



District of Maple Ridge

TO: His Worship Mayor Ernie Daykin
and Members of Council

MEETING DATE: May 27, 2013

FROM: Chief Administrative Officer

FILE NO:

MEETING: Workshop

SUBJECT: **Tandem and Off-Street Parking Discussion Paper**

EXECUTIVE SUMMARY:

The Planning Department 2013 Business Plan directed staff to prepare a report on tandem and off-street parking in Maple Ridge, based on concerns with tandem parking in multi-family (townhouse) developments in the District. This was triggered by several recent townhouse development applications proposing all or a significant percentage of the units with tandem parking. Tandem parking is currently permitted in a few single family zones, duplex zone and the RM-1 (Townhouse Residential District) zone. Given that recent discussion has noted concerns with tandem parking in townhouse projects, the focus of this report is on tandem and off-street parking in the RM-1 (Townhouse Residential District) zone.

Townhouse units with tandem parking are a fairly common form of housing in many jurisdictions within the region. Typically the tandem parking arrangement results in a taller, narrower unit with a minimal driveway apron in front of the tandem garage. The perception is that tandem townhouse units typically sell for less, than the units with a double car garage and it is often a preferred option with developers to maximize the unit yield. Staff discussions with some of the private sector stakeholders suggest that tandem units are more affordable, however, there is no concrete evidence that tandem units sell for less in the market. General discussions with staff from other jurisdictions and the private sector stakeholders indicated that while there is a general perception of overall acceptance of tandem townhouse units in the market, there are concerns with a 100% tandem townhouse developments across the region.

This report focuses on the RM-1 (Townhouse Residential District) zone and includes the following:

- Review of the existing regulations for tandem and off-street parking and loading regulations;
- Review of tandem parking regulations in other jurisdictions within the region;
- Identification of concerns/issues with tandem parking;
- Review of scenarios/ options for the RM-1 (Townhouse Residential District) zone with graphic examples of each scenario;
- Review of the recommended option for tandem parking in the RM-1 (Townhouse Residential) zone.

RECOMMENDATION:

That the "Tandem and Off-Street Parking Discussion Paper" dated May 27, 2013 be received for information and discussion.

BACKGROUND:

The Maple Ridge Off-Street Parking and Loading Bylaw No. 4350-1990 permits tandem parking in specific single family zones, duplex zone and the RM-1 (Townhouse Residential District) zone. Tandem Parking has not been a concern in single family zones where the roads meet the municipal standards and the driveways may be wider. In some cases, there is parking along the streets as well.

However within the townhouse zone it appears to be a concern. The District has seen a steady rise in townhouse development projects with all tandem parking units.

DISCUSSION:

A) Review of the existing tandem and Off- Street Parking and Loading regulations:

The Off-Street Parking and Loading Bylaw provides for tandem parking in certain single family zones, duplex zone and the RM-1 (Townhouse Residential District) zone. The bylaw reads:

PART IV, Section 4.1(iii)(b)(iv), of Maple Ridge off-Street Parking & Loading Bylaw No. 4350-1990, "the RS-1 (one Family Urban Residential) zone, RS-1a (One Family Amenity Residential) zone, RS-1b (One Family Urban Residential- Medium Density) zone, R-1 (Residential District) zone, RT-1 (Two Family Urban Residential) zone and RM-1 (Townhouse Residential District) zone, may have obstructed access where the primary parking space is a carport or garage and the obstruction is an intervening parking space".

Out of the above noted zones, the RS-1, RS-1b, R-1 and RT-1 are single family or duplex zones. Each of the above mentioned zones require a minimum of two parking spaces per unit and an additional parking space for a permitted Accessory Residential use such as a Home Occupation, Secondary Suite or Detached Garden Suite (if permitted in the zone). For the RM-1 (Townhouse Residential District) zone, two spaces per unit plus a 0.2 space per unit for visitors is required.

It is important to note that out of all the available multi-family zones in the District, only the RM-1 (Townhouse Residential District) zone permits tandem parking.

B) Review of tandem parking regulations in other jurisdictions within the region:

The following identifies the tandem regulations used in other municipalities within the region (Appendix A):

- i. **City of Pitt Meadows:** allows tandem parking in the townhouse zone. The townhouse zone requires a ratio of 1.75 spaces per unit for residents and 0.2 spaces per unit for visitors.
- ii. **City of Port Coquitlam:** does not have tandem parking regulations in the Zoning Bylaw, but permits it on a site by site basis. Recently their Council has expressed concerns with tandem parking in the townhouse zones and the City staff has been encouraging a balanced proportion of double and tandem garages on a project by project basis.
- iii. **City of Coquitlam:** does not have tandem parking regulations in the Zoning Bylaw, but permits it on a site by site basis. In most cases, tandem spaces may be provided as extra spaces and are not included in the parking calculations. They are sometimes proposed in addition to the minimum parking spaces required in the zone, as a marketing tool.
- iv. **Township of Langley:** permits tandem parking in the townhouse zone but requires a higher ratio i.e. in the townhouse zone, units with tandem parking garages require a ratio of 2.5 spaces per unit instead of 2.0 spaces per unit for a double garage unit. The Township requires a Restrictive Covenant on the tandem space, to discourage conversion of it to a habitable space. The bylaw is silent on permitting tandem parking in any other zones.

- v. **City of Burnaby:** does not permit tandem parking except for specific projects on site by site basis through a Comprehensive Development zoning. It forms a part of specific site design with a Restrictive Covenant registered on title to ensure that the tandem space is not converted in to a habitable space. The required minimum parking ratio for ground-oriented townhouse zones is 1.75 spaces per unit (including 0.25 spaces per unit for visitor parking) except for a specific zone permitted in the business district where it is reduced to 1.0 space per unit. These ratios are much lower parking ratios than Maple Ridge and other jurisdictions and tandem parking is in general discouraged.
- vi. **Corporation of Delta:** permits tandem parking in single family zones, duplex zone, strata house and townhouse zones. There are more than one townhouse zones with varying densities from 25 to 40 units per net hectare, depending on the specific zone. Visitor parking ratio is similar to Maple Ridge's requirements.
- vii. **City of Abbotsford:** permits tandem parking in single family and townhouse residential zones. The townhouse residential use is required to provide two spaces per unit, of which one is located in a garage or under-ground parking and 20% of the total parking is required to be for visitors, which is same as the Maple Ridge's requirements.
- viii. **District of Mission:** permits tandem parking for ground-oriented townhouse zones, but with a restriction on the percentage of tandem units in two zones. These zones permit up to 50% tandem units which are limited to internal units only. The densities vary in the three townhouse zones they offer and parking ratios are comparable to the District's requirements.
- ix. **City of Richmond:** has four sub-zones with the townhouse form and tandem parking is permitted within certain geographical locations in site-specific zones. These zones are permitted in the city centre and other busy areas that have fairly good connectivity by public transit. Standard minimum lengths and widths of the parking spaces are specified and densities vary in the various townhouse zones. It is interesting to note that the amenity space is expressed as a floor space ratio of 0.1.
- x. **City of Surrey:** permits tandem parking in ground oriented multiple unit residential use with a greater apron length on the driveway. The bylaw states *"In a tandem parking arrangement where the second vehicle is parked outside a garage in the driveway a minimum length of 6.0 metres (19.7 feet) shall be provided for each parking space"*. The City has recently been dealing with enforcement issues with tandem parking in Clayton Heights area. The tandem spaces have become living spaces and there are renters with cars on the same site.

