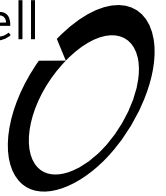


Appendix F – Urban Design Assessment prepared by Boffa Miskell



Boffa Miskell



Lockerbie Estate Subdivision: Private Plan Change

Urban Design Assessment

Prepared for Lockerbie Estate Limited

FINAL

25 August 2021



Bibliographic reference for citation:

Boffa Miskell Limited 2021. *Lockerbie Estate Subdivision: Private Plan Change: Urban Design Assessment*. Report prepared by Boffa Miskell Limited for Lockerbie Estate Limited.

Prepared by:

Morné Hugo
Associate Partner / Landscape Architect & Urban Designer
Boffa Miskell Limited



Reviewed by:

Bryan Sanson
Principal / Landscape Architect
Boffa Miskell Limited



Status: FINAL

Revision / version: 1

Issue date: 25 August 2021

Use and Reliance

This report has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use for the purpose for which it is intended in accordance with the agreed scope of work. Boffa Miskell does not accept any liability or responsibility in relation to the use of this report contrary to the above, or to any person other than the Client. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate, without independent verification, unless otherwise indicated. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

Template revision: 20190517 0000

File ref: BM19694_Lockerbie_UD_Statement_PPC_20210811_Draft.docx

Template ref: Urban Design Assessment.dotx

CONTENTS

1.0	Introduction and Background	1
2.0	Site Location	3
3.0	Site Context and Character	4
4.0	The Proposal	5
5.0	Urban Design Analysis	6
	Site Context	6
	Natural Environment	8
	Site Layout / Road Hierarchy & Network	8
	Density / Intensity	8
	Streetscape and Outlook Provisions	9
	Housing Typologies	10
	Building Design, Appearance & Public Realm Interface	19
6.0	Summary and Conclusion	20
7.0	Glossary of Terms	22

Figures

Figure 1: PPC Development Area Plan.....	2
Figure 2 Site Location	3
Figure 3 Proposed PPC Site (red) in relation to the existing Lockerbie Estate development (blue) and the Morrinsville Township.....	4
Figure 4 PPC Area Open Space and Connectivity Concept Plan	6
Figure 6 Housing Typology T1.....	11
Figure 7 Housing Typology T2.....	12
Figure 8 Housing Typology T3.....	13
Figure 7 Housing Typology T4.....	14
Figure 9 Housing Typology T5 (Note: 5-unit option show for illustrative purposes – maximum 6 units permitted)	15
Figure 10 Lockerbie Estate Design Guidelines Document (Boffa Miskell Limited 2020).....	19
Figure 11 Excerpt from Design Guide Document	20

Appendices

- Appendix A: Lockerbie Estate Limited PPC Development Plan Area
- Appendix B: Housing Typology Diagrams
- Appendix C: Development Standards Table

1.0 Introduction and Background

Boffa Miskell Limited (BML) has been engaged by Lockerbie Estate Limited to undertake an urban design review for a proposed Private Plan Change (PPC) of a 77.8 ha area of land to the north west of Morrinsville (otherwise referred to as 'The Site' in this report). The Site is zoned *Rural with a Future Residential Policy Area (FRPA)* overlay in the Matamata Piako District Plan.

This urban design assessment has been prepared as part of the documentation for a PPC by Lockerbie Estate Limited. This assessment has been updated to incorporate feedback from Urbanism + as part of their review of the PPCP.

The PPC proposes to rezone the site to a residential zone and medium density residential zone. The overall design will include a mixture of larger residential sections, medium density sections and provisions that will enable two storey duplex or terraced housing. A proposed open/green space precinct with an integrated walking and cycling network is also proposed through the site.

The plan change area is an extension of the existing Lockerbie Estate development to the south of the site. The features of the existing development that are relevant in the plan change assessment include:

- the locations of a large QEII protected park and linkage reserve that have been designed to give open space connectivity into the plan change area
- Council funded playground
- Café and Childcare consented within a neighbourhood centre
- A proposed 3,500sqm retail site
- 8HA retirement village and proposed aged care facility
- A mixture of housing density that has trended towards greater utilisation of medium density style product through the wide use of the Council infill provisions.

This report is intended to focus on the urban design aspects relating to the PPC area of the development, to ensure that the proposed Development Area Plan, that includes the plan change zoning/ precincts (see *Figure 1 below and Appendix A attached*), retains the overall design intent and outcomes of the development, which is to remain consistent over the entire project scheme.

The report also considers whether the proposed zoning and development standards are suitable for the site both in terms of its site-specific context and its location relative to Morrinsville township.

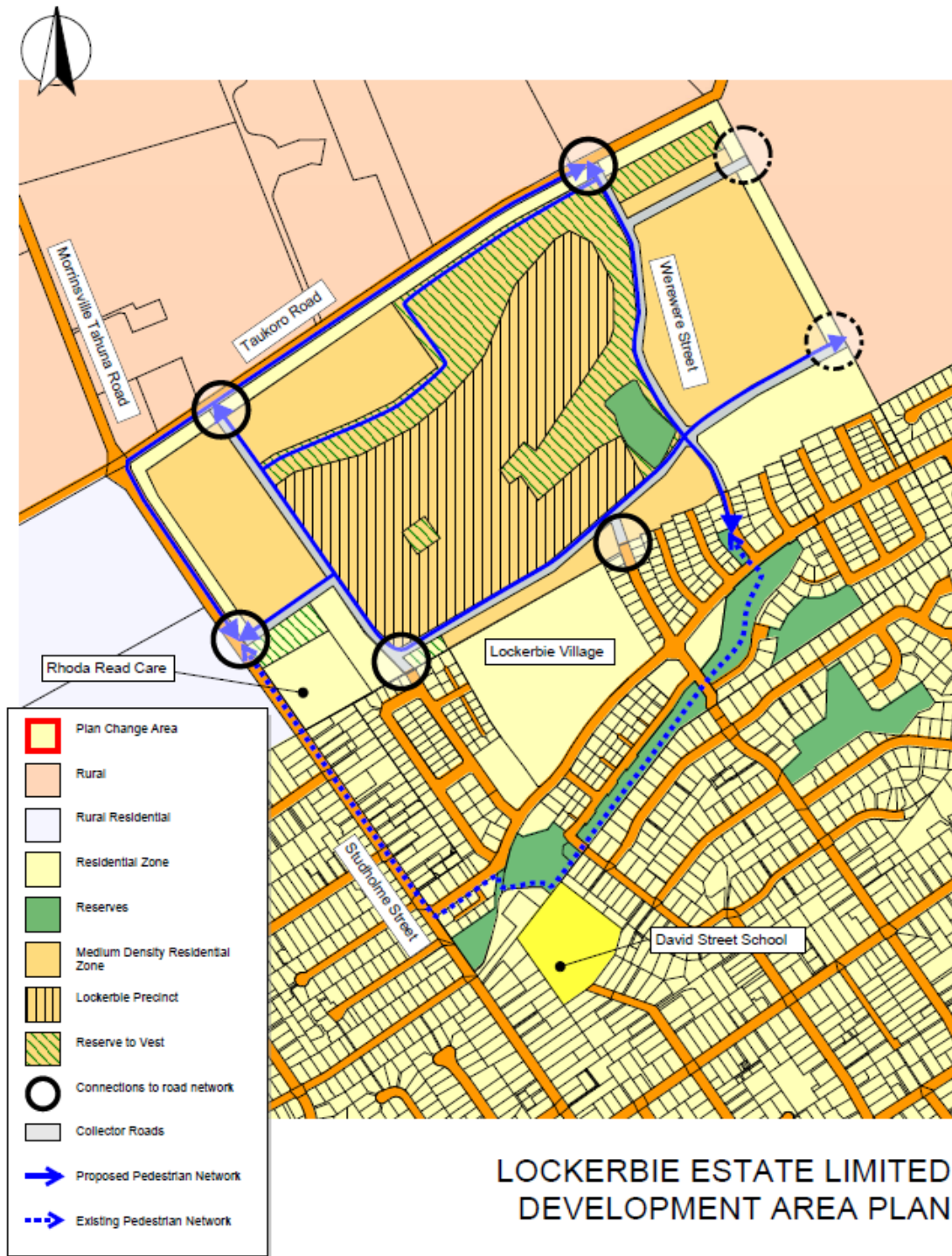


Figure 1: PPC Development Area Plan

2.0 Site Location

Morrinsville is a provincial town in the Waikato Region, located between Hamilton (~30kms to the west) and Te Aroha and the Kaimai – Mamaku Forest Park (~20kms to the east). Morrinsville is home to some 7,000 people and in the heart of some of the best dairy farming areas in the country. It has a well-sized town centre which provides the town and surrounds with a good range of infrastructure and services.

Morrinsville has grown quickly, with the completion of the Parkwood development as well as the existing Lockerbie Estate development selling over 400 sections in the past two years. The area has benefited from proximity to Hamilton and the additional employment opportunities that are possible via a short commute within the Golden Triangle. This growth is expected to continue with additional industrial land being developed in Morrinsville as well as the Ruakura Inland Port project delivering further employment opportunities for the town.

