			Local Park Total = 1.74
NEIGHBOURHOOD	1Ha - 5Ha	Passive Recreation	Homestead Ramble / Weeli Wollli Way (1.63 ha)
		Active Sport	West of Bondini Drive (1.87 ha)
		Nature	
			Neighbourhood Park Total = 3.5
TOTAL USEABLE POS			5.24 ha
RESERVES AND OTHER			Reserves Total = 3 ha
Typically includes nature reserve and landscaping adjacent major roads.			
TOTAL POS			8.24 ha

As summarised above, the total POS provision includes 8.24 ha or 11.2% of the ENPSP area, of this 5.24 ha has the potential to be useable POS for a range of passive and informal recreation opportunities.

A more detailed summary of each POS area, including recommendations for upgrades and activation is provided below and on **P2 - Figure 28**. The primary approach is to ensure that all open spaces both active and passive are provided with upgrades to support greater activation through frequent usage and patronage by residents in the ENPSP area.

4.3.2 POS UPGRADES

As part of the Home in East Newman Master Plan, a Landscape Strategy was prepared (**Appendix 7**). This Landscape Strategy has guided the recommendations and proposed POS upgrades within the ENPSP, however only certain aspects have been included for implementation. Future reviews may address other components of the Strategy.

PROPOSED POS UPGRADES

MINER'S PROMISE PARK

Fenced play area with a picnic facilities. There is also a parking area on the western side of the park and has little shade provided for the parking area.

RECOMMENDATIONS

- + Increase shade and amenity through trees and vegetation.
- + Swale to be vegetated.
- + Provide sufficient shade trees for parking area to reduce heat radiating from the road.
- + Future multi use and sporting facility (Basketball, Volleyball, Badminton including skate park)



Miners Promise Park

CENTRAL PARK OPEN SPACE WEST OF BONDINI DRIVE

The current open space is undeveloped and comprises remnant native vegetation. There is limited passive surveillance, with all constructed dwellings backing onto the open space and separated by a solid 1.8m high fence. Given the open space is the highest point in the ENPSP area, there is the potential to celebrate the views, create a culturally sensitive space and provide connectivity of community to the country.

RECOMMENDATIONS

- + Nature play area
- + Bike track
- + Cultural corridor runs through park.
- + Telling the stories of Nyiyaparli, Martu and East Newman community.
- + Throughout improvement for more suitable access.
- + Creating into an active open space with a connection to potential visitors community and Nyiyaparli / Martu Place.



Open Space West of Bondini Drive

Item 11.31 Appendix 2

4.3.3 RESTING POINTS

The current public realm design in the ENPSP area lacks resting / shade amenity along walkways and cultural corridors. Where there are resting spaces, these have little or no shade which compromises their functionality. To improve on this situation, the landscape strategy proposes the introduction of a series of 'bough shelters'. This approach was recommended through early engagement on the East Newman Master Plan. The strategy and design parameters for these resting points is summarised below and illustrated on **P2 - Figure 28**.

Create places for Nyiyaparli and Martu to come together, have things the community are creating which have a cultural consideration.



Example of current seating area in Homestead Ramble



Bough Shelter Concept - made by local community

STRATEGY

- + Resting points located within 100m-200 radius from each other on major cultural corridors, street intersections that will provide amenity.
- + Soft and hardscape culturally inspired and telling the stories of Nyiyaparli and Martu People.
- + CPTED Principles to be applied at installation of every location.
- + Create a sense of pride and legibility through each location to have its own identity :
 - Seasonal vegetation
 - Art incorporated through paving or structure.
 - Orientate appropriately to provide suitable shade all year round.



VEGETATION

- + Proposed vegetation selected to reflect cultural use.
- + Use of creepers onto bough shelter to reduce radiant heat
- + Creepers to extend vertically to mitigate lower sun angle from direct sun beneath shelter.



MATERIALITY

- + Concrete - pre-cast footings (potential overflow from previous pour)
- + Steel corners cut to varying lengths with off the shelf connections, tees and corner junctions.
- + Perforated / wire-mesh (could be public art perforated panel).
- + Foliage -offcuts from Shire providing program collected and distributed regularly or community working Bee.
- + Incorporate focal paving by using recycled materials to create mosaic patterns incorporated in the paving.
- + Provide street furniture (i.e boulders/ rocks) at the resting points including water (drinking fountains / hose).
- + Signage in line with cultural history (along cultural corridor)



SECURITY (CPTED)

- + Low growing vegetation around bough shelter to allow natural surveillance.
- + Clear sight lines towards public realm spaces.
- + Adequate lighting on primary pedestrian routes and at bough structures.
- + Trees to have clear trunk areas to provide clear sight lines.
- + Regular and ongoing maintenance of public spaces will encourage community to use locations.



IMPLEMENTATION

- + Community to be involved in building the structures to give ownership and authenticity to the stories of the land.
- + Involving local artist to create the paving mosaics and vertical artwork or shelter horizontal shade at the locations, which includes community's contribution to give the community a sense of pride.
- + Integrate as part of kids apprenticeship program.

4.3.4 LANDSCAPE UPGRADES

As described in the background analysis, the ENPSP area does not possess any substantial environmental features such as topography, waterways and vegetation that can be incorporated into the public realm design. However, opportunities to support enhanced urban ecology outcomes were explored in the Landscape Strategy (**Appendix 7**). This has included strategies to enhance urban tree canopy and support upgrades to existing verges and swales with waterwise planting.

PLANTING WITH THE SEASONS

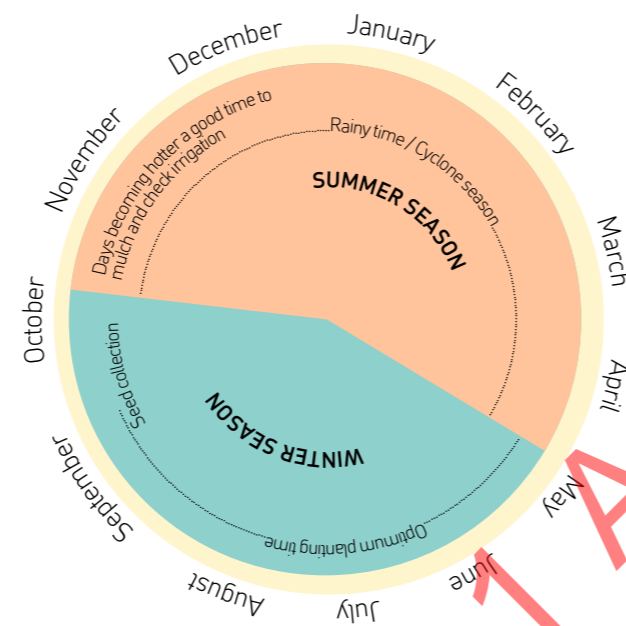
The climate in Newman can be described as two distinct seasons:

- + Hot, dry summers; and
- + Mid, cool winters.

Implementation of the proposed landscape upgrades should be underpinned by selecting native species to ensure low maintenance, sustainable, waterwise gardens and a landscape that is aesthetic and functional.

Plant species are set out in **Appendix 7**, they represent a variety of native species that will contribute to the local character of East Newman including:

- + Seasonal aesthetic value;
- + Cultural value (medicinal and edible);
- + Create desirable micro-climate; and
- + Biodiversity.



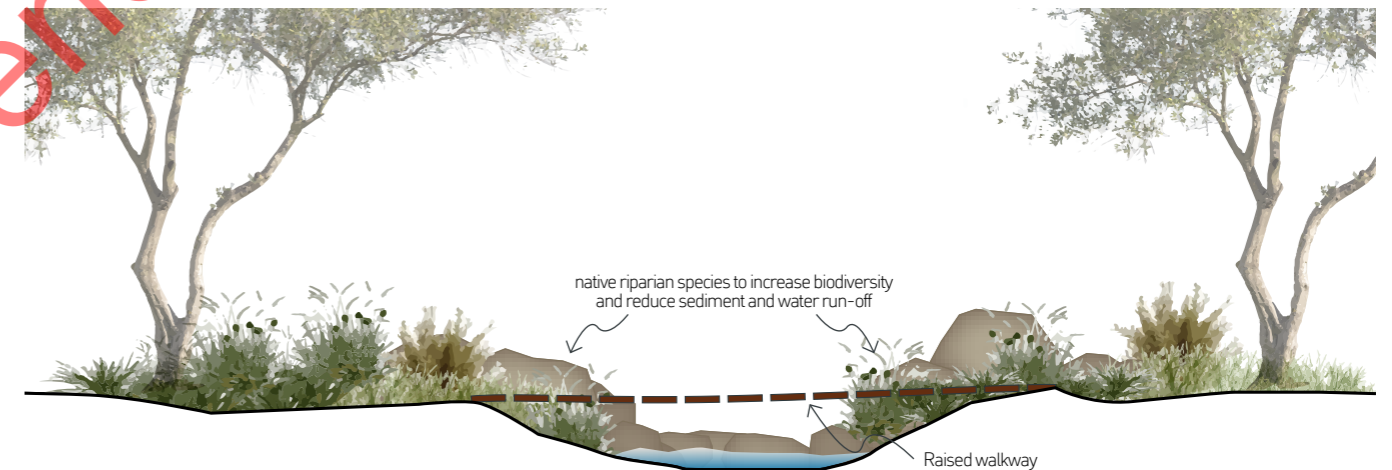
P2 - Figure 22: Seasons graph

Source: Pilbara native plants for gardens and landscapes.