City of Surrey has some additional regulations with respect to tandem parking permitted in the ground-oriented multiple unit residential zones, such as: restrictions on location of tandem parking spaces on an arterial road; restriction that both the tandem spaces be enclosed and attached to the unit; requirement that both tandem spaces be held by the same owner and that tandem parking is not permitted for units located within 6.0 metres from lot entrances/exits.

In reviewing other municipal parking bylaws it is clear that approaches vary by community with some not permitting tandem parking, some permitting tandem parking on a project by project basis, some permitting tandem parking by requiring a higher parking ratio or limiting the amount of tandem; requiring additional common amenity area and/or driveway aprons. Discussion with some of the staff from other municipalities confirms that several jurisdictions are expressing concerns over 100% tandem unit developments.

C) Identification of concerns/issues with tandem parking:

The following section of the report notes the issues and preferences relating to tandem parking, that were identified through research and consultation with developers, architects, Building and Fire departments. The issues have been organized into the following categories:

i. BC Building Code requirements:

Often the tandem or double parking garages on townhouse sites are built to meet the minimum B.C. Building Code requirements for width, depth and height. A driveway apron is the area in front of a tandem garage. It may or may not be adequate to park one vehicle. Under the bylaw, the RM-1 (Townhouse Residential District) zone does not require the driveway apron length to accommodate a parking space. If it is not adequate to park one vehicle, this may result in individual vehicles possibly encroaching into the 6.0 metre wide strata road.

ii. Unit sizes, architectural design and streetscape:

Townhouse units with a tandem garage are typically narrower (12.5 to 15 feet wide) and taller (3 or 3.5 storey) in form. The architectural form for tandem and double garage units differ significantly, one being a two storey massing while the other with tandem parking is a taller, narrow three-storey massing. The tandem units offer a denser, compact, taller form. The townhouse form is often envisioned and encouraged as a transition between single family and apartment building forms. A 100% tandem development maximizes on the density or the unit count on site which can at times be at the expense of creating interesting, pedestrian-friendly streetscapes. A combination of tandem and double garage units have greater potential to create an interesting streetscape with staggered units and inter-linking green spaces. Block sizes that exceed six units can create a monotonous façade. Smaller blocks of units create well-articulated facades separated with green buffers in between the blocks that promote natural light, ventilation and views.

iii. Restrictive Covenant on the tandem space; enforcement of tandem spaces and visitor parking spaces:

The Licences, Permits and Bylaws Department respond to formal written complaints seeking enforcement. However, they cannot enforce parking regulations on strata property. The District prefers the Strata Councils to try to resolve their own parking disputes. Units with a tandem garage often lose a parking space due to conversion into a habitable area, after the owner moves in. Complaints are received by the District about the lack of parking on site and in the streets, after this happens. Sometimes the visitor parking stalls are used by residents or cars are parked within the 6.0 metre wide strata road. In such instances, Strata Councils are responsible for enforcing parking on the property; however they are not always successful. For the District it becomes a safety concern, yet enforcement is a challenge.

Long-term preservation of tandem parking space cannot necessarily be secured through the use of a Restrictive Covenant. A covenant however, can be informative to the unit owners but the District would be required to undertake enforcement and/or legal action. However, the District is under no obligation to enforce such a covenant even if in place.

D) ANALYSIS:

Review of scenarios/options for the RM-1 (Townhouse Residential District) zone with graphic examples of each scenario:

As explained earlier the RM-1 (Townhouse Residential District) zone permits a townhouse development with ground-oriented units that have 100% tandem parking spaces. The density permitted is a floor space ratio (FSR) of 0.6 times the net lot area, with an additional 50m² per unit basement habitable space. To review the impact of tandem parking spaces on a townhouse development, several factors need to be considered. Some important factors are: density (floor space ratio), usable open space, common activity area, setbacks, size of the block of units, driveway apron length, on-site parking for residents and visitors. The graphic examples attached as appendices help to illustrate the potential impacts of tandem parking along with recommended measures to minimize impacts.

For the purpose of this review, four categories were analysed for the various scenarios:

- a) A townhouse development with 100% tandem parking spaces (currently permitted);
- b) A townhouse development with up to a maximum of 70% tandem parking spaces;
- c) A townhouse development with up to a maximum of 50% tandem parking spaces;
- d) A townhouse development with no tandem parking spaces (100% double garages).

To assist in this review graphic illustrations have been provided utilizing some fixed and variable elements. These have been applied to a hypothetical piece of land. It should be noted that for simplification purpose, the development site is assumed to be a flat, one acre rectangular shaped piece of land with road frontage on one side.

The following fixed elements included are:

- 1) Lot Size: 4047 m² (1 acre or 43562.97 ft²)
- 2) FSR: 0.6 (50 m² extra for habitable basement area per unit)
- 3) Unit sizes: 2 bedroom =1000 ft² and 3 bedroom=1500 ft² (50% of each type)
- 4) Setbacks: 7.5 m from all property lines
- 5) Parking: 2 spaces per unit (residential) and 0.2 spaces per unit (visitor)
- 6) 6.0 m wide strata road (no parking along strata road)
- 7) Max lot coverage: 40%
- 8) Units in one block: 2 minimum and 6 maximum (2-6 units)

Some variable elements that could have a potential impact on addressing previously identified concerns with tandem parking are:

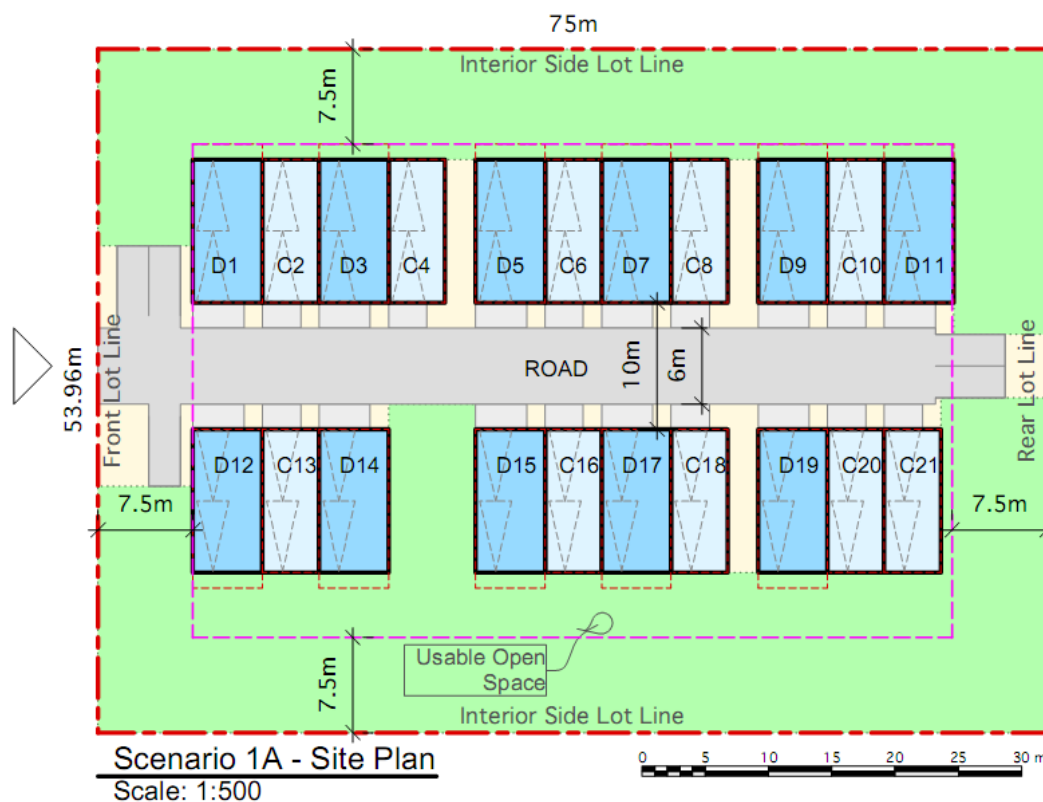
- 1) Percentage (%) of tandem parking spaces on site
- 2) Usable Open Space Area for units with tandem parking spaces
- 3) Common Activity Area for units with tandem parking spaces
- 4) Visitor parking ratio for units with tandem parking spaces
- 5) Driveway apron length for units with tandem parking spaces
- 6) Setback variances

A total of 18 scenarios were considered in the review of tandem parking; however, one scenario clearly resulted in a reasonable mix of tandem and double wide units, maximization of green

space/useable open space and a well-articulated, livable design, while maintaining a viable unit yield (refer to item i on page 7).