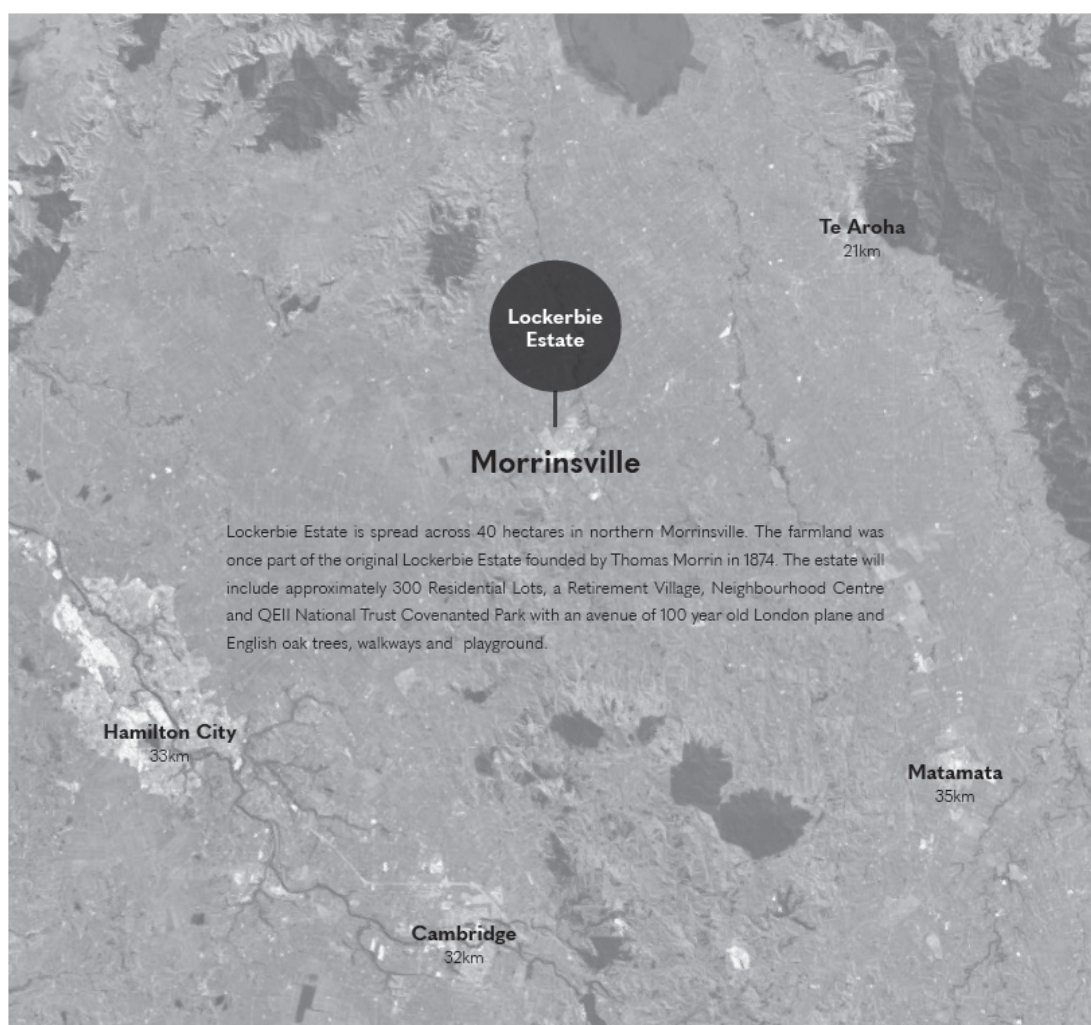


Figure 2 Site Location



Figure 3 Proposed PPC Site (red) in relation to the existing Lockerbie Estate development (blue) and the Morrinsville Township

3.0 Site Context and Character

The site comprises some 77.8 ha across three lots. It is currently zoned rural with a 'Future Residential Policy Area' overlay. The northern and western boundaries are defined by Taukoro Road and Studholme Street (or the Morrinsville-Tahuna Road), the eastern boundary by the rural zoned land southern boundary by the residential zoned land being developed as part of the existing Lockerbie Estate development.

The plan change area is mostly gentle in form, with rolling paddocks and some excellent views towards Mount Te Aroha and the Kaimai- Mamaku Ranges in the east, the Tahuna ranges in the north and back towards Morrinsville township on the south and west.

There is a large, approximately 1HA wetland, in the near the centre of the plan change area which provides the opportunity to create an integrated open space network via the existing streams that feed off it. There are minimal trees and vegetation on the site and some farm related buildings that are planned for removal.

4.0 The Proposal

The plan change area is planned to provide the bulk of Morrinsville's housing growth over the next decade. The developer's vision is to create a high-quality residential neighbourhood that caters for the housing choice needs of the growing population while paying respect to the ecological environment and rural context of the site.

The development proposal has also been created with consideration towards the significant Council infrastructure investment required to enable greenfield development. Effort has been made to ensure that the proposal achieves an optimal utilisation of the land supply in the context of national and regional policy objectives as well as the reality of the expected housing market preferences in a satellite town such as Morrinsville.

The key features of the proposal are:

- A proposed mix of sections sizes and expected housing typologies that are expected to cater for the housing choice needs over the development lifetime of the plan change area. This mix includes:
 - Larger residential sections at the borders of the site in order to protect the rural interface and enable larger lots that have frontage to Taukoro Road and Tahuna-Morrinsville Road. These sections will utilise the Council existing residential standards but with a larger section size minimum requirement (i.e. 600m²) as well as greater back yard setback requirements, when adjoining rurally zoned land.
 - Medium density sized sections through the middle of the site to enable efficient standalone housing with expected variety between single and double garage homes and single and double storey typologies. Duplexes are also provided for. These outcomes are to be achieved via a new medium density zone that has been developed with consideration towards the Council current infill development standards, albeit with flexibility to go down to a 273m² lot size for standalones and 200m² per unit for a duplex.
 - Provision for potential greater intensification in the form of terraced housing (and standalones and duplex's) in the core of the site. This will be enabled via a new 'Lockerbie Precinct' and associated development standards.
 - These provisions are designed to ensure that the rule framework and design outcome in the plan change area has durability given that the area is to cater for Morrinsville's growth for many years. The standards for the precinct have been developed with experience and evidence from Hamilton and Tauranga City Councils.
- An integrated public amenity offering that provides for a well-functioning neighbourhood and supports increased intensification. This includes:
 - Open space and reserves areas that integrates with the existing wetland and stream network and enables road edge interfaces to occur at key locations.
 - A walking and cycling network that runs through the plan change area and connects to the recreation and other amenity in the existing Lockerbie Estate development. This network also connects the adjacent roads to the internal network.

- A neighbourhood park located in the medium density precinct core area, combined with mid-block pedestrian connections that break-up block lengths and increases overall pedestrian permeability.
- Wider connectivity and integration between the plan change area and the existing Morrinsville township.

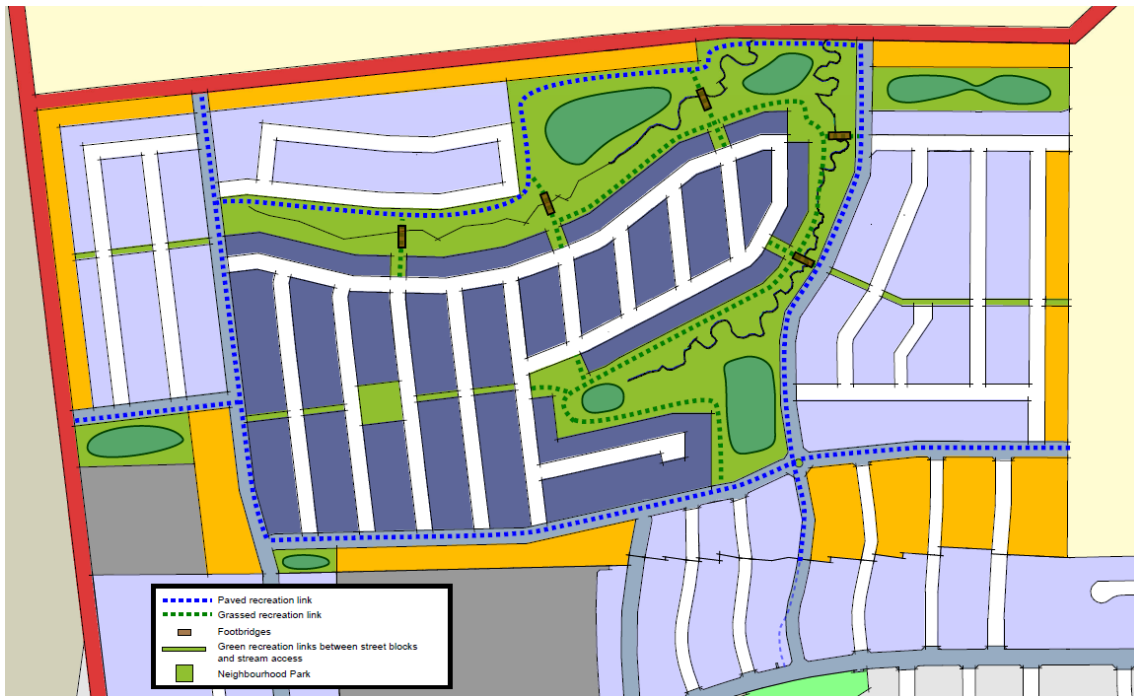


Figure 4 PPC Area Open Space and Connectivity Concept Plan

The plan change area has also been designed and developed with the same inherent design principles as the existing Lockerbie Estate development that focus on the architecture and landscape quality of the streetscape and the liveability outcome that the resulting built form creates for each site.

5.0 Urban Design Analysis

The following section provides an analysis of the urban design intent of the proposed development with regard to urban design desired qualities. Given the site character and location within the wider Morrinsville context, the following matters have been considered in assessing the overall urban design merits of the proposal.

Site Context

The overall development is designed to maintain its connections to both the existing residential edge of the township and the wider rural landscape context. The *PPC Development Area Plan* (See Figure 1 above) which has been developed by Maven Consultants, achieves strong integration between the site and its surrounding suburban and rural context.

Connections with the Existing Suburban Areas

Strong north - south vehicular and pedestrian connections are planned to extend from the existing Lockerbie Estate development into the plan change area. This provides connectivity between the plan change area and the existing residential edge of the township which is an area that also includes significant existing or planned amenity.

Cycling and open space connections have been maintained in line with the original development masterplan and enhanced and extended to include the western side of the plan change area (as shown in Figure 4). These connections also create opportunity for residents outside of the plan change area to walk or cycle to the site and utilise the amenity provided.

Urbanisation of both Taukoro Road and the Morrinsville-Tahuna Road as they both adjoin the site will also occur.

Shared Path System

A 3-meter-wide shared path system (for cycle and pedestrian use) links to the existing and future road and pedestrian network (as shown in Figures 1 & 4) and provides a functional and safe connection throughout the development and an alternative route for pedestrians and cyclists. The path will either meander through reserves or run between the park and road where the reserves are taken up for planting and stormwater wetlands.

This shared path system that follows the ecological and stream boundaries creates a loop around the core medium density precinct. This ensures that residents in the smallest sections who live without significant private outdoor living amenity can easily access the public outdoor amenity provided in the plan change area. This concept is further enhanced by the location of the neighbourhood park within this core medium density precinct.

The shared path network length is almost 2.7km long within the plan change area and connects with the existing Lockerbie Estate development shared path network to create a total network of approximately 4.5 km. The network connects residents in the plan change area with a significant list of amenities including David Street School, Rhoda Read Hospital, Davies Park, Tamihana Reserve, Lockerbie Retirement Village and proposed Aged Care facility, Lockerbie Junctions café, childcare and playground, the proposed plan change neighbourhood park and the rural outlook of the shared path along the rural interface and stream network. This network also reduces the on-road distance to other local amenity such as the middle school, high school and golf course.

Protection of the Rural Interface

The rural context is supported by larger residential lot section size minimums at the rural boundaries. These larger sections are proposed to also have the requirement for a 5m building set-back to further protect the visual intrusion towards the surrounding rural area.

While the plan provisions enable greater intensification, the two-storey height limitation minimises the visual impact of the development on the surrounding rural environment.

Future Proof Considerations

The proposal supports further growth in the town by providing for roading connections to the east of the site should Council ever intend to develop that area. Additionally, the upgrade of Tahuna-Morrinsville Road and Taukoro Road to include footpaths will provide for greater ease of development should the town grow north or west of the plan change area.

Natural Environment

Approximately 14 hectares or almost 20% of the plan change area will be vested as reserve precinct for both stormwater management and recreation amenity. Seating, additional playgrounds, areas for passive recreation and other street furniture will add to the quality of the space and the overall neighbourhood.

The ecology of the site will be protected through the enhancement of the stream networks and the creation of best practice stormwater management devices.

Site Layout / Road Hierarchy & Network

The overall roading strategy is largely consistent with the overall masterplan, with only minor refinements made for roading efficiency.