UPGRADED SWALES

The ENPSP area also includes a number of existing swales, the following upgrades are proposed to enhance their overall use and ecological function:

- + Introduce sustainable native vegetation to increase biodiversity and reduce water run-off and erosion.
- + Vegetated with suitable riparian species to create a vibrant and attractive open space for community.
- + Provide appropriate cross-over for pedestrians at parks, pathways and road crossings.
- + Provide raised walkway crossings at suitable locations (where applicable) to integrate into pedestrian movement corridors with appropriate lighting for safety.
- + Swale along Nimmingarra Drive to be landscaped to provide suitable entry statement to East Newman along with the provision of suitable lighting, signage, public art etc. whilst also minimising access across Kalgan Drive.



P2 - Figure 23: Typical Section - Potential Vegetated Swale

4.3.5 LEGIBILITY

Legibility of the public realm is one area of the ENPSP area which requires major improvements. The existing streets are generally unkept, and possess limited tree canopy coverage, lack of lighting, and lack of dedicated pedestrian crossings. All of which contribute to limited safety and legibility in the public realm.

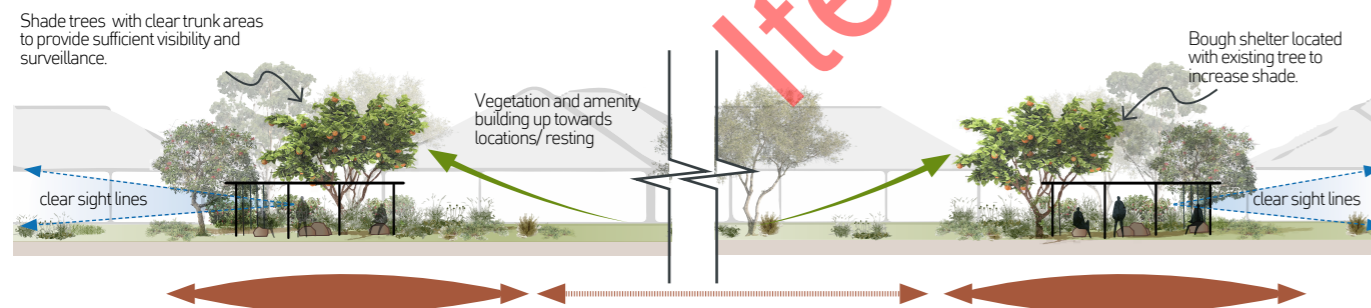
The ENPSP proposes numerous upgrades to enhance the existing situation, through defining cultural corridors or walking trails which reflect existing movement patterns. These journeys work in concert with the new PAWs (Section 4.2) and resting points (Section 4.3.3) proposed.



Existing Bondini Drive - lack of pedestrian crossing at cultural corridors



Potential crossing at Bondini Drive to create safer pedestrian environments.



P2 - Figure 24: Typical section - Journey between / towards resting points.

P2 - Figure 24 and P2 - Figure 28 illustrate the location and typical design outcomes being sought. Further details on implementation are provided below.

VEGETATION

- + Local plant species to suit local environmental and climate conditions.
- + Proposed vegetation selected to reflect cultural use.

MATERIALITY

- + Incorporate focal paving by using recycled materials to create mosaic patterns incorporated in the paving to give presence to the stories of the community.
- + Hardscape materials selected to be locally sourced.
- + Provide alternative road reserve design where the road intersect with cultural crossings.
- + Provide street furniture at the resting points.
- + Provide plaques / stories integrated along cultural corridors.

IMPLEMENTATION

- + Group tree and lower vegetation to maximise sun protection and to provide enough shade at resting points. This will create ease of maintenance.
- + Orientate bough shelters appropriate to the angle of the sun to ensure shade is provided below shelter and not on road.
- + Locate bough shelters adjacent pedestrian corridors.
- + Involve local artists to create the paving mosaics at the resting points which includes community's contribution and give the community a sense of pride to the cultural presence in east Newman.
- + Refuse bins to be easily accessible for maintenance and located close to facilities or seating furniture.
- + Lighting to be provided with drinking fountains and hose for watering plants.

SECURITY (CPTED)

- + Clear sight lines towards public realm spaces.
- + Adequate lighting on primary pedestrian routes and at bough structures.
- + Trees to have clear trunk areas to provide clear sight lines.
- + Ensure the "journey" / trails are legible through lighting and vegetation to eliminate confusion.
- + Regular and ongoing maintenance of public spaces will encourage community to use resting points.

Item 11.3.1 Appendix 2

4.3.6 SAFETY

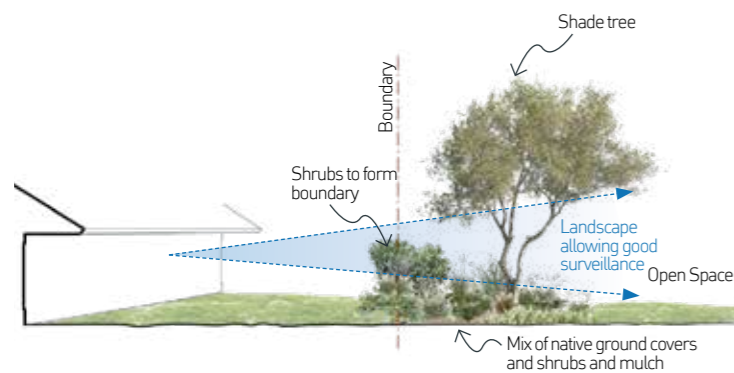
CPTED (Crime Prevention through Environmental Design) is based on the idea that peoples' behaviour within the urban environment is influenced by the design of that environment. Public realm design can affect both the likelihood of crime occurring in the area, as well as community perception about their safety and security.

HOUSE FRONTING OPEN SPACES

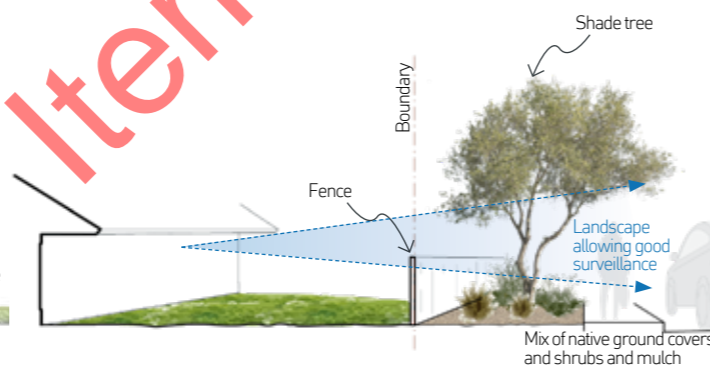
Given the primarily open and low density residential character of the ENPSP area, one of the primary ways in which safety can be improved is through an enhancement of built form / public realm interface. A well-considered relationship between built form and the adjacent public realm can bring significant co-benefits. A high-quality public realm that incorporates walkable, safe streets and useable public spaces has measurable economic, social and safety value.

P2 - Figure 25 and **P2 - Figure 26** illustrate the desired character and interface. Some of the strategies being represented include:

- + Informal mixture of predominantly native plants on the edge fronting the open space / verge to have the potential to seamlessly extend yards onto park or street boundary.
- + Ground covers to be planted at the front of the bed and shrubs at the rear or on boundary to create graded planting.
- + Larger shrubs and planting on the boundaries will form a natural fence that still allows visual permeability. Where fencing to public realm and open spaces is provided it should be permeable and low.
- + Introducing at least one shade tree per frontage provides shade and will contribute to reducing heat island effect from reflective paths and roads. Trees also allow good passive surveillance when combined with appropriate ground covers.
- + Where a property backs onto a park, pedestrian access from yard through provision of gates supported.
- + Lighting to fencing / gated entry points.



P2 - Figure 25: Typical section of house fronting open space



P2 - Figure 26: Typical section of street frontage with boundary fence

HOUSES ABUTTING PUBLIC ACCESS WAYS (PAW)

For houses abutting PAWs, improved amenity and safety through implementation of CPTED principles is desired to create safe open spaces. A typical design approach is identified on **P2 - Figure 27**, this is supported by the following strategies:

- + Include appropriate lighting along length of PAW;
- + Low growing plants to the edge of the foot path and shrubs at the boundary to maintain surveillance;
- + Shade trees with clear trunk areas to provide enough surveillance;
- + Landscape not to clutter the way - access ways to be functional, accessible and safe;
- + Use local native species that are water-wise and drought tolerant;
- + Future PAW to be wide enough to allow for vegetation strips along the pathway (8m preferred) and mitigate vehicle movement through; and
- + Ensure future development at its edges enables appropriate surveillance of the access way including considered fencing design and landscape response.
- + Provide bough shelters or meeting points and specific locations where along walkable routes, where shade is required and where there is high passive surveillance.
- + Retain clear sight lines throughout PAW.
- + Utilise permeable paving.
- + Enable access to meet AS 1428:1-2.