Concern has been expressed with the 100% tandem parking (i.e. category a), which is what is currently permitted. In reality no tandem parking (i.e. category d) is not realistic, as most developments prefer to maximize on the number of units on site. Therefore, a mix of tandem and double wide parking scenarios are explored in greater detail (Appendix C-J). In each of the four scenarios, one variable was introduced to see the overall impact (see Appendix C-J). It was evident that introducing one variable in each of the scenarios did not help mitigate the potential impacts of units with tandem parking spaces. However, when three variables such as requiring a driveway apron, increasing the useable open space and limiting the amount of tandem parking, the overall improvements to the site design were clearly visible.

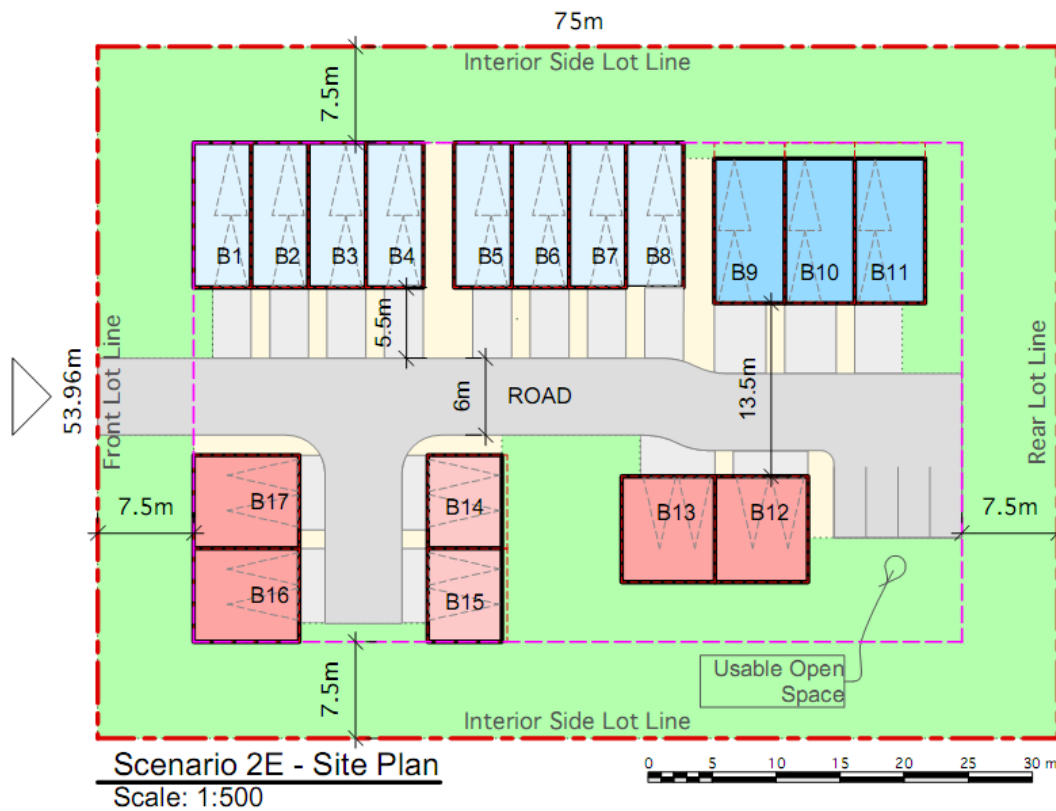
Included below is an illustration of 100% units with tandem parking spaces, as permitted today.



Site Plan Reconciliation			
	Provided	Required	
# Units	21 Units		Site Area
# of 3 Bedrooms	11 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	100 %		2,462 m ² = 26,500 sq ft
% of double stall to units	0 %		Road Area:
Usable Open Space	2,011 m ²	795 m ²	473 m ² = 5,095 sq ft
Common Activity Area	105 m ²	105 m ²	Driveway Area:
Visitor Parking @ 0.2	5 stalls	4.2 stalls	150 m ² = 1,611 sq ft
FSR:	0.608	0.600	Site Coverage:
Building Site Coverage:	31.2 %	40.0 %	1,263 m ² = 13,593 sq ft
			Unit / Ha:
			51.892
			Road Site Coverage:
			11.7 %
			Driveway Site Coverage:
			3.7 %
			Total Hard Surface Coverage:
			15.4 %

It is clear in the site plan above, 21 units can be achieved on a one acre parcel. It is important to note that this scenario maximizes the unit count, density, gross floor area and provides minimal articulation to the streetscape for the residents. The required useable open space and common activity area are met by including all the setback areas and not permitting any setback reductions via a Development Variance Permit.

- i) **Scenario 2E:** maximum of 70% units with tandem parking spaces with a driveway apron of 5.5 metres required for units with tandem spaces; usable open space increased by 15 m² per unit and all the other regulations in the RM-1 zone permitted currently.



Site Plan Reconciliation			
	Provided	Required	
# Units	17 Units		Site Area
# of 3 Bedrooms	7 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	65 %		1,905 m ² = 20,500 sq ft
% of double stall to units	35 %		Road Area:
Usable Open Space	2,097 m ²	955 m ²	567 m ² = 6,103 sq ft
Common Activity Area	85 m ²	85 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls	3.4 stalls	273 m ² = 2,944 sq ft
FSR:	0.471	0.600	Site Coverage:
Building Site Coverage:	23.3 %	40.0 %	943 m ² = 10,154 sq ft
			Unit / Ha:
			42.008
			Road Site Coverage:
			14.0 %
			Driveway Site Coverage:
			6.8 %
			Total Hard Surface Coverage:
			20.8 %

The graphic example above shows 65% of the units have tandem garages. It is clear in the site plan above that, by introducing a requirement that permits a maximum of 70% units with tandem parking spaces and by requiring a driveway apron length of 5.5 metres only for units with tandem parking

spaces, and by increasing the usable open space by 15m² per unit only for units with tandem parking spaces, 17 to 18 units can be achieved on a one acre parcel.

The following can be inferred from scenario 2E above:

- A combination of the three variables i.e. driveway apron requirement for units with tandem parking spaces; proportionate increase in the usable open space for units with tandem parking spaces and permitting up to a maximum of 70% of the total number of units to have tandem parking spaces; the density is not significantly compromised, yet a more architecturally attractive development may be achieved.
- Note that setback variances have not been shown.

It should be noted that with setback variances the unit yields are very similar to those achieved under the current bylaw (refer to Appendix K). It is clear from Appendix K that when setback variances are granted for scenario 2E, three more units can be achieved, increasing the unit count to 20 (instead of 17 units in scenario 2E above).