A main collector road runs north-south and east-west, creating easy, logical, and efficient vehicle access.

Local connector and local roads will organise the neighbourhoods. Wherever possible, preference has been given to a north to south orientation of roads to create lots that are generally orientated east/west to maximise sun exposure to individual developments. This orientation is also consistent with the existing road network to the south of the PPC area.

The park-edge road concept is maintained, with the central connector (*Werewere Street*) meandering slightly in a north-south orientation, providing excellent integration for public use while assisting with safety of these open spaces and managing privacy to lots. The proposed neighbourhood loop road running to the north-west of the stormwater reserve corridor has also been designed to run along the reserve with one edge fully open to the reserve.

The masterplan provides a split linear open space that follows the path of the *Maungahaumia Stream* branches, located in the north west of the site, this will link into an adjacent space to the east and incorporates pedestrian and cycle links.

The proposed street network layout has been developed to work with the existing topography. This development approach reflects the existing road layout within Morrinsville township, which is directly adjacent to the development site.

Density / Intensity

Overall lot sizes, density, orientation, and ability to accommodate well designed residential dwellings is consistent with the outcomes sought by the overall masterplan. These outcomes are further supported by the bespoke design guidelines developed for the subdivision by Boffa Miskell Limited. Whilst not part of the plan change application, Lockerbie Estate Ltd intends to bring these design guidelines through when they develop the land.

Lot sizes in the residential and medium density zones are generally consistent with the development density as defined in the initial Lockerbie Estate masterplan and Transurban Urban Design Statement, with lot sizes ranging from 200m² (for a duplex) to 700m² in these two zones in the PPC area. The Lockerbie precinct enables increase density to 150sqm lot size in the form of a terrace housing typology and by enabling rather than mandating and outcome this precinct, along with the medium density zone, provides the flexibility for the plan change area to respond to the market with respect to this level of density. Table 1 below identifies the proposed standalone housing typologies in the Medium Density Zone and the Duplex and Terraced

Housing components, that can be enabled in the proposed *Medium Density Zone and Lockerbie Precinct*.

The Studholme Street, Taukoro Road and Eastern boundary interfaces are intentionally sleeved with a proposed Residential Zone with specific Lockerbie provisions to provide an increased section size minimum of 600sqm as well as 5-metre setback adjacent to the surrounding rural zoned land.

The different lot sizes create the opportunity for a greater mix of housing typologies. This creates a stronger community as people can stay within their neighbourhood as they upsize or downsize at different stages of their life.

The mix of typologies and intensification allows for greater access for the affordable first home buyer market as well as retiree low maintenance options. In the master planned approach at Lockerbie Estate these smaller houses with consistent design principles can blend well within a neighbourhood of family sized homes.

The medium density zone is considered appropriate in the bulk of the plan change area because the section sizes are already consistently used in Morrinsville's existing residential supply on the fringe of the township. For example, the Lockerbie stage 3 development of 140 sections includes 72 sections between 300sqm and 425sqm. The creation of this new medium density zone is primarily to make the application of Council's current infill rules easier to administer for both Council and the developer.

While it is not standard practice to have greater intensification on the fringe of a township, the amenity provided on the northern fringe of Morrinsville supports the type of housing envisioned for the medium density precinct. The greater intensification of the medium density precinct is appropriately located due to it being surrounded by significant open space and reserve areas. The location of the precinct within the plan change area has been well designed with the shared path system that loops around the precinct that connects it to neighbouring amenity. It has also been well located near to public recreation amenity including the neighbourhood park within the precinct area and the significant recreation opportunities that the site is connected to.

Furthermore, the precinct is contained within the core of the site where its visual intrusion is minimal to the surrounding area.

Streetscape and Outlook Provisions

The streetscape of all residential units excluding middle terraced units will be designed to meet the following performance standards:

- Have a minimum 4.5m wide non-garage street frontage.
- A 20% clear-glazing minimum requirement on walls facing the street.
- Primary entrance on the ground floor to face the street
- A habitable room that faces the street, with a clear glazed window
- Maximum fencing heights (which ranges between 1.2m and 1.8m)
- Outlook space requirements that have minimum dimensions.

These provisions will ensure activity frontage and street surveillance is achieved.

Housing Typologies

The below images have been included to pictorially demonstrate the application of the proposed development standards that will apply to the medium density zone and Lockerbie precinct. Images have not been included for the residential zone as these standards align with the current district plan performance standards and are not considered to require further explanation. The images also align with the following standards.

Table 1 Housing Typology Standards

Drawing number	Dwelling type	Front door and room with 20% glazing	Garage	Side setbacks	Minimum lot width
T1	Standalone	1m+3.5m	Single 3m	1.5m+1.5m	10.5m
T2	Standalone	1m+3.5m	Single 3m	1.5m+1.5m	13.5m
	Standalone	1m+3.5m	Double 6m	1.5m+1.5m	13.5m
T3	Standalone on street corner	1m+3.5m	Single 3m	3m+1.5m	12.0m
	Standalone on street corner	1m+3.5m	Double 6m	3m+1.5m	15.0m
T4	Semi-detached	1m+3.5m	Single 3m	1.5m+0m	9.0m
	Semi – detached on street corner	1m+3.5m	Single 3m	3m+0m	10.5m
T5	Terraced middle unit	2m+0m	Single 3m	0m	5.0m
	Terrace middle unit	1.5m+0m	Double 6m	0m	7.5m
	Terrace bookend unit	1.5m+3m	Single 3m	1.5m	9m
	Terrace bookend unit	1.5m+3m	Double 6m	1.5m	12m

The images shown are considered to be the most aggressive application of the rule framework and are used as evidence that even the most extreme use of the standards will result in a good urban design outcome. Typology standards highlighted in blue in Table 1 above are variations of the options illustrated.

Housing Typologies T1 to T3 apply to the proposed Medium Density Residential Zone, with a minimum lot area of 325m² as a permitted activity or reduced to 273sqm through a discretionary activity land use consent approval process.

Housing Typologies T4 and T5 apply to the proposed Lockerbie Medium Density Residential Zone Precinct where a minimum lot area of 150 sqm can be achieved with additional performance standards.

A series of specific lot sizes and building typologies and bespoke *Development Standards* has been developed for the PPC area (See Table 1 below and Appendix C attached).

HOUSING TYPOLOGY T1 - SINGLE GARAGE

LOCKERBIE ESTATE - MORRISVILLE
PROPOSED PLAN CHANGE - HOUSING TYPOLOGIES

SINGLE RESIDENTIAL LOTS @ 273M² (10.5M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling. Side yard setbacks are 1.5m.

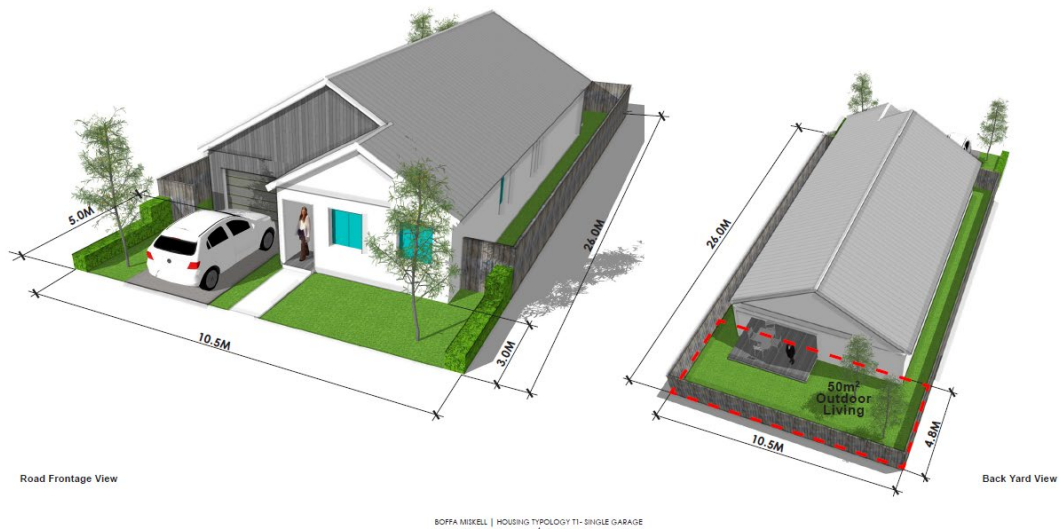


Figure 5 Housing Typology T1

Housing Typology T1 relates to the development of a single free-standing medium density residential dwelling in the proposed Medium Density Residential Zone, with a single garage.

The dwelling is constructed on a site of minimum 273m² with typical boundary dimensions of 10.5m x 26m that is authorised through a concurrent land use consent.

Maximum building coverage is 50% of net site area, in the case of Typology T1 this allows a dwelling which is a maximum of 136.5m² in floor area. The dwelling may need to be smaller to achieve the outdoor living set out below.

The dwelling will have a front yard setback of 3m (house) and 5m (garage). Side yard setbacks are 1.5m and the rear yard setback is 4m, to allow for a minimum outdoor living area of 50m², with a 4m minimum depth.

The outdoor living area must be directly accessible from a primary living area. The 50m² outdoor living area is considered appropriate in the context of medium density residential dwellings, as this provides a usable and functional private yard space.

HOUSING TYPOLOGY T2- SINGLE GARAGE

LOCKERBIE ESTATE | MORRISVILLE
PROPOSED PLAN CHANGE - HOUSING TYPOLOGIES

SINGLE RESIDENTIAL LOTS @ 351M² (13.5M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling. Side yard setbacks are 1.5m.

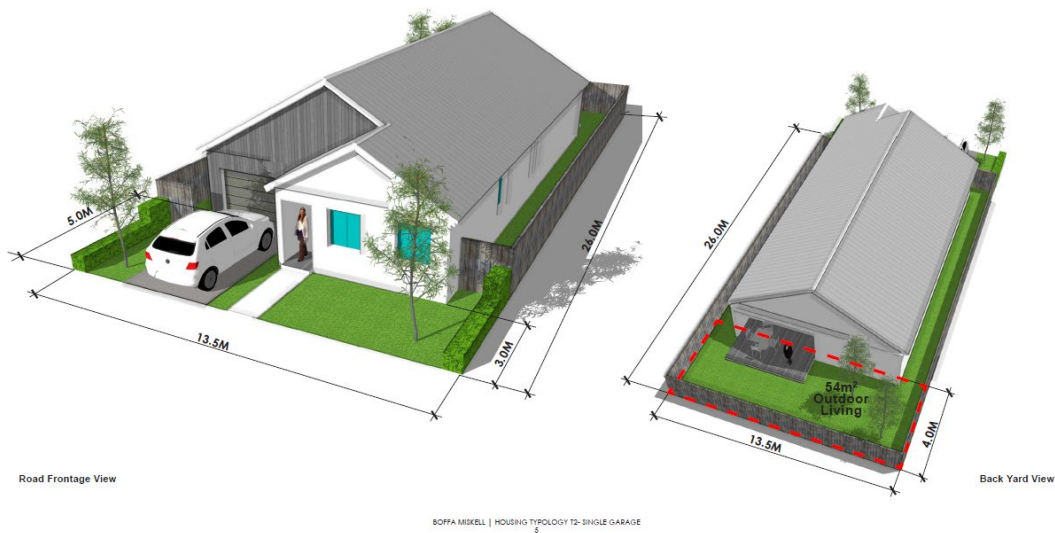


Figure 6 Housing Typology T2

Housing Typology T2 relates to the development of a single free-standing medium density residential dwelling in the proposed Medium Density Residential Zone, with a single garage on a wider lot.