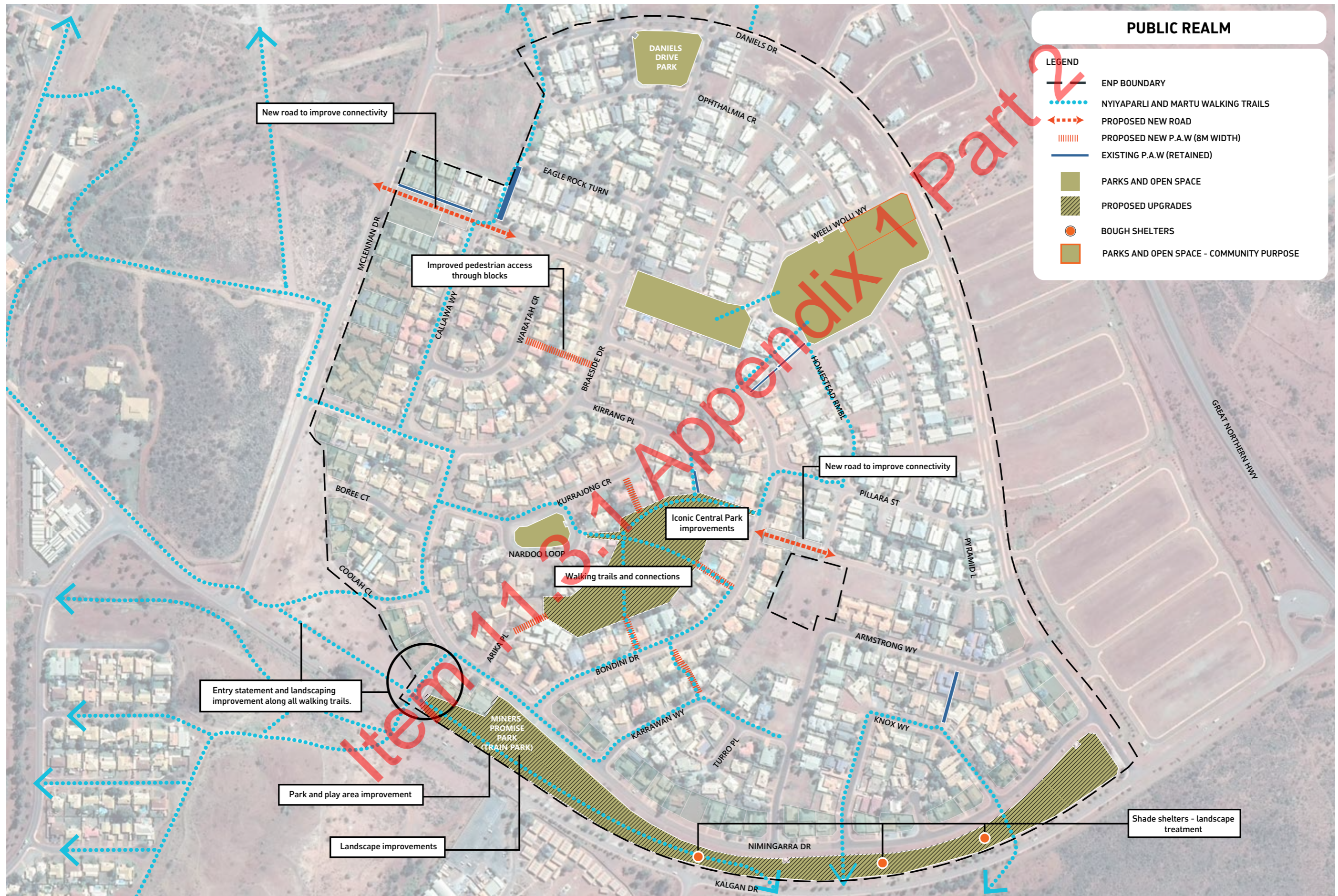
Existing Pedestrian Access Way in Callawa Way



Existing Pedestrian Access Way at the Bondini Drive Open Space



P2 - Figure 27: Typical section Pedestrian Access Ways



P2 - Figure 28: ENPSP Public Realm

4.4 MOVEMENT

04.1 To ensure the movement network supports the function and ongoing development of the precinct.

04.2 To ensure a resilient movement network that prioritises affordable, efficient, sustainable and healthy modes of transport.

04.3 To enable a range of transport choices that meet the needs of residents, workers and visitors.

04.4 To ensure the quantity, location, management and design of parking supports the vision of the precinct.

RESPONSE TO CONTEXT

NYIYAPARLI AND MARTU ASPIRATIONS

Specific aspirations of Nyiyaparli and Martu in this context is to:

- + Provide culturally responsive walking trails and resting points
- + Improve connections to community facilities

DESIGN CONSIDERATIONS

As described in **Section 1.4** key design considerations for **Design Element 4: Movement** can be summarised as follows:

- + Opportunity to provide alternative pedestrian movement corridors through the catchment zone. This approach respects the Nyiyaparli and Martu current informal walking trails, provides potential for developing land around these trails, divestment of land ownership, location for an East Newman specific Neighbourhood Centre.
- + Opportunities to provide a strategy to improve the porosity at the edges of the catchment zone with an approach to provide considered safe enjoyable pedestrian movement connections to the locations noted above that could also build on existing movement patterns and drive future development needs in specific locations.
- + Opportunities to create new roads and pedestrian access ways (PAW) to improve connectivity within the precinct for both cars and pedestrians.

DESIRED OUTCOMES

East Newman's movement network is safe, comfortable and connected

- + Walking is prioritised as the most important mode of transport.
- + Streets, public places and buildings are all designed to provide a safe, shaded, secure, stimulating and pleasant walking environment for people of all ages and abilities.
- + Pedestrian connections are design to incorporate Nyiyaparli and Martu walking trails and the requirements of the local community.
- + East Newman is connected to the Newman town centre.

4.4.1 MOVEMENT AND PLACE APPROACH

The SPP 7.2 Precinct Design Guidelines introduce the notion of 'movement and place', and the Department of Transport (in collaboration with the DPLH) are developing a 'Movement and Place' framework that can assist in the precinct planning process. While this framework is in draft it is a useful tool to apply. It will help to guide:

- + The way buildings address streets, and the land uses that can be contemplated within
- + Public works and landscape design and investment
- + Priorities for 'movement' and 'place' outcomes, which may compete in strategic locations of the structure plan area

CLASSIFICATIONS

Movement Corridors (high movement / low place) - are routes that facilitate broader connections to, through and within the precinct. Their design prioritises efficient movement of people and freight, and is characterised by broader carriageways, minimised traffic disruptions and higher speed limits. The primary example of this street environment is Kalgan Drive.

Connectors (mid movement and place) - form the precinct's internal movement network and facilitate connections to key nodes such as POS areas and the Neighbourhood Centre. These streets prioritise vehicle access, whilst providing convenient pedestrian connections. Bondini, Nimingarra, and Braeside Drives are examples illustrating this street type.

Local Streets (low movement and place)- form the majority of streets in the ENPSP area. Albeit lower in activity, they can have significant meaning to the residents, offering access to their homes and places to play and socialise.

4.4.2 PROPOSED MOVEMENT NETWORK

The proposed movement network is illustrated on **P2 - Figure 29**. It includes a number of upgrades which can be summarised as follows:

- + **Callawa Way Road Extension** - Proposed to extend westward, providing a new T-Junction intersection at McLennan Drive. This will also provide pedestrian connectivity to existing POS areas in the east of the ENPSP.
- + **Homestead Ramble Extension** - Proposed to extend westward, providing a new T-Junction intersection at Bondini Drive. This will also provide pedestrian connectivity to the proposed Neighbourhood Centre.
- + **New PAWs** - Numerous PAWs are proposed to enhance pedestrian access and permeability throughout the ENPSP area, typically to minimise walking distances between key activity nodes.

Safety of these connections is paramount, with **Section 4.3.6** and **Section 4.6.1** providing further details on how the safety of these links can be optimised through landscape and built form design respectively.

The primary focus of these new connections is to enhance east-west movement through the ENPSP area for all transport modes, particularly walking and cycling as described in **Design Element 4.5: Urban Structure** section.