E) PREFERRED APPROACH:

Based on the above analysis it is clear that limiting the amount of tandem parking, and offsetting it with other requirements results in a development that can achieve densities similar to the current bylaw (with variances) and at the same time address the on-site congestion, form, streetscape, and parking concerns.

Recognizing that each site is different and that the Development Community prefers flexibility, it is recommended that staff prepare amending bylaws that will limit the amount of tandem parking as stated below:

A maximum of 70% units with tandem parking spaces may be permitted with the following required for each unit having tandem parking spaces, except in the Town Centre Area:

- Block size not to exceed six attached units;
- Driveway apron length of 5.5 metres; and
- Usable open space of 65 m² for each three bedroom or bigger units and 50m² for each two bedroom or smaller units.

Note that 100% tandem parking in the RM-1 (Townhouse Residential District) zone would still be permitted in the Town Centre Area, due to access to transit and policy support for a dense housing form.

It is important to note that setback variances would be considered on a site specific basis and are subject to Council approval.

Should Council wish to explore the above noted changes to the bylaws, the following resolution would provide staff with direction to prepare the required amending bylaws:

That Council direct staff to prepare the relevant bylaw revisions to the RM-1(Townhouse Residential District) zone and the Off-Street Parking and Loading Bylaw, as described in Section E of the “Tandem and Off-Street Parking Discussion Paper” dated May 27, 2013.

CONCLUSION:

Tandem parking has been permitted in the RM-1 (Townhouse Residential District) zone and a few others single family zones as mentioned in this report. For most of the single family zones that permit tandem parking, it has not been a concern due to wider road standards and longer driveway apron lengths. The biggest impact is seen in the RM-1 (Townhouse Residential District) zone that is serviced by a 6.0 metre wide strata road and there is no requirement for a driveway apron. It is important to maintain the primary intention of the RM-1 (Townhouse Residential District) zone, which is to provide for a low-density multi-family housing option.

A review of other jurisdictions shows that there are similar concerns about developments with 100% units that have a tandem parking arrangement on site. There needs to be a functional balance of both; tandem and double garage units, to achieve a financially feasible, safe and good quality development. The recommended option (scenario 2E) has been discussed in section E of the report.

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GM, Public Works & Development Services**

“original signed by J.L. (Jim) Rule”

**Concurrence: J.L. (Jim) Rule
Chief Administrative Officer**

The following appendices are attached hereto:

Appendix A – Regional review- matrix showing tandem regulations in other jurisdictions;
Appendix B – Scenario Comparison Chart
Appendix C – Scenario 2A
Appendix D – Scenario 2B
Appendix E – Scenario 2C
Appendix F – Scenario 2D
Appendix G – Scenario 3A
Appendix H – Scenario 3B
Appendix I – Scenario 3C
Appendix J – Scenario 3D
Appendix K – Scenario 2F