The dwelling is constructed on a site of minimum 350m² with typical boundary dimensions of 13.5m x 26m.

Maximum building coverage is 50% of net site area, in the case of Typology T2 this allows a dwelling which is a maximum of 175.0m² in floor area.

The dwelling will have a front yard setback of 3m (house) and 5m (garage). Side yard setbacks are 1.5m and the rear yard setback is 4m, to allow for a minimum outdoor living area of 50m², with a 4m minimum depth.

The outdoor living area must be directly accessible from a primary living area. The 54m² outdoor living area is considered appropriate in the context of medium density residential dwellings, as this provides a usable and functional private yard space.

HOUSING TYPOLOGY T3

LOCKERBIE ESTATE - MORNINGVILLE
PROPOSED PLAN CHANGE - HOUSING TYPOLOGIES

SINGLE RESIDENTIAL CORNER LOTS @ 312M² (12M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing corner dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling including a 3m setback to boundaries adjoining roads. Side yard setback is 1.5m.

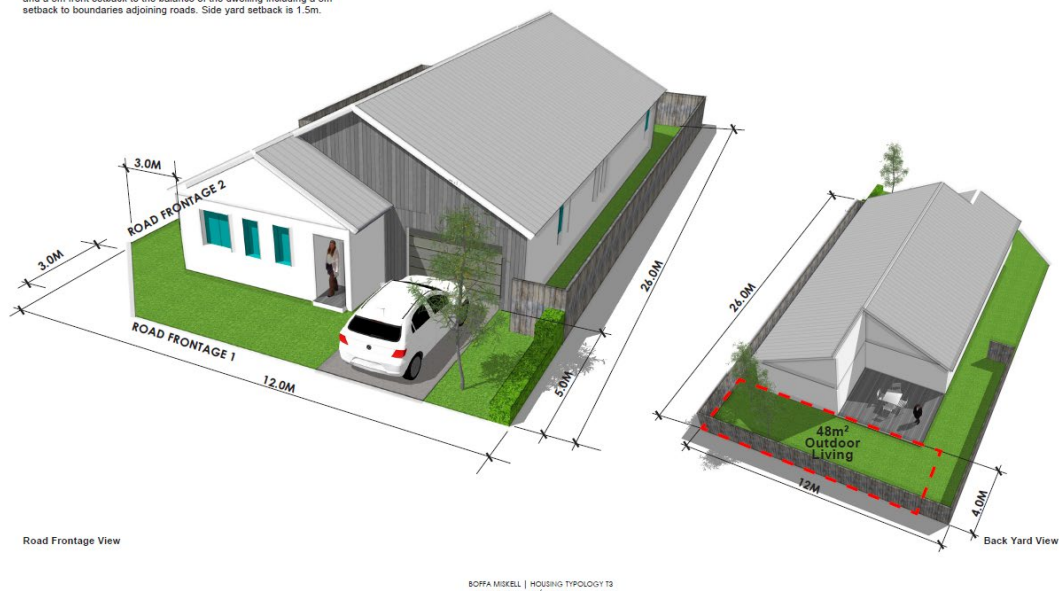


Figure 7 Housing Typology T3

Housing Typology T3 relates to the development of a single free-standing medium density residential dwelling in the proposed Medium Density Residential Zone, located on a corner site.

The dwelling is constructed on a site of minimum 312.0m² with typical boundary dimensions of 12m x 26m.

Maximum building coverage is 50% of net site area, in the case of Typology T4 this allows a dwelling which is a maximum of 156.0m² in floor area.

The intention of this typology is to provide a mix of narrower and wider site frontages within the Medium Density Residential Zone, adding variety and visual diversity to the streetscape. The wider typology also ensures that corner lots are of a width to allow for the wider setback required by the secondary road frontage, whilst avoiding a site that is too narrow to practically develop.

The dwelling will have a front yard setback of 3m (house) and 5m (garage). Side yard setbacks are 1.5m and 3m respectively (adjacent to road on secondary road frontage) and the rear yard setback is 4m, to allow for a minimum outdoor living area of 50m², with a 4m minimum depth.

The outdoor living area must be directly accessible from a primary living area. The 50m² outdoor living area is considered appropriate in the context of medium density residential dwellings, as this provides a usable and functional private yard space.

HOUSING TYPOLOGY T4

LOCKERBIE ESTATE - MORRINVILLE
PROPOSED PLAN CHANGE - HOUSING TYPOLOGIES

DUPLEX RESIDENTIAL LOTS @ 234M² (9M X 26M)

The below concept diagram shows a duplex medium density residential dwelling.

Duplex dwellings have a 5m front yard setback to garages and a 3m setback to the balance of the dwelling, and 5m rear yard setback. Outer boundaries have a 1.5m side yard setback.

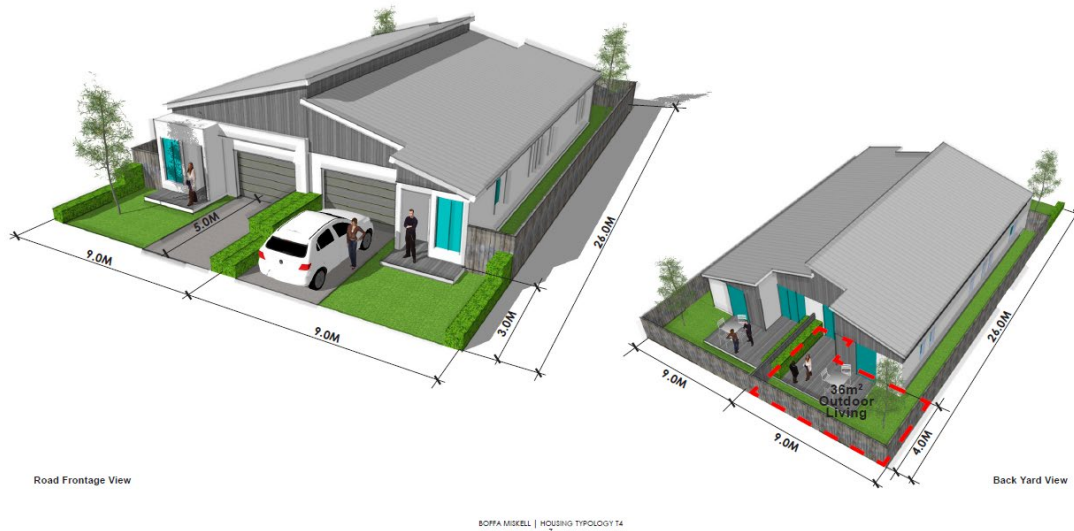


Figure 8 Housing Typology T4

Housing Typology T4 relates to the development of a duplex medium density residential dwelling in the proposed Lockerbie Precinct.

Each individual dwelling, joined by a common fire wall, is constructed on a site of minimum 234.0m² with typical boundary dimensions of 9m x 26m.

Maximum building coverage is 50% of net site area, in the case of Typology T5 this allows a dwelling which is a maximum of 117m² in floor area, or greater if double storey.

The intention of this duplex typology is to provide a mix of residential offerings, aimed at both younger and older residents, within the Lockerbie Medium Density Residential Zone and Precinct. This duplex typology also adds variety and visual diversity to the streetscape.

The dwelling will have a front yard setback of 3m (house) and 5m (garage). Side yard setbacks are 1.5m and 3m if a corner site (adjacent to road on secondary road frontage) and the rear yard setback is 4m, to allow for a minimum outdoor living area of 36m², with a 4m minimum depth.

The outdoor living area must be directly accessible from a primary living area. The 36m² outdoor living area is considered appropriate in the context of medium density residential dwellings, as this provides a usable and functional private yard space, whilst leveraging off the proximity to public open space networks within the walking catchment of the proposed dwellings.

HOUSING TYPOLOGY T5

LOCKERBIE ESTATE - MORRINSVILLE
PROPOSED PLAN CHANGE - HOUSING TYPOLOGIES

TERRACED RESIDENTIAL 6 LOTS @ 234M² (9M X 26M) & 130M² (5M X 26M)

The below concept diagram shows a terraced medium density residential unit consisting of upto 6 freehold units. Central units are proposed to have single garages, with end units being either double or single garages.

All units have a 5m front yard and 5m rear yard setback. Edge units have a 1.5m side yard setback.



BOFFA MISKELL | HOUSING TYPOLOGY T5
8

Figure 9 Housing Typology T5 (Note: 5-unit option show for illustrative purposes – maximum 6 units permitted)

Housing Typology T5 relates to the development of a 5 or maximum 6-unit medium density residential terraced dwellings in the proposed Lockerbie Precinct.

Each individual dwelling, joined by a common fire wall, is constructed on a site of minimum 234m² (for the two end units) and 130m² (for the four central units) with typical boundary dimensions of 9m x 26m and 5m x 26m respectively. Average across the six units being 150m².

Maximum building coverage is 60% of net site area, in the case of Typology T5 this allows a dwelling which is a maximum of 78m² and 140.4m² in ground floor area respectively for central and end units (156m² and 2808m² total floor area as a double storey building).

The intention of this terraced dwelling typology is to provide a mix of residential offerings, aimed at both younger and older residents, within the Lockerbie Medium Density Residential Zone Precinct. This terraced dwelling typology also adds variety and visual diversity to the streetscape. Whilst Figure 9 is a 5 or maximum 6-unit option, 3-unit or more options, can equally be provided for.

The terraced dwellings will have a front yard setback of 3m (house) and 5m (garage). Side yard setbacks are 1.5m and the rear yard setback is 4m, to allow for a minimum outdoor living area of 20m², with a 4m minimum depth. Alternative options for outdoor living can also be achieved at first floor level, allowing for a 9m² balcony or deck, with a minimum dimension of 1.8m.

The outdoor living area must be directly accessible form a primary living area. The 20m² outdoor living area (or 9m² balcony/deck) is considered appropriate in the context of medium density residential dwellings, as this provides a usable and functional private yard space.

For the Housing Typology T6 it is proposed that no side yard daylighting setback is included, as this is considered to make the development of the two-level typology impractical to develop and not feasible. It is however considered that a 3m separation distance (i.e. 1.5m setback to each boundary) and a privacy between potential neighbouring terraced blocks to be of fundamental importance, thus a privacy provision is proposed, to ensure that buildings are designed in such a manner that windows are offset or screened with privacy screens to avoid direct views between adjacent dwellings. This has been successfully used in similar developments elsewhere in New Zealand and internationally.

A series of specific lot sizes and building typologies and bespoke *Development Standards* has been developed for the PPC area (See below and Appendix C attached).