TRAFFIC IMPACT

Stantec have prepared a Traffic Impact Assessment for the ENPSP area with the conclusions summarised as follows:

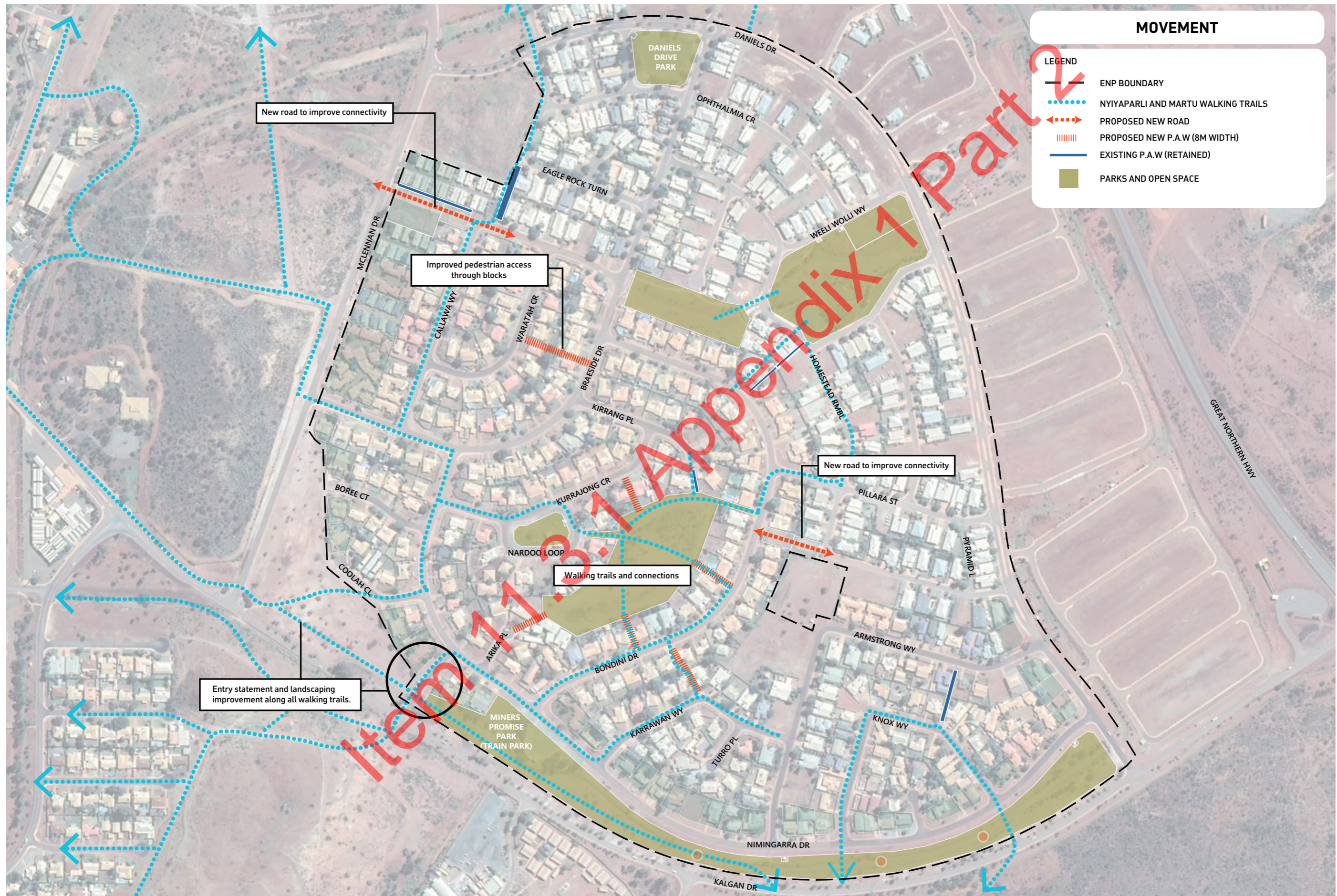
- + Key intersections will operate at an acceptable level of service for all assessment scenarios and no intersection upgrades are required
- + Overall, the traffic impacts associated with the proposed ENPSP will be minimal on the internal and external transport network.
- + The number of crashes within the surrounding area of the precinct is not considered to be significant and the likely safety impacts of the proposed development is likely to be negligible on the road network.

Further details are provided in the Traffic Impact Assessment (**Appendix 4**).

4.4.3 PARKING AND PARKING MANAGEMENT

No issues have been identified with the provision and management of parking in the ENPSP area. The following parking strategies are recommended:

- + All residential parking to be provided as per the R-Codes and located on site.
- + Parking for non-residential uses is contained in the Scheme and considered adequate for proposed development within the ENPSP.



P2 - Figure 29: ENPSP Movement

4.5 LAND USE

05.1 To ensure current and planned land uses respond to the needs and expectations of the community.

05.2 To ensure the planned land use types contribute positively to the precinct character and amenity.

05.3 To achieve a mix of land uses and activity that supports the precinct vision.

RESPONSE TO CONTEXT

NIYIPARLI AND MARTU ASPIRATIONS

Specific aspirations of Nyiyaparli and Martu relating to housing and community facilities in this context is:

- + 0% homelessness
- + 0% overcrowding
- + Home ownership support
- + Multi-generational housing precincts
- + Community care and construction trades programs through which young people can have the opportunity to learn skills and work
- + Short stay accommodation and a cultural and wellness space for those receiving medical treatment
- + A Neighbourhood Centre to accommodate a convenience store, laundry, ablution facilities, a community services triage centre, space for other enterprises
- + Youth hostel for young people living in Newman
- + A Nyiyaparli and Martu faculties entity to support a local facilities management enterprise

The ENPSP outlines the housing directions that Nyiyaparli and Martu would like to see adopted in areas of East Newman requiring upgrades.

Nyiyaparli and Martu plan to hold a housing summit in the first quarter of 2023 to initiate discussions with the major landholders to progress the housing directions and in East Newman. Key stakeholders include BHP and DoC. Concurrently with this discussion Nyiyaparli and Martu will also invite the SoEP and BHP to participate in the development of an East Newman facilities plan.

DESIGN CONSIDERATIONS

As described in **Section 1.4** key design considerations for **Design Element 5: Land Use** can be summarised as follows:

- + Provide the underlying planning framework that enables the provision of essential community services and infrastructure in line with community needs.
- + Consolidation and amalgamation of lots, and future redevelopment and refurbishment of housing.
- + Opportunity to consider potential areas within the ENPSP that may be redeveloped in accordance with the R40 density coding allocated over the site in line with current state planning policies (i.e. Design WA).

DESIRED OUTCOMES

The ENPSP provide the underlying planning framework and enabling the provision of community services and outcomes developed through engagement:

- + A place built by the community
- + Communal gathering
- + Community support
- + Stimulate the local economy
- + Communal facilities
- + Services-specific outcomes
- + Multi-generational home ownership precinct
- + Culturally sensitive housing

4.5.1 COMMUNITY INFRASTRUCTURE

PAMS SHORT STAY ACCOMMODATION AND CULTURAL AND WELLNESS SPACE

In response to the need identified in section 1.2.4 **Social Infrastructure and Services**, a site for this use has been strategically identified on five currently owned BHP lots on Arika Place. Within this site, the following is envisaged:

- + Ten, two bed short stay units
- + Two family units
- + Administration building incorporating a with meeting space, commercial kitchen, washing and ablution facilities
- + Housing for two staff members
- + A cultural and wellness space providing patients and community a meeting space, location for cultural transmission and general wellness

It is envisaged the site will be developed to provide an aesthetically pleasing sense of arrival at the southern entrance of East Newman and for the buildings to be designed and orientated to provide passive surveillance opportunities onto the Arika Place, Nimingarra Drive and Miners Promise Park.

NYIYAPARLI AND MARTU YOUTH FACILITY

In response to the need identified in section 1.2.4 **Social Infrastructure and Services**, an additional youth facility has been identified on Armstrong Way. This currently comprises two BHP lots and is strategically located opposite the EPIS facility and neighbouring the JYAC student hostel.

NEIGHBOURHOOD CENTRE

The Neighbourhood Centre location on Bondini Drive adjacent to the central park has been selected based on engagement throughout the 'Home in East Newman' project. The Neighbourhood Centre seeks to provide East Newman with a central space where the community can come together throughout the year and also form an activation point with the central park.

The Neighbourhood Centre proposal also reflects the Social Plan prepared by Creating Communities, as part of the 'Home in East Newman' project.

The Neighbourhood Centre proposal provides for the following:

- + A hub for the delivery of essential community services in East Newman, including wrap-around service and small enterprise (i.e., shop);
- + Finds a balance between a place that reflects Nyiyaparli and Martu history and culture, and is welcoming to all community members and visitors;
- + Allows for a wide range of activation initiatives within and connected to the space, i.e., adjoining open space; and
- + Is in an accessible and central location, which creates new routes and opens up underutilised open space.

4.5.2 RESIDENTIAL DENSITY

RESIDENTIAL DENSITIES

The current split coding of R15/R40 for all residential within the ENPSP area is proposed to be retained. The majority of housing is still at the R15 density, with the potential to be increased to R40 through redevelopment of housing stock.

The current criteria for achieving the R40 is set out in Local Planning Policy 8 - Residential Development Policy (LPP8) which includes the following design requirements:

- + Enhancement of the existing streetscape;
- + A high quality of built form;
- + Passive surveillance of the public realm (both streets and open space); and
- + Integration of development at the higher density code with adjoining development at the base density code

The ENPSP provides greater clarity and specific requirements to achieve quality design outcomes at the R40 density.

RESIDENTIAL YIELD

To ensure that the proposed density and population targets can be met, estimates of residential yield are provided to ensure that the land use response adequately meets the needs of the ENPSP. The long term vision for the ENPSP area includes a diversity of residential typologies including medium density single houses and grouped dwellings, with the potential for small walk-up apartments as the area grows.

The proposed residential yields have been informed by the land use and density plan (P2 - Figure 30). The residential yield analysis graded development potential based on the likelihood of each individual lot being redeveloped.