APPENDIX B

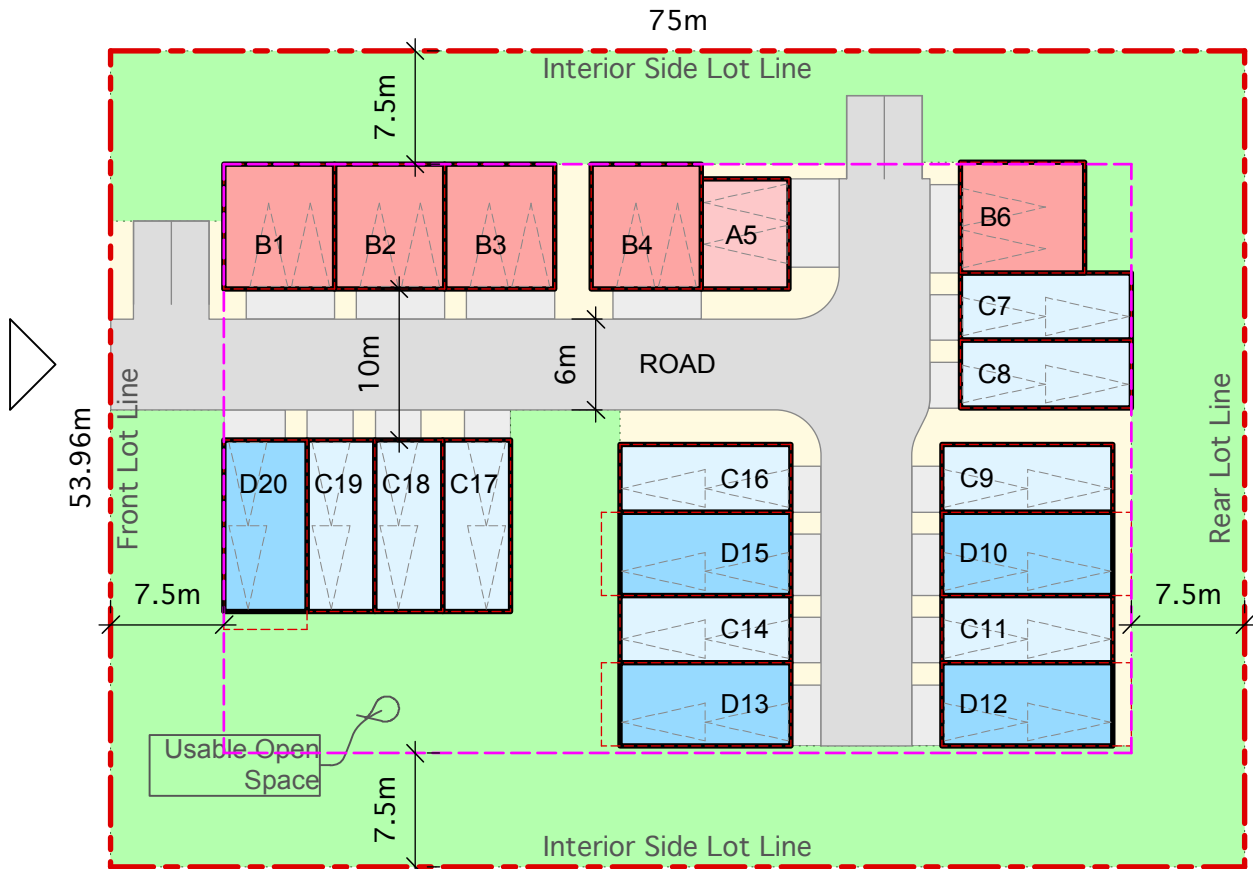
SCENARIO COMPARISON CHART- APPENDIX B

	FSR	Unit / Ha:	Unit / Acre	# of 3 bdrms	# of 2 bdrms	% of Tandem Stalls	Usable Open Space	Site Coverage	Total Hard surfaces (Excludes Site Coverage)
Scenario 1A	0.608	51.9	21	11	10	100 %	2,011 m2	31 %	15 %
Scenario 1B	0.608	51.9	21	11	10	100 %	2,011 m2	31 %	15 %
Scenario 1C	0.574	49.4	20	10	10	100 %	1,980 m2	30 %	17 %
Scenario 1D	0.517	44.5	18	9	9	100 %	1,886 m2	27 %	22 %
Scenario 2A	0.562	49.4	20	9	11	70 %	2,048 m2	28 %	18 %
Scenario 2B	0.562	49.4	20	9	11	70 %	2,048 m2	28 %	18 %
Scenario 2C	0.574	49.4	20	10	10	70 %	1,893 m2	28 %	21 %
Scenario 2D	0.539	47.0	19	9	10	74 %	1,699 m2	27 %	24 %
Scenario 2E	0.471	42.0	17	7	10	65 %	2,097 m2	23 %	21 %
Scenario 2Eb	0.517	44.5	18	9	9	72 %	2,089 m2	26 %	21 %
Scenario 2F	0.574	49.4	20	10	10	70 %	1,703 m2	28 %	24 %
Scenario 2Fb	0.574	49.4	20	10	10	70 %	1,870 m2	28 %	22 %
Scenario 3A	0.574	49.4	20	10	10	50 %	1,993 m2	28 %	19 %
Scenario 3B	0.574	49.4	20	10	10	50 %	1,993 m2	28 %	19 %
Scenario 3C	0.574	49.4	20	10	10	50 %	1,819 m2	28 %	23 %
Scenario 3D	0.494	42.0	17	9	8	53 %	2,016 m2	24 %	22 %
Scenario 3E	0.471	39.5	16	9	7	69 %	2,048 m2	23 %	21 %
Scenario 3Eb	0.494	42.0	17	9	8	53 %	2,094 m2	24 %	22 %
Scenario 3F	0.551	47.0	19	10	9	53 %	1,795 m2	27 %	24 %
Scenario 3Fb	0.539	47.0	19	9	10	47 %	1,857 m2	26 %	25 %
Scenario 4A	0.539	47.0	19	9	10	0 %	1,885 m2	25 %	24 %
Scenario 4B	0.539	47.0	19	9	10	0 %	1,885 m2	25 %	24 %
Scenario 4C	0.539	47.0	19	9	10	0 %	1,731 m2	25 %	26 %
Scenario 4D	0.425	37.1	15	7	8	0 %	1,943 m2	19 %	26 %

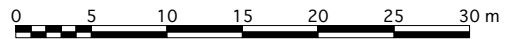
7.5. Scenario 2A - 70% tandem units as the RM-1 zone permits today

Variables

1)	Parking Type:	70% of Tandem & 30% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway



Scenario 2A - Site Plan
Scale: 1:500

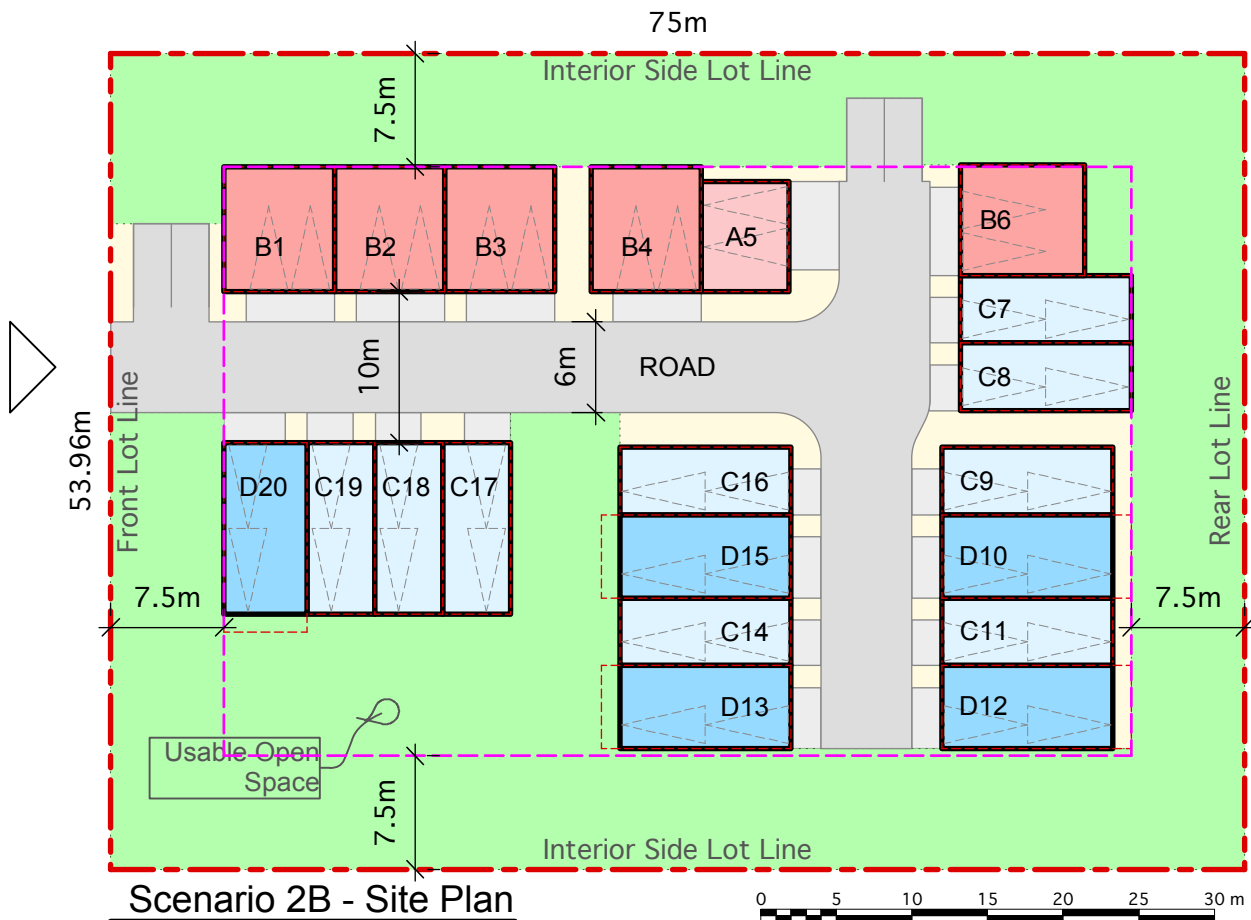


Site Plan Reconciliation			
	Provided	Required	
# Units	20 Units		Site Area
# of 3 Bedrooms	10 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	70 %		2,323 m ² = 25,000 sq ft
% of double stall to units	30 %		Road Area:
Usable Open Space	1,972 m ²	750 m ²	579 m ² = 6,236 sq ft
Common Activity Area	100 m ²	100 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls	4 stalls	173 m ² = 1,860 sq ft
FSR:	0.574	0.600	Site Coverage:
Building Site Coverage:	28.3 %	40.0 %	1,146 m ² = 12,337 sq ft
			Unit / Ha:
			49.421
			Road Site Coverage:
			14.3 %
			Driveway Site Coverage:
			4.3 %
			Total Hard Surface Coverage:
			18.6 %

7.6. Scenario 2B - 70% tandem units with increased UOS & CAA

Variables

1)	Parking Type:	70% of Tandem & 30% of Double Wide parking stalls
2)	Usable Open Space:	50 m² / 3 Bedroom & 35 m² for 2 Bedroom
3)	Common activity area:	10 m² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway

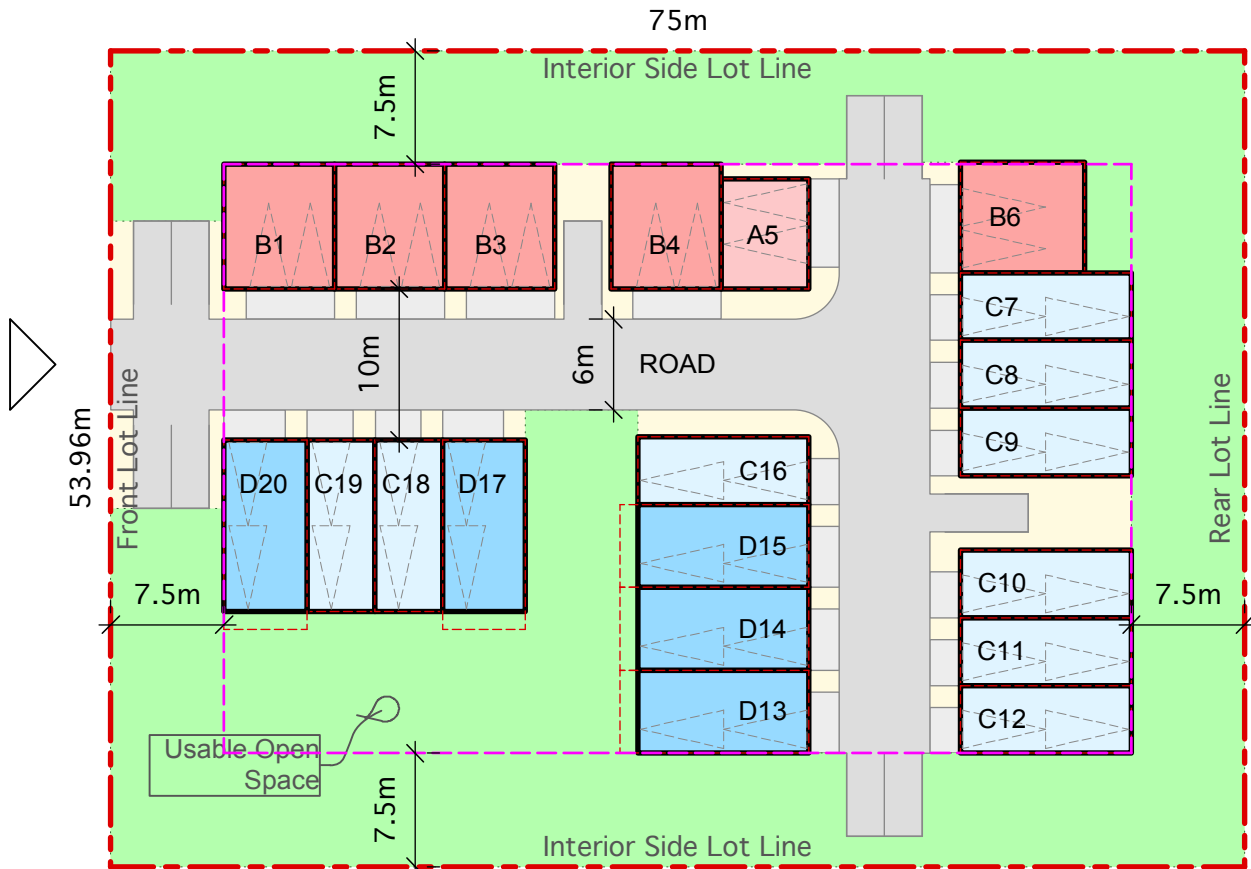


Site Plan Reconciliation			
	Provided	Required	
# Units	20 Units		Site Area
# of 3 Bedrooms	10 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	70 %		2,323 m ² = 25,000 sq ft
% of double stall to units	30 %		Road Area:
Usable Open Space	1,972 m ²	850 m ²	579 m ² = 6,236 sq ft
Common Activity Area	200 m ²	200 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls	4 stalls	173 m ² = 1,860 sq ft
FSR:	0.574	0.600	Site Coverage:
Building Site Coverage:	28.3 %	40.0 %	1,146 m ² = 12,337 sq ft
			Unit / Ha:
			49.421
			Road Site Coverage:
			14.3 %
			Driveway Site Coverage:
			4.3 %
			Total Hard Surface Coverage:
			18.6 %

7.7. Scenario 2C - 70% tandem units with increased visitor parking ratio

Variables

1)	Parking Type:	70% of Tandem & 30% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.5 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway



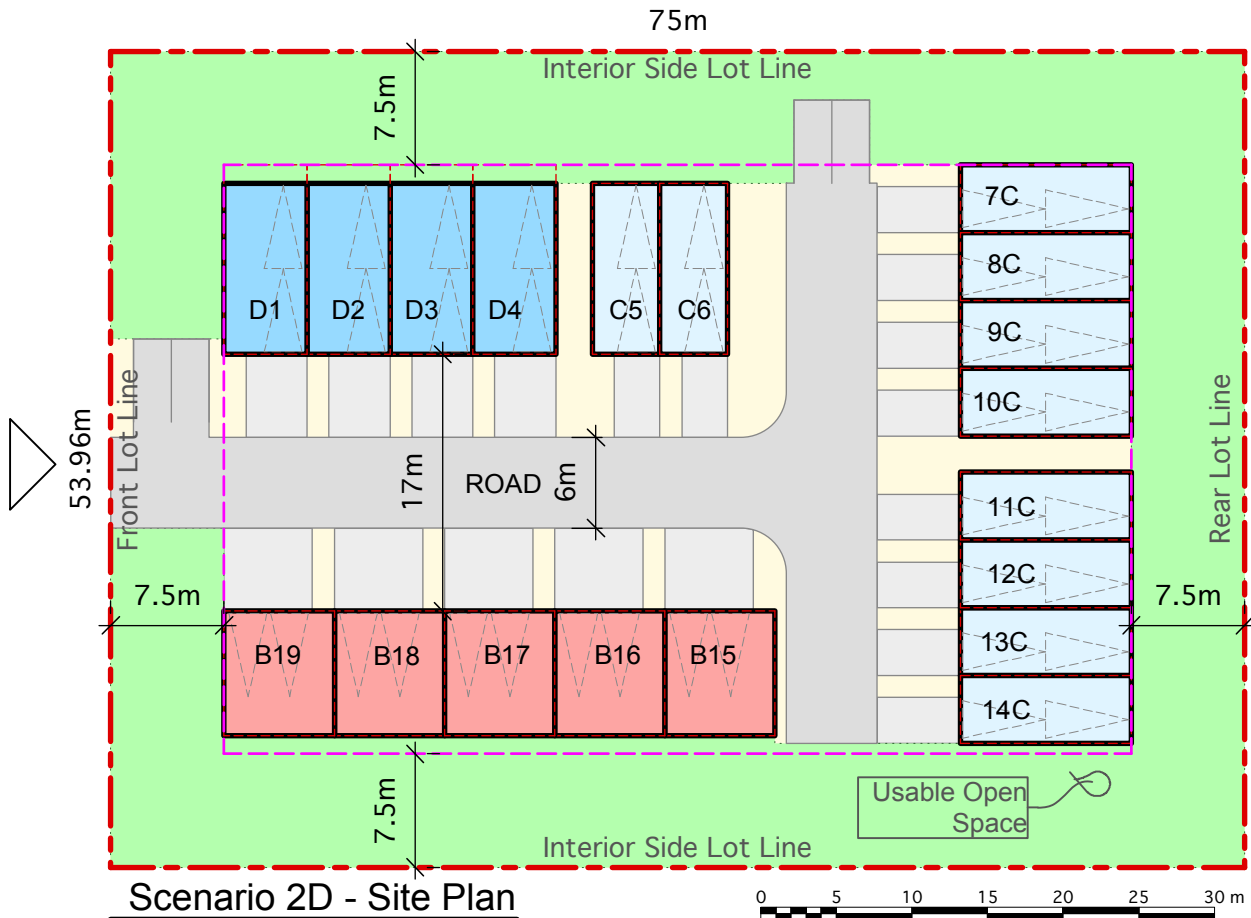
Scenario 2C - Site Plan
Scale: 1:500

Site Plan Reconciliation			
	Provided	Required	
# Units	20 Units		Site Area
# of 3 Bedrooms	10 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	70 %		2,323 m ² = 25,000 sq ft
% of double stall to units	30 %		Road Area:
Usable Open Space	1,893 m ²	750 m ²	674 m ² = 7,250 sq ft
Common Activity Area	100 m ²	100 m ²	Driveway Area:
Visitor Parking @ 0.5	10 stalls	10 stalls	165 m ² = 1,777 sq ft
FSR:	0.574	0.600	Site Coverage:
Building Site Coverage:	28.3 %	40.0 %	1,146 m ² = 12,337 sq ft
			Unit / Ha:
			49.421
			Road Site Coverage:
			16.6 %
			Driveway Site Coverage:
			4.1 %
			Total Hard Surface Coverage:
			20.7 %