Lockerbie Development Standards

A series of bespoke development standards have been compiled for the following zones and precinct areas within the PPC:

- 1) Residential Zone (Lockerbie Specific Provisions)
- 2) Medium Density Residential Zone
- 3) Lockerbie Precinct.

The table below is a detailed description of each of the relevant zone/precinct standards. Commentary of the relevance of each of these standards has been provided above in relation to the typology descriptions.

Table 2 Lockerbie Development Standards

	Existing Residential Zone Standards	Existing Residential Infill Development Standards (Rule 4.13.1)	Residential Zone (Lockerbie specific provisions)	Medium Density Residential Zone	Lockerbie Precinct
Minimum lot size	450m ²	325m ²	600m ²	325m ² (or 273m ² with land use consent for standalone and 400m ² for a duplex (i.e. 200m ² each unit))	130m ² minimum net site area for central units or 234m ² for end units + MRZ standards for standalones and duplex's
Maximum building coverage	35% of net site area + 45% option with reserve payment	45% of net site area	35% of net site area + 45% option with reserve payment	50% of net site area	60% of net site area for terrace housing
Development Suitability	Contain a 150m ² (10 x 15m) rectangular area		Contain a 120m ² (8 x 15) rectangular area		
Permeable surface area		20% of net site area		20% of net site area	
Household recreational space (outdoor living)	80m ² with a minimum width of 3m + 6m diameter circle	60m ² with a minimum dimension of 3m + 6m diameter circle	50m ² with a minimum dimension of no less than 4m	Duplex = 36m ² with a minimum dimension of no less than 4m	Terrace Housing = 20m ² with a minimum dimension of no less than 4m, or a 9m ² balcony with a minimum dimension of 1.8m.
Service Area				Minimum area of 20m ² for standalones and 10m ² for duplex	No standard for terrace housing
Maximum height	9m	9m	9m	9m	

Building length		Exterior wall shall not exceed 15m length without provision for a 2x2m step		Exterior wall shall not exceed 15m without being horizontally or vertically stepped or containing a material change.	
Height to boundary	2m plus the shortest horizontal distance between that part of the building and the nearest site boundary	3m + 45-degree plane to boundary	2m plus the shortest horizontal distance between that part of the building and the nearest site boundary	3m & 45 degree recession plane, unless attached.	
Front yard setback	5m	5m	3m, unless fronting Studholme Street and Taukoro Road where setback is 5m.	3m	
Garage setback	-	-	5m	5m	
Side yard setback	1.5m	1.5m	1.5m	1.5m where not attached	
Rear yard setback	1.5m	1.5m	1.5m	1.5m	
Rear access lot				1m from road and private way boundary with 5m setback for garage	
Corner site	On a corner site one front yard may be reduced to 3m.	On a corner site one front yard may be reduced to 3m.	On a corner site one front yard may be reduced to 3m.	3m is the minimum	
Setback from Rural zoned boundary			5m	N/A	N/A
Privacy				Overlooking provisions relating to garage widths, glazing, one habitable room facing the street, maximum fencing heights and minimum outlook space.	

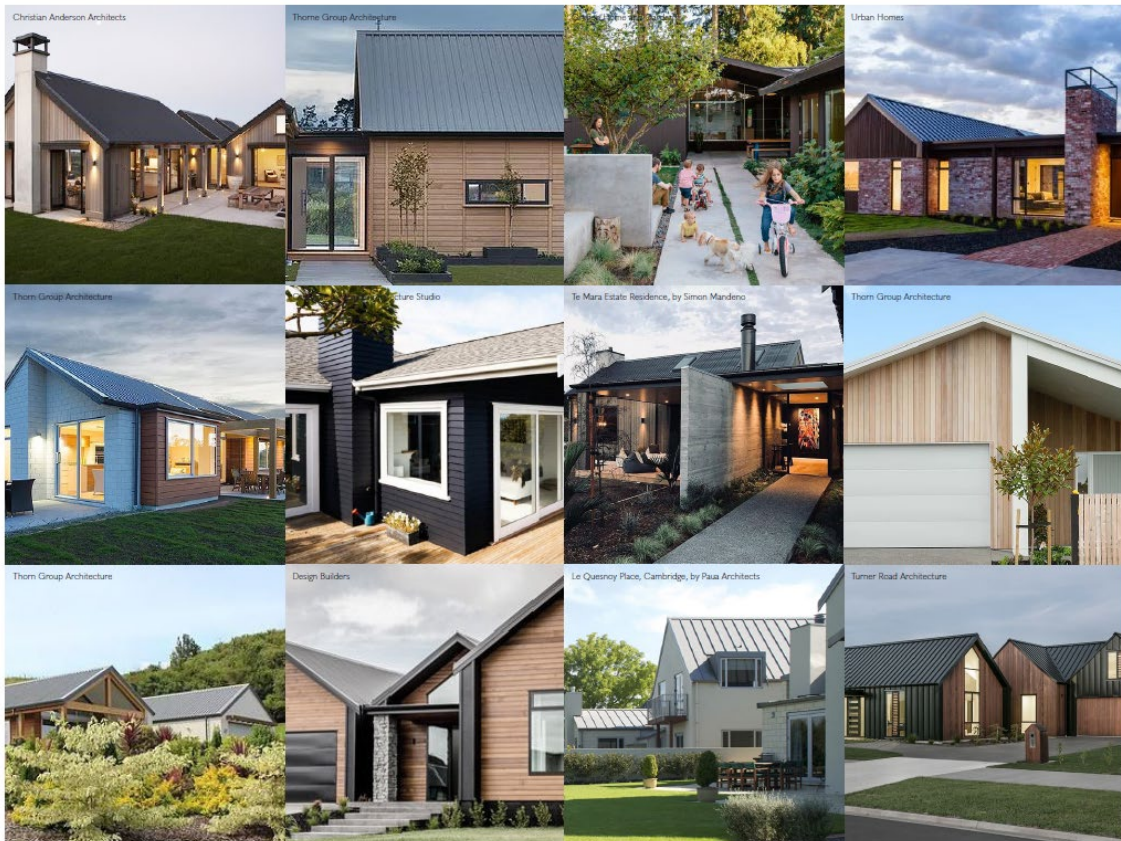
Building Design, Appearance & Public Realm Interface

As discussed above a comprehensive Development Design Guidelines (Design Guide) has been formulated for the existing Lockerbie Development to ensure that high quality architectural, landscape and urban design outcomes are maintained during the development and lifetime of the subdivision. Lockerbie Estate intends that these guidelines will be carried through to the residential and medium residential zones in the plan change area and will be updated to incorporate the additional lot sizes and duplex/terraced typologies in the medium density precinct. While the design guidelines approach is a voluntary choice for the developer to implement, this approach has become accepted common practice for developments undertaking intensification in the Waikato and across New Zealand. Intensification sales are by their nature almost exclusively sold by land developers to builder clients. It is our experience that builders and future residents expect and prefer design controls to protect their investment.



Figure 10 Lockerbie Estate Design Guidelines Document (Boffa Miskell Limited 2020)

The Design Guide includes considerations of visual massing, character, grain (scale), façade, materiality, site fencing and landscape palettes. This is aimed at avoiding repetitive, low quality architectural and landscape outcomes with a focus on lot frontages and streetscape interface.



'Look And Feel' Examples for Architecture.

Figure 11 Excerpt from Design Guide Document

The clustering of Medium Density Precinct Residential lots directly bordering or adjacent to the park edge boulevard and *Reserve Precinct* is an appropriate and functional design response. The approach of balancing higher density development outcomes, with a high level of surrounding open space and environmental amenity is consistent with accepted urban design best-practice. The proposed location of the neighbourhood park in the core of this precinct provides additional justification for the proposed intensification.

6.0 Summary and Conclusion

In conclusion, the proposed zoning and associated development standards offer an appropriate response for the site and surrounding existing and proposed suburban and rural context. The PPC Development Area Plan, and associated rules framework and housing typologies, are fully consistent with professional expectations of a quality masterplan outcome in today's environment.

The overall roading configuration, open space network and lot configuration establishes a clear hierarchy of routes for moving through the site, with priority placed on pedestrian and cycle connections to key transport and activity nodes that connects and contributes to the wider open space network and will become the heart of the development providing amenity areas to play, rest, socialise and relax.

The proposal is expected to deliver the required variety of housing choice to support Morrinsville's housing growth over the next 8-12 years. The proposal is appropriate in the context of the location of the site relative to the amenity on the northern side of Morrinsville township and it has been designed to incorporate the site specific features and performance standards required for a successful urban design outcome.

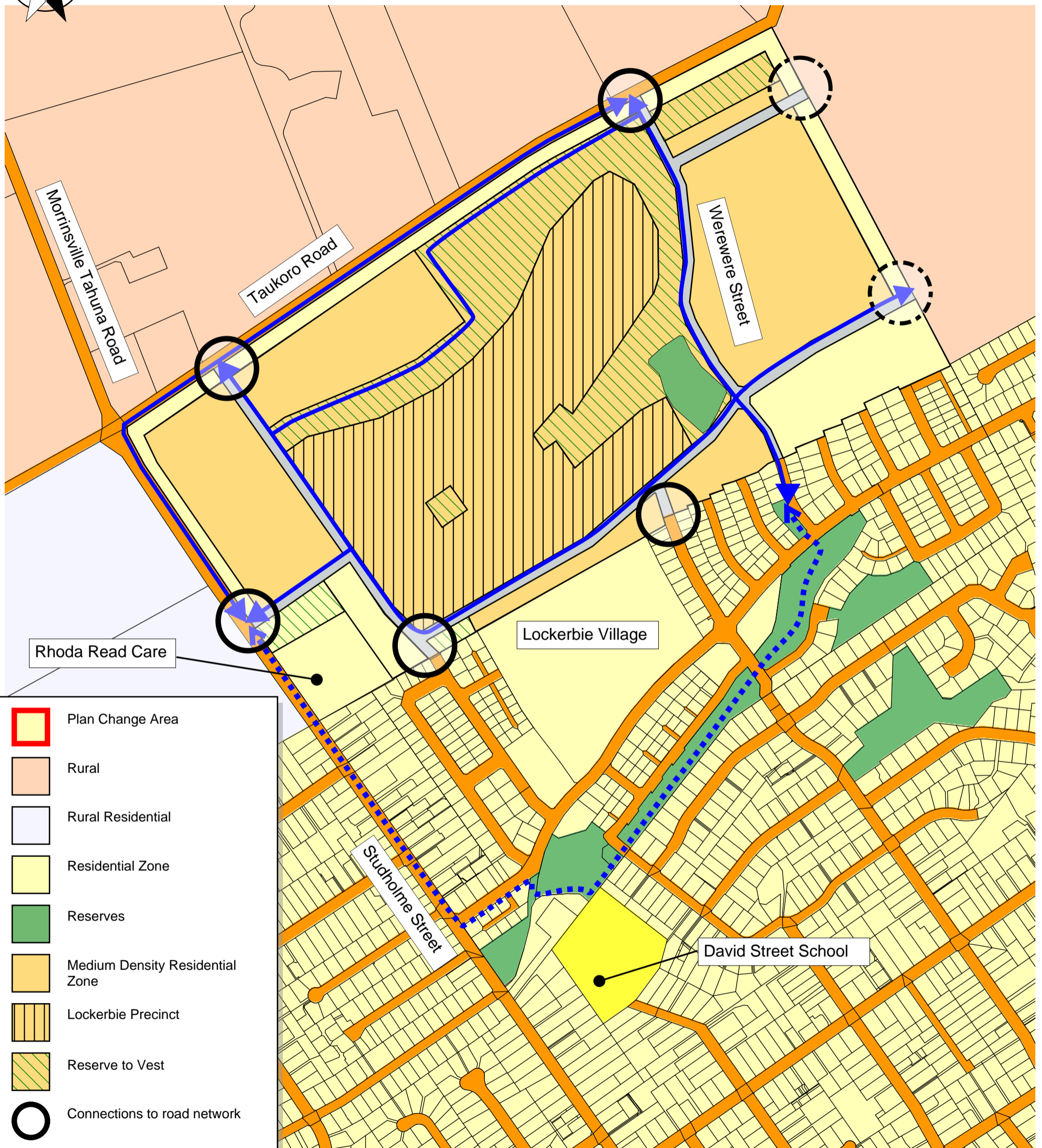
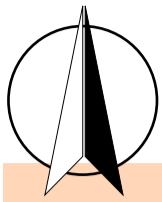
7.0 Glossary of Terms