- + High potential land - Vacant residential lots
- + Medium potential land - Residential lots with a single dwelling, developed to the R15 density
- + Low potential land - Residential lots with developed strata-titled dwellings

Notes and high-level assumptions:

- + ENPSP Target (Within 10 years of the approval of the ENPSP) - Assumes 80% of high potential land and 30% medium potential land is developed / redeveloped.
- + Ultimate Target (Beyond 10 years of the approval of the ENPSP) - Assumes 100% of high potential land and 80% of medium potential land is developed / redeveloped.
- + No low potential land is developed/redeveloped.

P2 - Table 8: Residential Yield

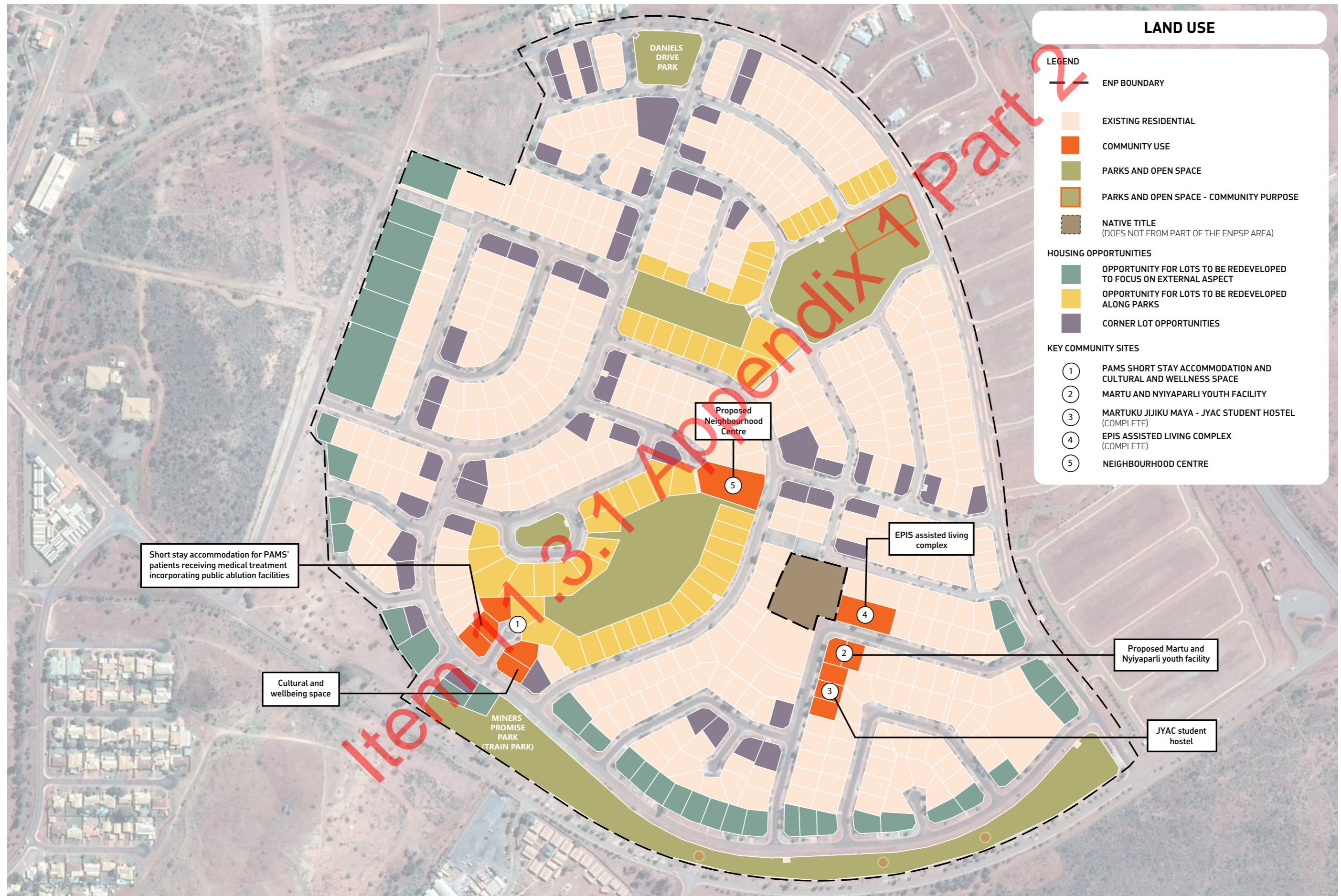
EXISTING DWELLINGS	ENPSP TARGET	ULTIMATE TARGET
623	Total net yield 271	Total net yield 568
	Total yield (existing + net) 894	Total yield (existing + net) 1,191

STAGING AND DEVELOPMENT PRIORITY

P2 - Table 9: Staging and Development Priority

PROPOSED FACILITY	LAND USE CONSIDERATIONS	PHASING
PAMS Short Stay accommodation and Cultural Wellness Space	<p>Would be considered as Community Purpose under the Regulations (Model Scheme Text).</p> <p>No clear land use available under the current LPS4, however the following could be considered:</p> <ul style="list-style-type: none"> + Institutional Building and Residential Building (D/A permissibility - listed twice in the zoning table) 	Phase 1 (2022)
Niyaparli and Martu Youth Facility	<p>Would be considered as Community Purpose under the Regulations (Model Scheme Text).</p> <p>No clear land use available under the current LPS4, however the following could be considered:</p> <ul style="list-style-type: none"> + Residential Building (D/A permissibility - listed twice in the zoning table) 	Phase 2 (2023)
Neighbourhood Centre	<p>Would be considered as Community Purpose under the Regulations (Model Scheme Text).</p> <p>No clear land use available under the current LPS4. However, any future development applications are to be assessed in accordance with the ENPSP</p>	Phase 4 (2025+)
EPIS Aged Care Facility	<p>Would be considered as Community Purpose under the Regulations (Model Scheme Text).</p> <p>No clear land use available under the current LPS4, however the following could be considered:</p> <ul style="list-style-type: none"> + Retirement Village (D permissibility) + Aged/Dependent person dwelling (D permissibility) 	Complete
Martuku Jijuku Maya - JYAC Student Hostel	<p>Would be considered as Community Purpose under the Regulations (Model Scheme Text).</p> <p>No clear land use available under the current LPS4, however the following could be considered:</p> <ul style="list-style-type: none"> + Residential Building (D/A permissibility - listed twice in the zoning table) 	Complete

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LAND USE

LEGEND

- ENP BOUNDARY
- EXISTING RESIDENTIAL
- COMMUNITY USE
- PARKS AND OPEN SPACE
- PARKS AND OPEN SPACE - COMMUNITY PURPOSE
- NATIVE TITLE
(DOES NOT FORM PART OF THE ENPSP AREA)

HOUSING OPPORTUNITIES

- OPPORTUNITY FOR LOTS TO BE REDEVELOPED TO FOCUS ON EXTERNAL ASPECT
- OPPORTUNITY FOR LOTS TO BE REDEVELOPED ALONG PARKS
- CORNER LOT OPPORTUNITIES

KEY COMMUNITY SITES

- ① PAMS SHORT STAY ACCOMMODATION AND CULTURAL AND WELLNESS SPACE
- ② MARTU AND NYIYAPARLI YOUTH FACILITY
- ③ MARTUKU JJIKU MAYA - JYAC STUDENT HOSTEL (COMPLETE)
- ④ EPIS ASSISTED LIVING COMPLEX (COMPLETE)
- ⑤ NEIGHBOURHOOD CENTRE

P2 - Figure 30: ENPSP Land Use and Density

4.6 BUILT FORM

06.1 To ensure that the built form is responsive to the purpose, context and intended character of the precinct.

06.2 To ensure building placement, scale and massing is appropriate for the intended precinct and streetscape character.

06.3 To ensure that built form design reduces energy demand across the precinct by facilitating climate-responsive design.

06.4 To ensure that built form design is responsive to the streetscape and contributes to a safe and comfortable public realm.

RESPONSE TO CONTEXT

NYIYAPARLI AND MARTU ASPIRATIONS

Specific aspirations of Nyiyaparli and Martu relating to housing in this context is:

- + 0% homelessness
- + 0% overcrowding
- + Multi-generational housing precincts
- + Culturally purpose-fit housing

RESPONSE TO CONTEXT

As described in **Section 1.4** key design considerations for **Design Element 6: Built Form** can be summarised as follows:

- + Facilitate upgrades to existing housing and develop options for redevelopment to provide for greater liveability and variety of homes including multi-generational homes, providing housing for older people in the community.
- + Provide built form controls to ensure homes are climate responsive, improving comfort for residents, connection of homes to country and minimising running and maintenance costs.
- + Opportunity for built form to better relate to the streets and parks, providing passive surveillance and building community connections in the precinct. Improving the amenity and liveability of housing
- + Identify opportunities for redevelopment of housing, focusing on corners and lots along parks leading to better connection to open space and increased safety

DESIRED OUTCOMES

Facilitate upgrades to existing housing and provide for a greater liveability and variety of homes including:

- + A multi-generational home ownership precinct, providing housing for older people in the community
- + Culturally sensitive housing
- + Opportunities for construction trade programs for young people to learn skills and a building trade.
- + Built form controls to ensure housing design is climate responsive and appropriate to community needs
- + Identifying opportunities for redevelopment of housing, focusing on corners and lots along parks leading to better connection to open space and increased safety
- + Improving the amenity and liveability of housing

4.6.1 BUILT FORM PRINCIPLES

The built form approach to the ENPSP should be appropriate to the scale, function and context of the precinct. As described in **P2 - Table 5**, the current housing stock does not reflect the needs of the East Newman community, nor does it respond well to the climate.