Term	Definition
<i>Active frontage</i>	Street frontages where an active visual engagement occurs between people in the street and those on the ground floors of buildings (Source: <i>Brunswick Structure Plan, Vol 3, Part 2, Moreland City Council</i>).
<i>Amenity</i>	The qualities and attributes people value about a place that contribute to 'quality of life' in that place, such as schools, services, and community and recreational facilities (Source: <i>"Building Sustainable Urban Communities" Glossary, Department of Internal Affairs</i>).
<i>Building mass (Massing)</i>	The combined effect of the arrangement, volume and shape of a building or group of buildings. (Source: <i>Auckland Design Manual glossary</i>).
<i>Character</i>	Appearance, qualities and combination of attributes of an area, place, street or building that helps to give that place a distinct identity. (Source: <i>Auckland Design Manual glossary</i>).
<i>Controlled activity</i>	Activity requiring a resource consent from a local authority, but which will always be granted. The application for a controlled activity consent is assessed according to specified matters over which the Council will exercise its control. (Source: <i>RMA Rules: A Summary of Activity Classes</i>).
<i>Crime Prevention Through Environmental Design (CPTED)</i>	Philosophy based on good design and effective use of the built environment leading to a reduction both in the fear and incidence of crime, as well as an improvement in the quality of life. The use of CPTED is intended to reduce crime and fear by reducing criminal opportunity and fostering positive social interaction among legitimate users of space. The emphasis is on prevention rather than apprehension and punishment. (Source: <i>Auckland Design Manual glossary</i>).
<i>Density</i>	Density is the concentration of population and activity in an urban area. The most vibrant, diverse and exciting part of a city is often its centre. (Source: <i>Summary of The Value of Urban Design, The economic, environmental and social benefits of urban design, MFE</i>).
<i>Discretionary activity</i>	Activity for which a local authority has retained its discretion to grant resource consent. If the resource consent is granted the local authority may set any conditions that fall within the its powers under Section 108 of the RMA. (Source: <i>RMA Rules: A Summary of Activity Classes</i>).
<i>Façade articulation</i>	Method of styling the joints in the formal elements of architectural design where each part is united with the whole work by means of a joint. The articulation of a building reveals how the parts fit into the whole by emphasizing each part separately (Source: <i>Wikipedia</i>).

Term	Definition
<i>Urban grain</i>	Balance of open space to buildings, and the nature and extent of subdividing an area into smaller parcels. For example, a ‘fine urban grain’ might constitute a network of small or detailed streetscapes. Urban grain includes the hierarchy of street types, physical linkages and movements between locations, and modes of transport. (Source: <i>Creating Places for People, an urban design protocol for Australian cities</i>).
<i>Height in relation to boundary (HIRTB)</i>	Rule that manages the potential impact that a new building or addition might have on the neighbours. It is defined with an invisible envelope that the building must be contained in. The envelope is measured vertically from ground level at the boundary with a set height and recession plane inclined inwards (The height and incline vary between zones). (Source: <i>Unitary Plan 101, Your Easy guide to understanding the Residential Standards</i>).
<i>Height limit</i>	Rule to limit the height of buildings. Each zone has different height restrictions. 'Height' is measured as the vertical distance between the highest part of the building (or structure) and ground level. 'Ground Level' refers to the existing ground height before any earthworks occur. (Source: <i>Unitary Plan 101, Your Easy guide to understanding the Residential Standards</i>).
<i>Liveability</i>	The degree to which an urban area provides a safe, inclusive and environmentally benign basis for the social and economic life of all its citizens. (Source: <i>Liveability discussion document, liveability principles, sample letter and liveability key word list, MFE</i>).
<i>Masterplan</i>	A detailed plan for a defined area that involves the integration of social, cultural, economic and environmental considerations into one overall design and can include the final expected physical form of the buildings and spaces within. (Source: <i>Auckland Design Manual glossary</i>).
<i>Mix of uses</i>	A mixture of activities such as residential, business, retail, or hospitality that occupy space within the same building or within the same street block or area (i.e. an apartment building with shops, cafes, and offices on the lower floors, or a town centre with these activities) (Source: <i>Auckland Design Manual glossary</i>).
<i>Movement network (street network)</i>	Interconnected system of streets, roads and paths that accommodates pedestrians and cyclists, on-road public transport, emergency and private vehicles, connecting places and activities, allowing people and goods to reach their destinations and access private land. (Source: <i>“Movement Networks”, Healthy by Design</i>).
<i>Open space</i>	Green space consisting of any vegetated land or structure, water or geological feature in an urban area and civic space consisting of squares, marketplaces and other paved or hard landscaped areas with a civic function. (Source: <i>Auckland Design Manual glossary</i>).
<i>Outlook</i>	A place from which a view is possible; a vantage point.

Term	Definition
<i>Parti pris</i>	The primary concept or organizing idea behind a design. The parti, or main idea, can be illustrated in a parti diagram. These simple drawings show relationships between the different structural elements of the idea. (Source: <i>Oxford English Dictionary</i>).
<i>Passive / active recreation</i>	Activities engaged in for the purpose of relaxation, health and wellbeing or enjoyment with the primary activity requiring physical exertion, and the primary focus on human activity. (Source: <i>Oxford English Dictionary</i>).
<i>Permitted activity</i>	Activity that occurs without the need of a resource consent, provided it complies with conditions stated in relevant rules. It is useful to authorise uses that would otherwise require consent under the RMA, but have minor effect on the resource used or the environment affected. (Source: <i>RMA Rules: A Summary of Activity Classes</i>).
<i>Public realm</i>	An area that is only accessible to those that have a right of entry as decided by the site or building owner. (Source: <i>Auckland Design Manual glossary</i>).
<i>Public space</i>	Spaces that are publicly owned and which are intended for use by the public, and spaces that are privately owned and which are intended for use by the public. (Source: <i>Auckland Design Manual glossary</i>).
<i>Significant landscape features (Landform)</i>	Features of a site's surface influencing a development. To contribute to the character of a place developments should acknowledge and retain these features as much as possible rather than remove them.
<i>Te Aranga principles</i>	Set of outcome-based principles founded on intrinsic Māori cultural values and designed to provide practical guidance for enhancing outcomes for the design environment. The principles have arisen from a widely held desire to enhance mana whenua presence, visibility and participation in the design of the physical realm. (Source: <i>Auckland Design manual</i>).
<i>Universal design</i>	Design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. (Source: <i>Centre for Excellence in Universal Design</i>).
<i>Urban grain</i>	The size of buildings and sites, patterns of arrangement, and the degree to which an area's street blocks and street junctions are small and frequent, or large and infrequent. (Source: <i>Auckland Design manual</i>).
<i>Visual (building) massing</i>	Three-dimensional bulk of a building: height, width, and depth. (Source: <i>Illustrated Book of Development Definitions</i>).

Appendix A: Lockerbie Estate Limited PPC Development Plan Area



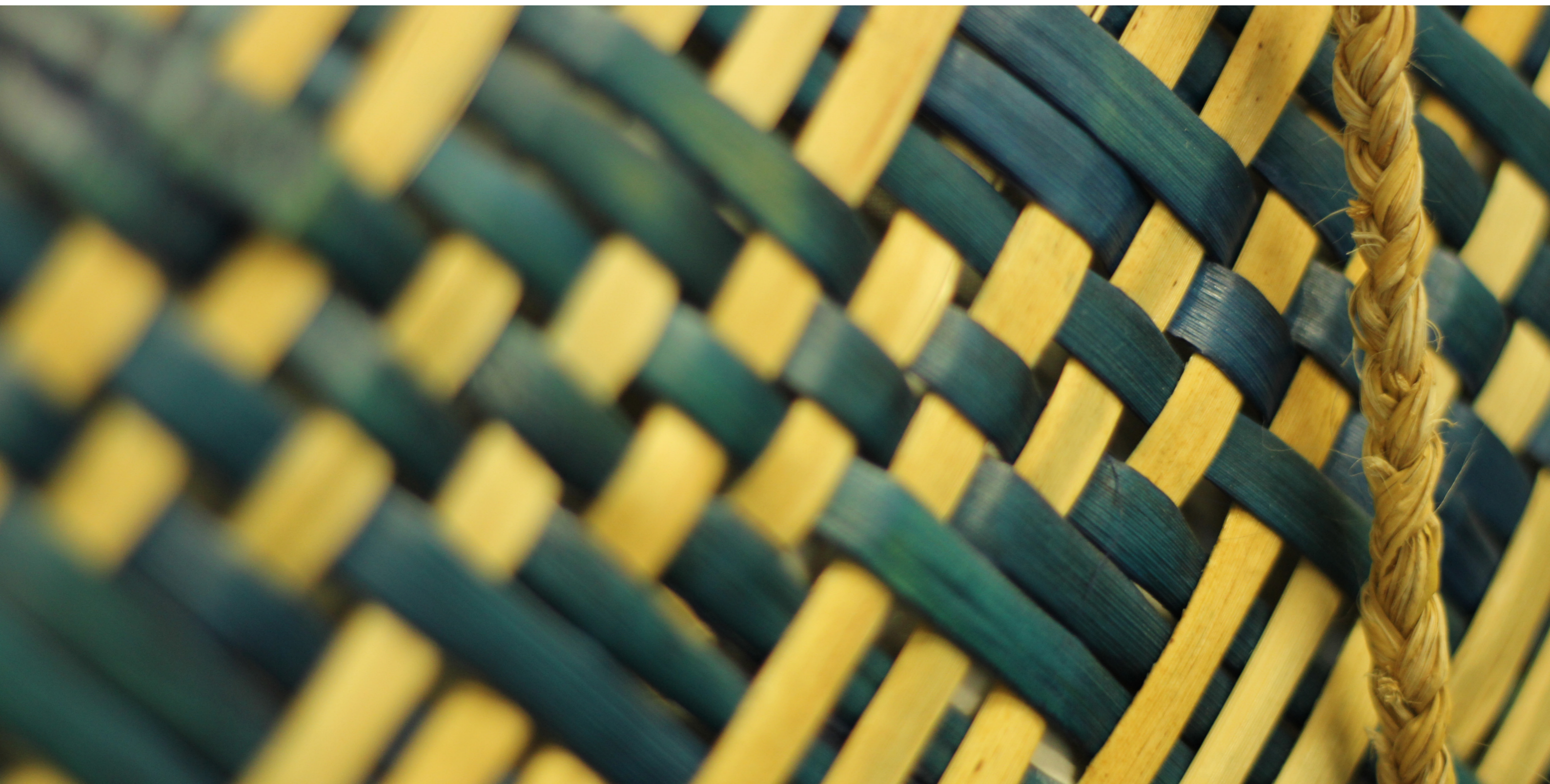
LOCKERBIE ESTATE LIMITED DEVELOPMENT AREA PLAN

Appendix B: Housing Typology Diagrams

LOCKERBIE ESTATE

PROPOSED PLAN CHANGE - BUILDING TYPOLOGIES

REV. B 13/11/2021



DOCUMENT QUALITY ASSURANCE

BIBLIOGRAPHIC REFERENCE FOR CITATION:

Boffa Miskell, 2020. *Lockerbie Estate Proposed Plan Change - Housing Typologies*. Report by Boffa Miskell Limited for Lockerbie Estate Limited.

PREPARED BY: Kurt Cole
Urban Designer
Boffa Miskell Ltd

REVIEWED BY: Morne Hugo
Associate Partner / Landscape Architect / Urban
Designer
Boffa Miskell Ltd

STATUS: FINAL Revision / version: B Issue date: 13 November 2021

File ref: BM19694_Plan_Change_Typologies_20211113_RevB_MHu

Cover photograph: Flax Kite, © Boffa Miskell, 2021

CONTENTS

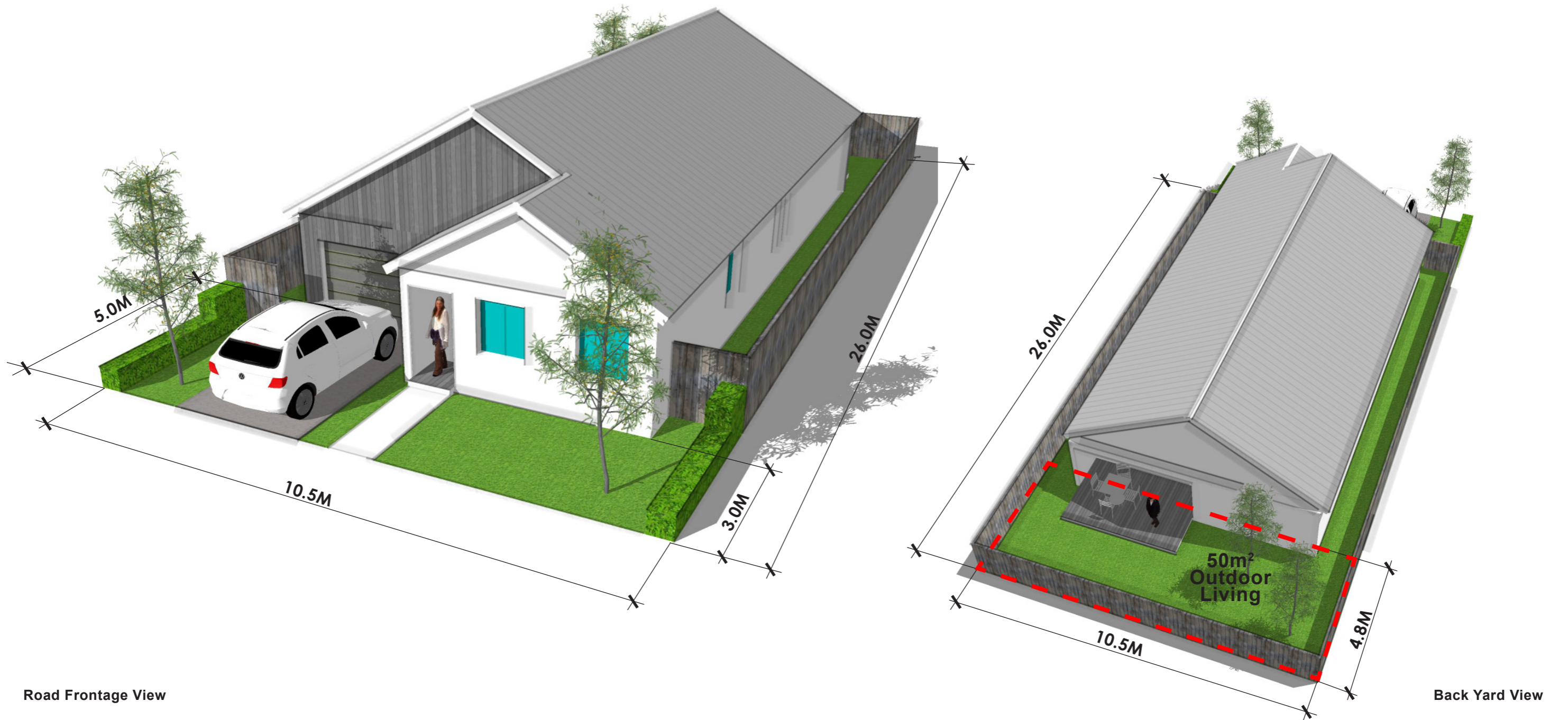
HOUSING TYPOLOGY T1	4
HOUSING TYPOLOGY T2	5
HOUSING TYPOLOGY T3	6
HOUSING TYPOLOGY T4	7
HOUSING TYPOLOGY T5	8

HOUSING TYPOLOGY T1- SINGLE GARAGE

SINGLE RESIDENTIAL LOTS @ 273M² (10.5M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling. Side yard setbacks are 1.5m.



Road Frontage View

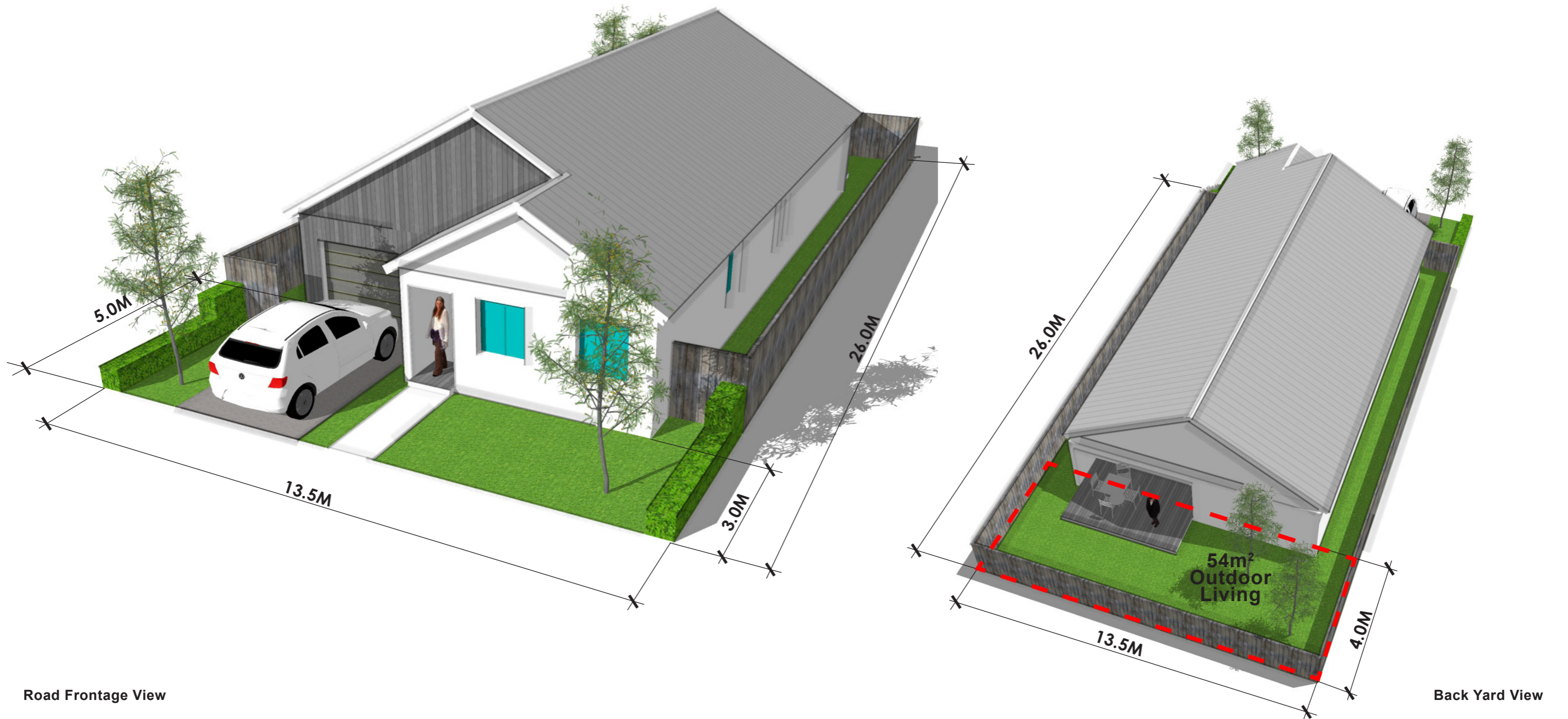
Back Yard View

HOUSING TYPOLOGY T2- SINGLE GARAGE

SINGLE RESIDENTIAL LOTS @ 351M² (13.5M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling. Side yard setbacks are 1.5m.