Pre-lodgement engagement undertaken with residents and landowners suggested a number of improvements would be required. In delivering future housing for the ENPSP area, the following design principles will ensure that housing:

1. Responds to local context and climate;
2. Is culturally appropriate;
3. Connects to and activates the street;
4. Incorporates appropriately sized outdoor spaces that are well shaded;
5. Enhances the sense of security;
6. Are low maintenance with hard wearing and robust materials;
7. Promote increased tree canopy cover through tree retention and new planting;
8. Support inclusion of ancillary dwellings; and
9. Are universally accessibly (i.e. Livable Housing Australia).

Part 1 provides a summary of the elements of the R-Codes which require varying to enable implementation of the above principles, which will ensure future housing caters more appropriately to East Newman's people and its climate.

The ENPSP promotes a diversity of built form types, which support housing choice and affordability. The range of built form types required for the area are informed by the proposed residential density approach which correlates with the desired intensity and character of the area.

4.6.2 BUILT FORM DESIGN

As described in **Section 4.2 Urban Structure** and **Section 4.5 Land Use**, the desired precinct character will be influenced primarily by built form and public realm improvements. The built form improvements are focussed on specific lot typologies which are illustrated on **P2 - Figure 31** and described below:

- + **External Aspect Lots** - This approach reconsiders the sense of entry into the ENPSP area by focussing on opportunities for redevelopment. Improvements to landscaping and greater attention to the external aspect of lots at the six entry points is critical. The focus is on enhancing the edge condition of existing swales, pedestrian corridors, and underutilised open space in line with the landscaping strategy. This will ensure that views towards the ENPSP area are more attractive and present visitors with a local housing perspective that is reflective of the character of the place.
- + **Park Lots** - The desired intent is to ensure the interface between new development and existing parks is improved to provide better amenity and safety outcomes. This may include the potential for an increase in yield on lots and better considered setbacks and frontages. It also encompasses housing types that encourages full utilisation of the park frontages in terms of both access and landscape outcome.
- + **Corner Lots** - Existing corner lots provide opportunities for improve development outcomes, be it through amalgamation or subdivision. The benefit of redeveloping corner lots is the dual access offered from residential streets.

Part 1 provides a summary of the elements of the R-Codes which require varying to enable implementation of the above design outcomes. To better illustrate these outcomes, refer to **Appendix 8** which includes a series of design tests which provide a proof of concept.

House designs were provided for the following lot typologies:

- + Typical Street Fronted Lot (20 x 35.5);
- + Typical Street Fronted Lot (23 x 35.5);
- + Park, Street and Public Accessway Fronted Lot (46.0);
- + Park, Street and Public Accessway Fronted Lot (35.5);
- + Corner Lot (21.5 x 37.5);
- + Corner Lot (21.5 x 32.2);
- + Department of Communities Corner Lot (12 Callaway Way); and
- + Potential Department of Communities Housing Approach.

Item 11.3.1 Appendix Part 2

4.6.3 CLIMATE RESPONSIVE DESIGN

OUTDOOR SHADING

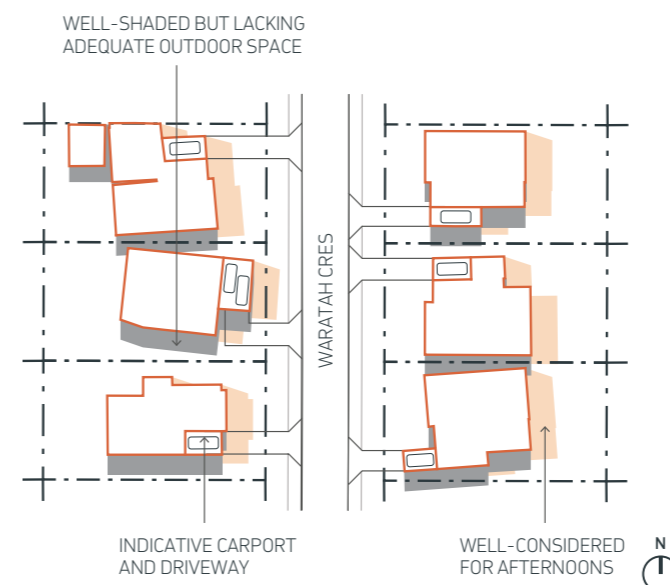
The adjacent drawings help communicate the limitations of existing development outcomes from a climate responsive perspective.

Many homes are oriented north-south, which provides well-shaded spaces to the south. However, these are located against side lot boundaries in spaces 1.5m wide, which are not connected to main internal living areas. Furthermore, during the afternoon on hotter days the full extent of the backyard of westerly lots is exposed to the sun. Easterly lots work effectively in providing shade to outdoor spaces during the late afternoon.

In east-west oriented streets, there are many shaded spaces that have not been considered when locating main outdoor living spaces in the design of the homes. These include the eastern side of homes during the afternoons, which are located against side boundaries, and the southern side of homes on northerly lots.

The controls included in **Part 1** of the ENPSP look to ensure that these patterns of development are not repeated, and that new homes are well-designed, with shaded outdoor spaces that can be used comfortably by residents.

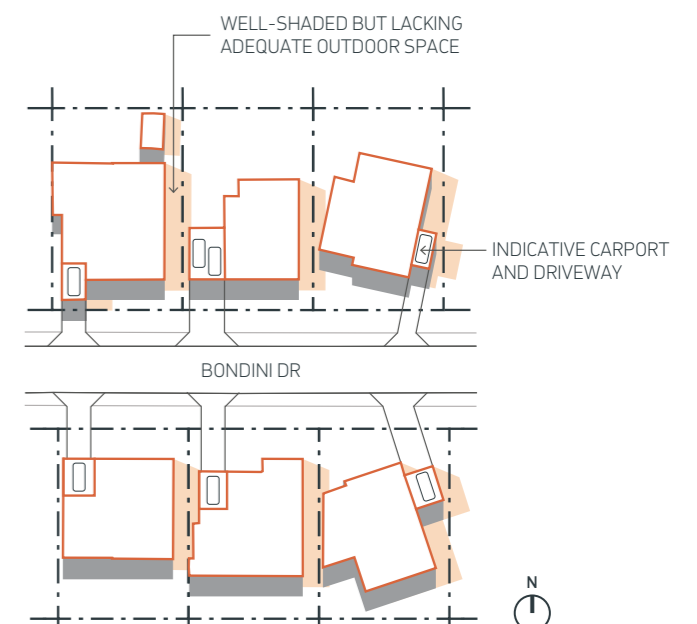
INDICATIVE NORTH-SOUTH STREETS



LEGEND

- Extent of shading at midday
- Extent of shading during the afternoon
- Outline of building envelope

INDICATIVE EAST-WEST STREETS



LEGEND

- Extent of shading at midday
- Extent of shading during the afternoon
- Outline of building envelope

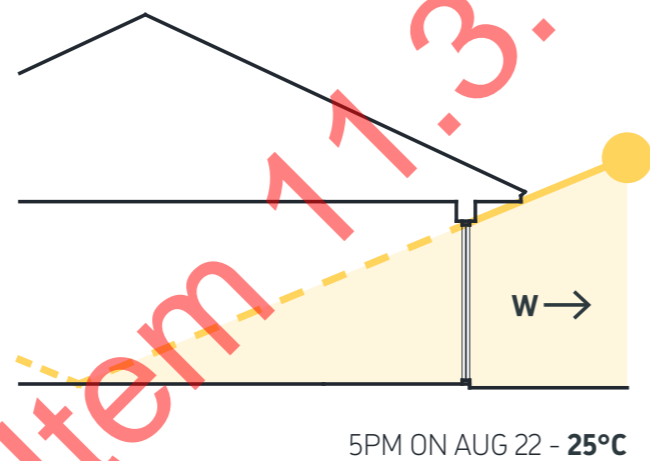
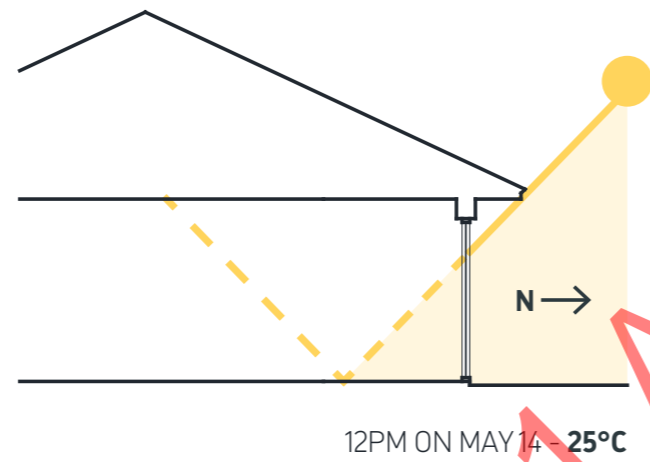
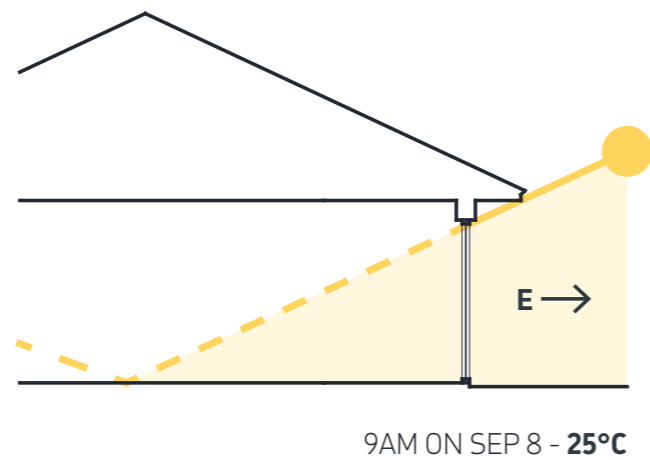
INTERNAL SHADING

These drawings depict the angles of the sun at various times throughout the day when the temperature is 25°C. This is based on a standard 600mm wide eave, which is typical for homes in East Newman.

As a result of their design, these homes rely on the use of air-conditioning to alleviate the heat build-up during hotter periods of the year.

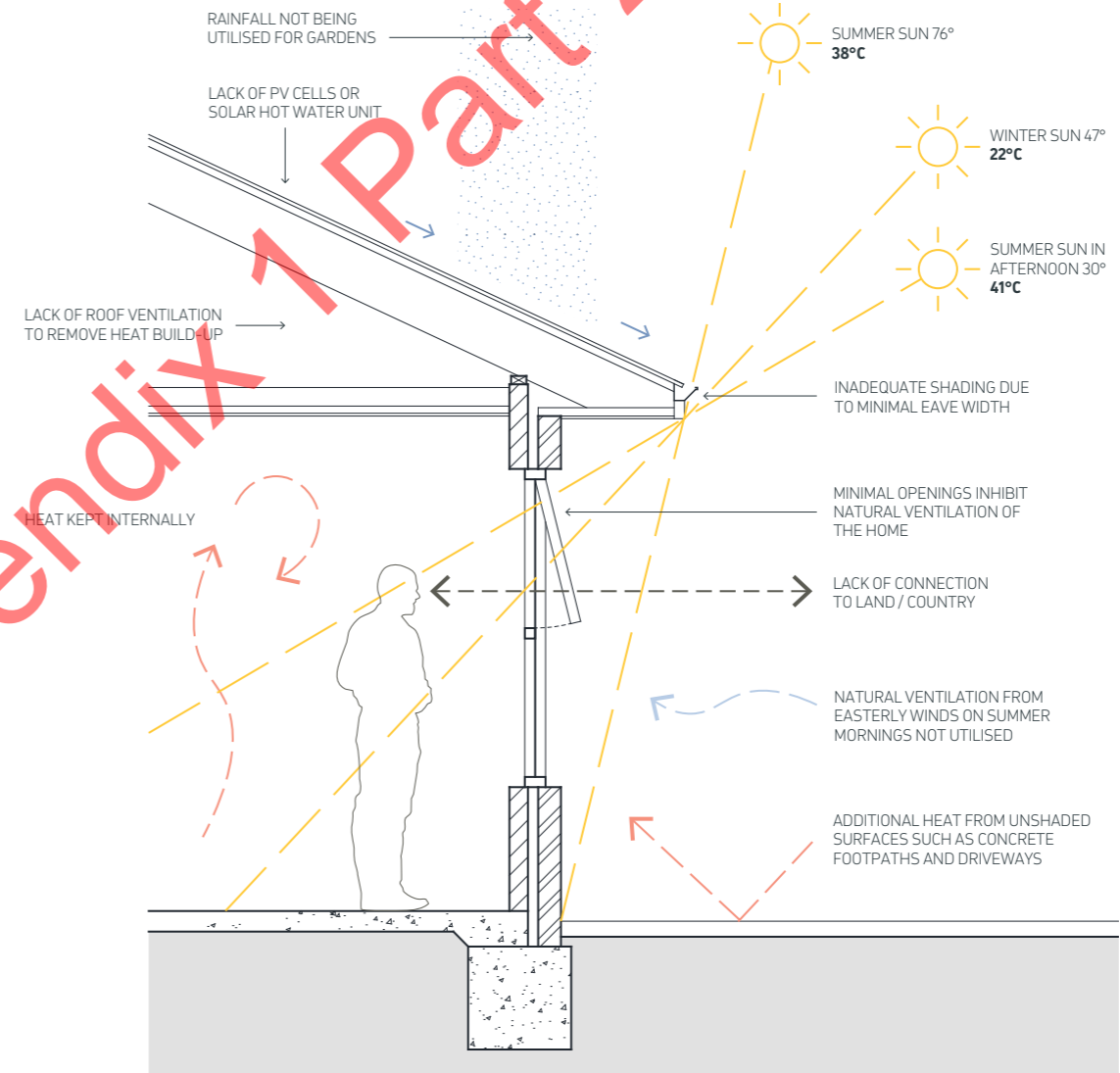
Recommendations should be considered for the provision of wider eaves and vertical shading to mitigate the heat build-up.

The controls included in **Part 1** will ensure that future housing design approaches indicate alternative methods of shading to limit heat gain.



Item 11.3.1 Appendix 1 Part 2

CLIMATE RESPONSIVE DESIGN OUTCOMES



The section above demonstrates the lack of consideration shown to the unique local climate, which has resulted in a low quality outcome for the residents.

The improvements sought through the planning controls (in **Part 1**) are:

- + Capture rainfall from roofs for utilisation in gardens;
- + Optimise solar access by providing PV cells or solar hot water units on roofs;
- + Improve roof ventilation to reduce amount of heat is trapped internally;

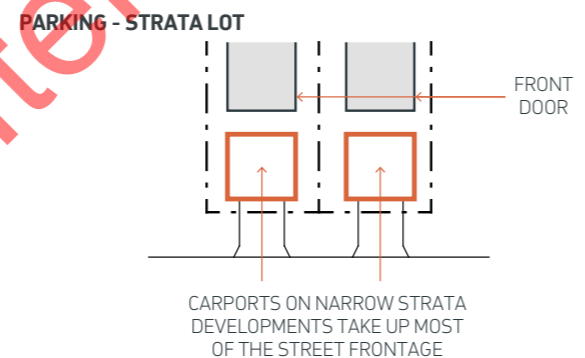
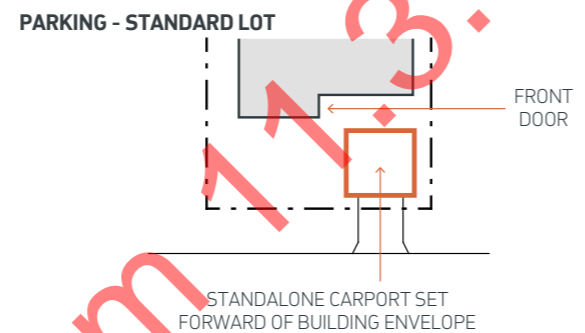
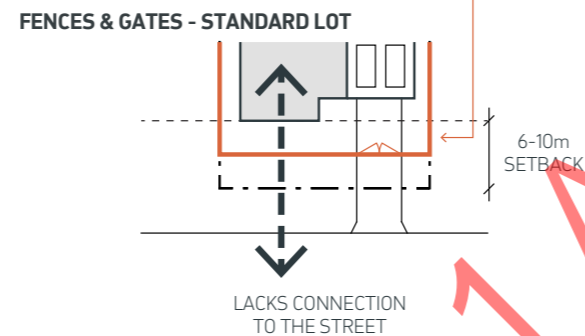
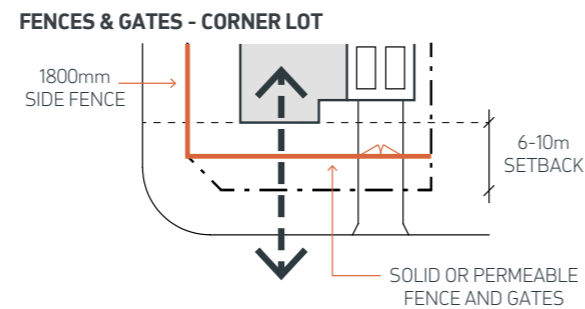
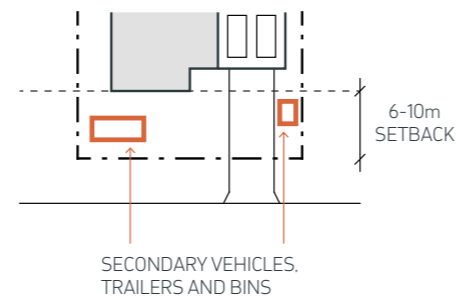
- + Provide more window openings to enhance natural ventilation, capturing easterly winds on summer mornings;
- + Improve visual connection to land / country through use of materials;
- + Improve shading by refining eave widths; and
- + Limit the amount of additional heat entering homes from unshaded surfaces such as concrete footpaths and driveways.