Road Frontage View

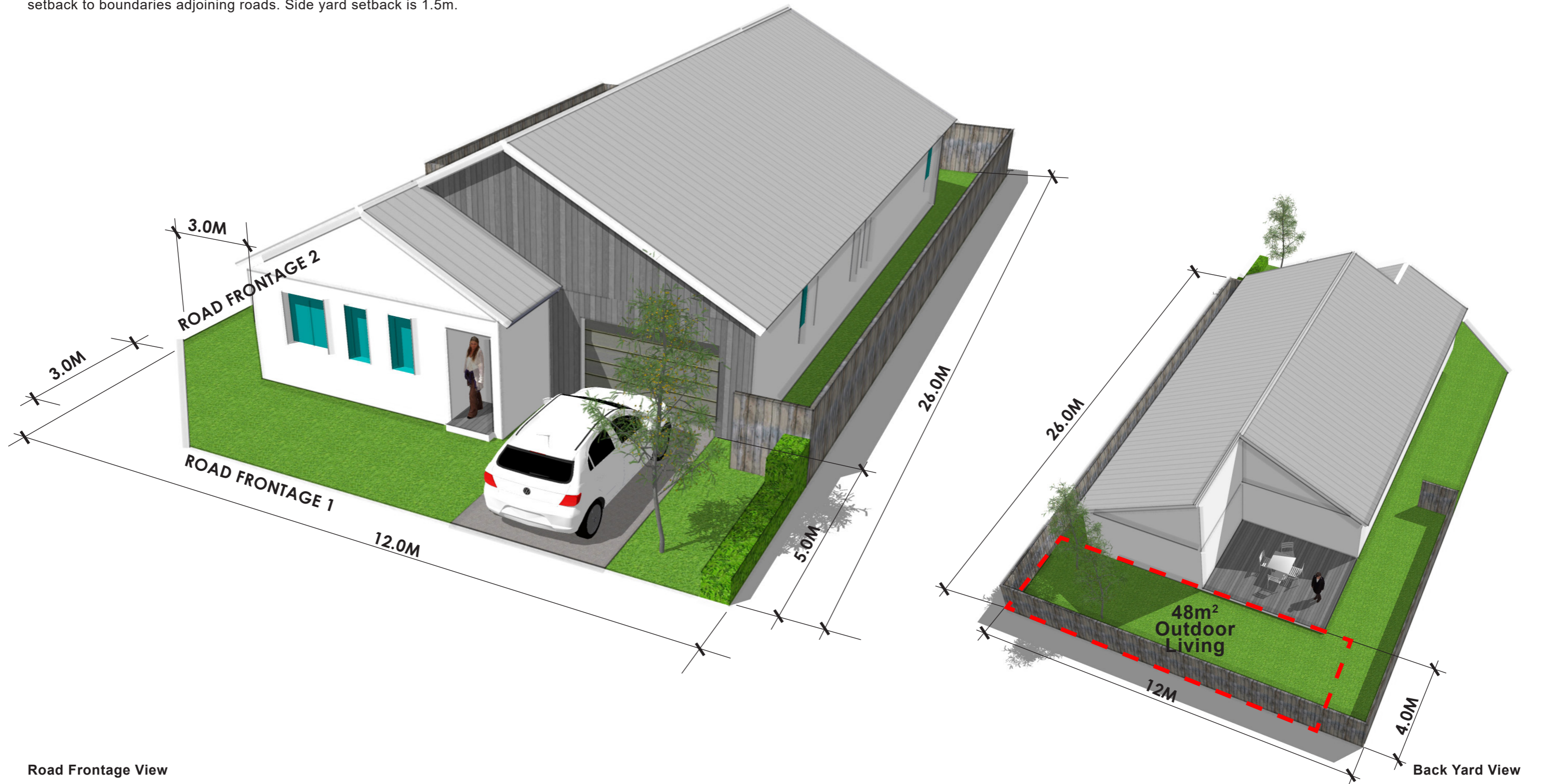
Back Yard View

HOUSING TYPOLOGY T3

SINGLE RESIDENTIAL CORNER LOTS @ 312M² (12M X 26M)

The below concept diagram shows a single free-standing medium density residential dwelling.

Free standing corner dwellings have a 5m front yard setback to garages and a 3m front setback to the balance of the dwelling including a 3m setback to boundaries adjoining roads. Side yard setback is 1.5m.



Road Frontage View

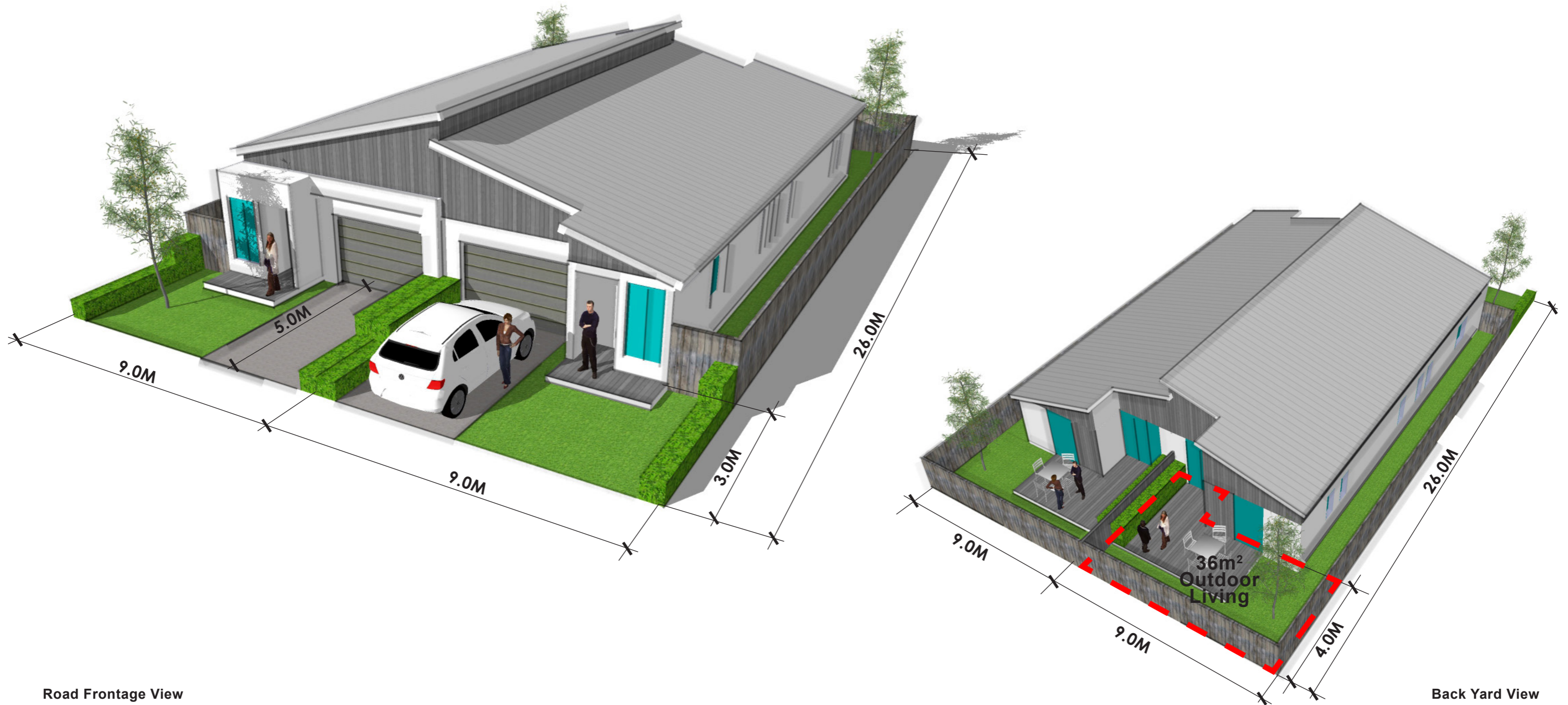
Back Yard View

HOUSING TYPOLOGY T4

DUPLEX RESIDENTIAL LOTS @ 234M² (9M X 26M)

The below concept diagram shows a duplex medium density residential dwelling.

Duplex dwellings have a 5m front yard setback to garages and a 3m setback to the balance of the dwelling, and 5m rear yard setback. Outer boundaries have a 1.5m side yard setback.



Road Frontage View

Back Yard View

HOUSING TYPOLOGY T5

TERRACED RESIDENTIAL 6 LOTS @ 234M² (9M X 26M) & 130M² (5M X 26M)

The below concept diagram shows a terraced medium density residential unit consisting of upto 6 freehold units. Central units are proposed to have single garages, with end units being either double or single garages.

All units have a 5m front yard and 5m rear yard setback. Edge units have a 1.5m side yard setback.



Note:
This typology consist of upto a total of 6 x freehold terraced units consisting of 2 x 9m wide 'bookend' units and 2 (minimum) or upto 4 (maximum) x central 5m wide units
5 unit example shown for illustrative purposes

Road Frontage View

Back Yard View

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

www.boffamiskell.co.nz

Auckland 09 358 2526 **Hamilton** 07 960 0006 **Tauranga** 07 571 5511 **Wellington** 04 385 9315 **Christchurch** 03 366 8891 **Queenstown** 03 441 1670 **Dunedin** 03 470 0460

Appendix C: Development Standards Table

	Existing Residential Zone Standards	Existing Residential Infill Development Standards (Rule 4.13.1)	Residential Zone (Lockerbie specific provisions)	Medium Density Residential Zone	Lockerbie Precinct
Minimum lot size	450m ²	325m ²	600m ²	325m ² (or 273m ² with land use consent for standalone and 400m ² for a duplex (i.e. 200m ² each unit))	150m ² average cross the terrace units + MRZ standards for standalones and duplex's
Maximum building coverage	35% of net site area + 45% option with reserve payment	45% of net site area	35% of net site area + 45% option with reserve payment	50% of net site area	60% of net site area for terrace housing
Development Suitability	Contain a 150m ² (10 x 15m) rectangular area		Contain a 120m ² (8 x 15) rectangular area		
Permeable surface area		20% of net site area		20% of net site area	
Household recreational space (outdoor living)	80m ² with a minimum width of 3m + 6m diameter circle	60m ² with a minimum dimension of 3m + 6m diameter circle	50m ² with a minimum dimension of no less than 4m	Duplex = 36m ² with a minimum dimension of no less than 4m	Terrace Housing = 20m ² with a minimum dimension of no less than 4m, or a 9m ² balcony with a minimum dimension of 1.8m.
Service Area				Minimum area of 20m ² for standalones and 10m ² for duplex	No standard for terrace housing
Maximum height	9m	9m	9m	9m	
Building length		Exterior wall shall not exceed 15m length without provision for a 2x2m step		Exterior wall shall not exceed 15m without being horizontally or vertically stepped or containing a material change.	
Height to boundary	2m plus the shortest horizontal distance between that	3m + 45-degree plane to boundary	2m plus the shortest horizontal distance between that	3m & 45 degree recession plane, unless attached.	

	part of the building and the nearest site boundary		part of the building and the nearest site boundary	
Front yard setback	5m	5m	3m, unless fronting Studholme Street and Taukoro Road where setback is 5m.	3m
Garage setback	-	-	5m	5m
Side yard setback	1.5m	1.5m	1.5m	1.5m where not attached
Rear yard setback	1.5m	1.5m	1.5m	1.5m
Rear access lot				1m from road and private way boundary with 5m setback for garage
Corner site	On a corner site one front yard may be reduced to 3m.	On a corner site one front yard may be reduced to 3m.	On a corner site one front yard may be reduced to 3m.	3m is the minimum
Setback from Rural zoned boundary			5m	N/A
Privacy				Overlooking provisions relating to garage widths, glazing, one habitable room facing the street, maximum fencing heights and minimum outlook space.

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

www.boffamiskell.co.nz

Auckland
+64 9 358 2526

Hamilton
+64 7 960 0006

Tauranga
+65 7 571 5511

Wellington
+64 4 385 9315

Christchurch
+64 3 366 8891

Queenstown
+64 3 441 1670

Dunedin
+64 3 470 0460