4.6.4 PUBLIC REALM INTERFACE

There are a variety of conditions throughout the ENPSP area in which homes interface with the public realm. Large spaces at the front of lots, created as a result of homes being well set back from the street, are utilised in several ways. Current public realm interface outcomes results in:

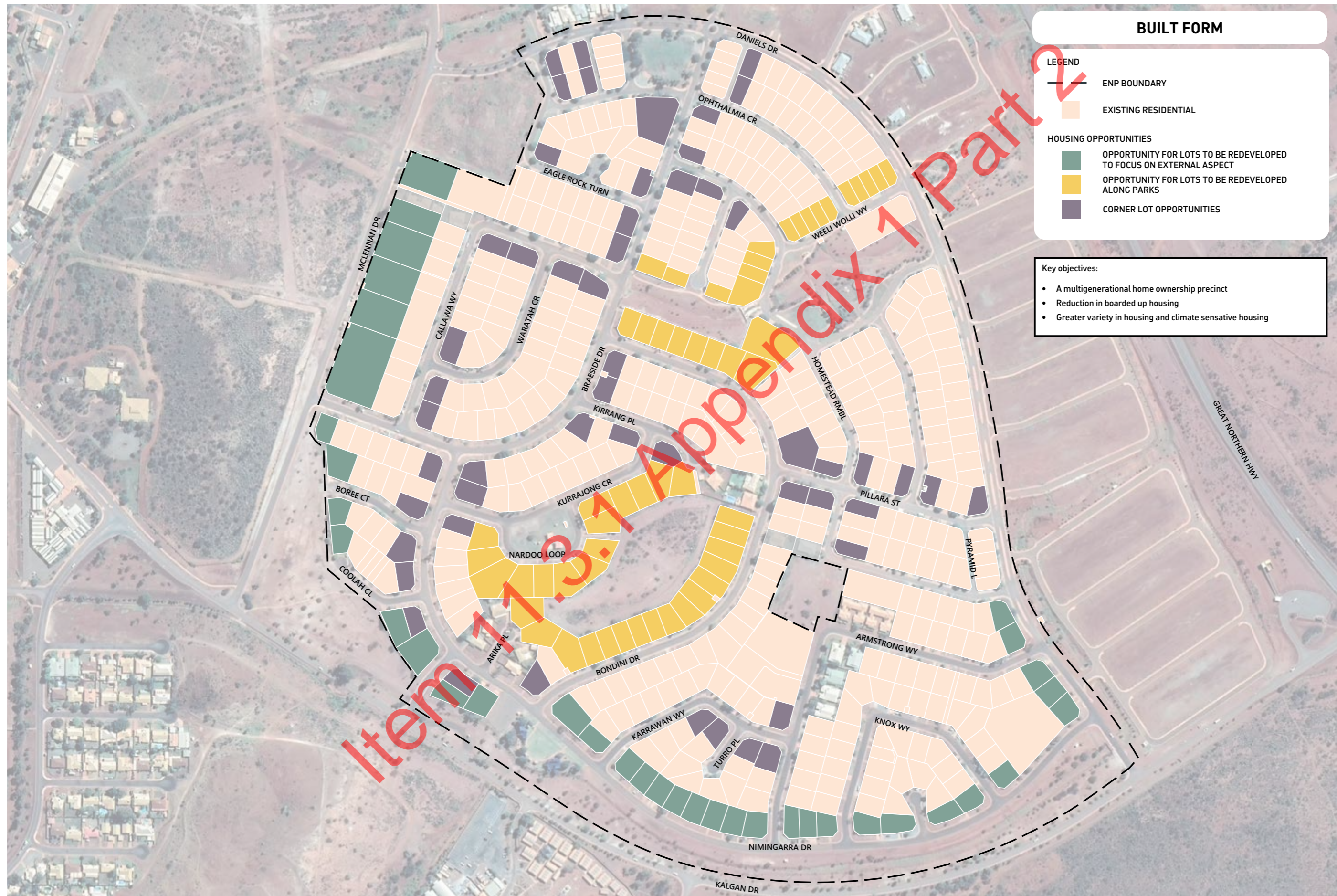
- + Parking and the location of vehicles, trailers, caravans and rubbish bins within the front setback zone is prevalent. This is due to a lack of designated area for the parking of secondary vehicles.
- + Dwellings have been provided with full-width low fencing and gates to the entire front boundary, which varies from permeable mesh to solid colorbond infill panels. Lots on corners with dual street frontages generally feature a high solid or permeable fence to the majority of the secondary street frontage, resulting in a lack of connection between the home and the street, that creates a harsh edge.
- + The majority of lot sizes are 22m wide. Where lots are either developed as a strata site (requiring more homes on the lots and narrower dwelling frontages) or where carports are not integrated into the house design, the carport is set forward of the dwelling and is the dominant element of the home as seen from the street.
- + Dwellings consist of double or single driveways finished in concrete (matching the footpath network) or interlock brick paving. This is largely uncovered and results in a heat island effect to each lot, leading to a hotter environment. Where carports are the dominant feature across the streetscape, the driveways run the width of the lot and mitigate the potential for verge landscaping. This results in a driveway-centric public realm.

The controls included in **Part 1** will ensure that future housing designs enhance street interface outcomes.



Item 13.1 Appendix 1 Part 2

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P2 - Figure 31: ENPSP Built Form

4.7 APPENDICES

TECHNICAL APPENDICES

- + Appendix 1 - Water Management Strategy
- + Appendix 2 - Environmental Report
- + Appendix 3 - Bushfire Management Plan
- + Appendix 4 - Transport Impact Assessment
- + Appendix 5 - Home in East Newman - Development Responses
- + Appendix 6 - Home in East Newman - Vision and Principles
- + Appendix 7 - Home in East Newman - Landscape Strategy
- + Appendix 8 - Home in East Newman - Housing Approaches

ABBREVIATIONS

ABS	Australian Bureau of Statistics
AEP	Annual Exceedance Probability
BHP	BHP Group Limited
BMP	Bushfire Management Plan
CPTED	Crime Prevention Through Environmental Design
DoC	Department of Communities
DPLH	Department of Planning Lands and Heritage
ENPSP	East Newman Precinct Structure Plan
JYAC	Jamukurnu Yapalikurnu Aboriginal Corporation
KNAC	Karlka Nyiyaparli Aboriginal Corporation
LPP	Local Planning Policy
LPS	Local Planning Strategy
LPS4	Shire of East Pilbara Local Planning Scheme No.4
PAMS	Puntukurnu Aboriginal Medical Service
PAW	Public Access Way
POS	Public Open Space
REIWA	Real Estate Institute of Western Australia
SoEP	Shire of East Pilbara
SPP	State Planning Policy
WAPC	Western Australian Planning Commission
WMS	Water Management Strategy
WSUD	Water Sensitive Urban Design

DATA QUALITY STATEMENT

There are several aspects of the data collection and interpretation for this document that may impact the reliability of the data:

Government data is reported for Local Government Areas, Regions (East Pilbara) and at State level, and generally not for smaller communities (e.g., suburbs) that are part of bigger communities. Hence a lot of the data that would inform the social and economic wellbeing of East Newman is only available for the larger communities of Newman and the region of East Pilbara. In some cases it is possible to derive statistics for East Newman by combining three Statistical Area Level 1 areas (51002126809, 51002126806 & 51002126816), however it is not possible to derive statistics on a more granular level through this method as areas within East Newman which have higher levels of disadvantage (i.e. certain streets with higher levels of social housing) are combined with areas that have lower levels of disadvantage (i.e. areas with higher levels of employer provided housing and individuals with high incomes).

Some statistical measures from the 2021 Census are yet to be released. Where relevant, 2016 data has been used to augment this analysis.

Stakeholders have reported that many East Newman residents are transient, often moving between several locations during the year. This means that available Government data may not be accurate for the East Newman community at any point in time.

The ABS makes minor random adjustments to the data to ensure confidentiality of those who have participated. This technique, known as perturbation, is applied to all counts, including totals, to prevent any identifiable data about individuals being released. For the most part, this has little effect on the reliability of the data (as it is applied consistently across all counts). When calculating proportions, percentages or ratios from cross-classified or small area tables, the random adjustments introduced by perturbation can be ignored except when very small counts are involved, in which case the impact on percentages and ratios can be relatively significant. The ABS recommends that no reliance should be placed on small counts of less than 20 individuals. Much of the data presented in this report relies on very small counts of individuals, and as such the statistics and insights drawn from those counts should be considered indicative only.

The ABS is forthright in detailing the difficulties involved in counting Aboriginal and Torres Strait Islander people, particularly in remote and regional areas. They hold an independent survey following each Census (called the Census Post Enumeration Survey) which attempts to estimate the number of people that should have been counted in the Census, but were not (the 'undercount'). This is broken up by demographic, and is particularly important in the case of the Aboriginal and Torres Strait Islander population. The 2021 estimate is that 983,257 Aboriginal and Torres Strait Islander peoples should have been counted in the Census, compared with 812,505 persons who were counted. This is equivalent to a net undercount of 170,752 persons, or a rate of 17.4%. The extent of this undercount, and the ongoing challenges acknowledged by the ABS in relation to the enumeration of the Aboriginal and Torres Strait Islander population, means that statistics relating to this group should be considered carefully. It is likely that most statistics relating to Aboriginal and Torres Strait Islander people, especially in remote and regional areas, are likely not representative of the entire population.

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Item 11.3.1 Appendix 1 Part 2