7.8. Scenario 2D - 70% tandem units with increased apron length

Variables

1)	Parking Type:	70% of Tandem & 30% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	5.5m unit driveway

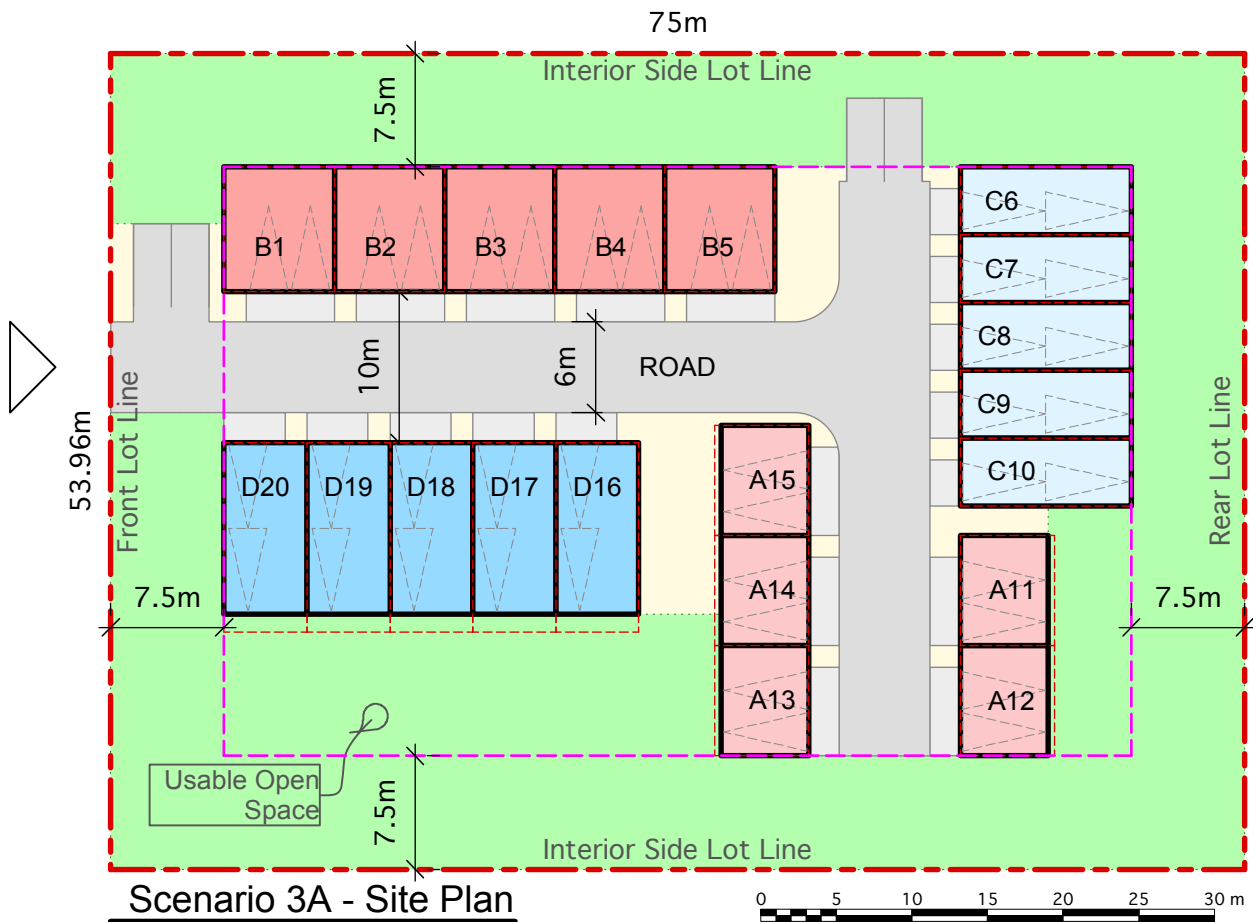


Site Plan Reconciliation			
	Provided	Required	
# Units	19 Units		Site Area
# of 3 Bedrooms	9 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	74 %		2,183 m ² = 23,500 sq ft
% of double stall to units	26 %		Road Area:
Usable Open Space	1,699 m ²	705 m ²	554 m ² = 5,967 sq ft
Common Activity Area	95 m ²	95 m ²	Driveway Area:
Visitor Parking @ 0.2	5 stalls	3.8 stalls	416 m² = 4,482 sq ft
FSR:	0.539	0.600	Site Coverage:
Building Site Coverage:	26.8 %	40.0 %	1,083 m ² = 11,654 sq ft
			Unit / Ha:
			46.95
			Road Site Coverage:
			13.7 %
			Driveway Site Coverage:
			10.3 %
			Total Hard Surface Coverage:
			24.0 %

7.13. Scenario 3A - 50% tandem units as the RM-1 zone permits today

Variables

1)	Parking Type:	50% of Tandem & 50% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway



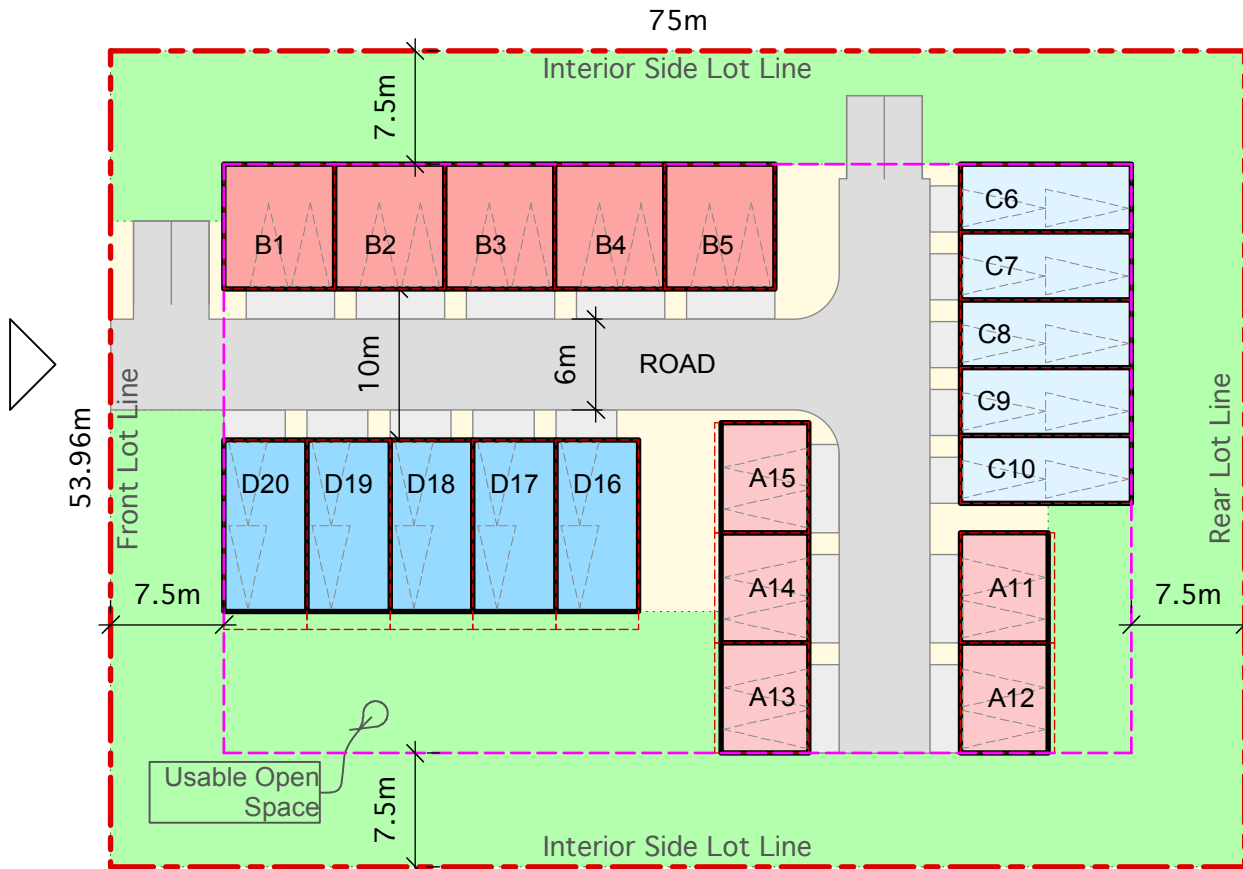
Site Plan Reconciliation

	Provided	Required		
# Units	20 Units		Site Area	4,047 m ² = 43,560 sq ft
# of 3 Bedrooms	10 Units		GFA	2,323 m ² = 25,000 sq ft
# of 2 Bedrooms	10 Units		Road Area:	581 m ² = 6,253 sq ft
% of tandem stall to units	50 %		Driveway Area:	188 m ² = 2,019 sq ft
% of double stall to units	50 %		Site Coverage:	1,125 m ² = 12,110 sq ft
Usable Open Space	1,993 m ²	750 m ²	Unit / Ha:	49.421
Common Activity Area	100 m ²	100 m ²	Road Site Coverage:	14.4 %
Visitor Parking @ 0.2	4 stalls	4 stalls	Driveway Site Coverage:	4.6 %
FSR:	0.574	0.600	Total Hard Surface Coverage:	19.0 %
Building Site Coverage:	27.8 %	40.0 %		

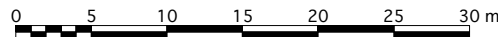
7.14. Scenario 3B - 50% tandem units with increased UOS & CAA

Variables

1)	Parking Type:	50% of Tandem & 50% of Double Wide parking stalls
2)	Usable Open Space:	50 m² / 3 Bedroom & 35 m² for 2 Bedroom
3)	Common activity area:	10 m² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway



Scenario 3B - Site Plan
Scale: 1:500

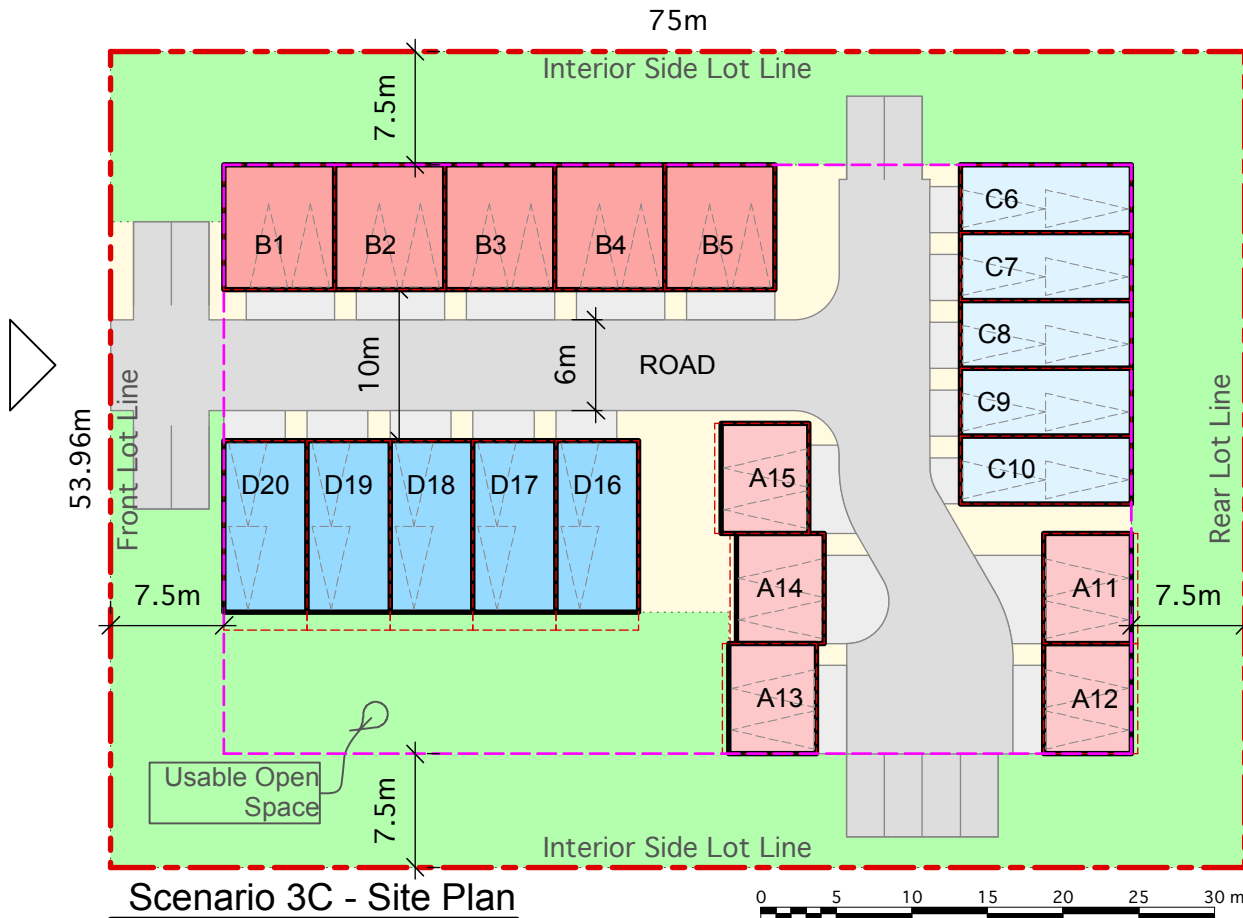


Site Plan Reconciliation			
	Provided	Required	
# Units	20 Units		Site Area
# of 3 Bedrooms	10 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	50 %		2,323 m ² = 25,000 sq ft
% of double stall to units	50 %		Road Area:
Usable Open Space	1,993 m ²	850 m ²	581 m ² = 6,253 sq ft
Common Activity Area	200 m ²	200 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls	4 stalls	188 m ² = 2,019 sq ft
FSR:	0.574	0.600	Site Coverage:
Building Site Coverage:	27.8 %	40.0 %	1,125 m ² = 12,110 sq ft
			Unit / Ha:
			49.421
			Road Site Coverage:
			14.4 %
			Driveway Site Coverage:
			4.6 %
			Total Hard Surface Coverage:
			19.0 %

7.15. Scenario 3C - 50% tandem units with increased visitor parking ratio

Variables

1)	Parking Type:	50% of Tandem & 50% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.5 visitor stalls / unit
5)	Driveway Apron:	1.0m unit driveway



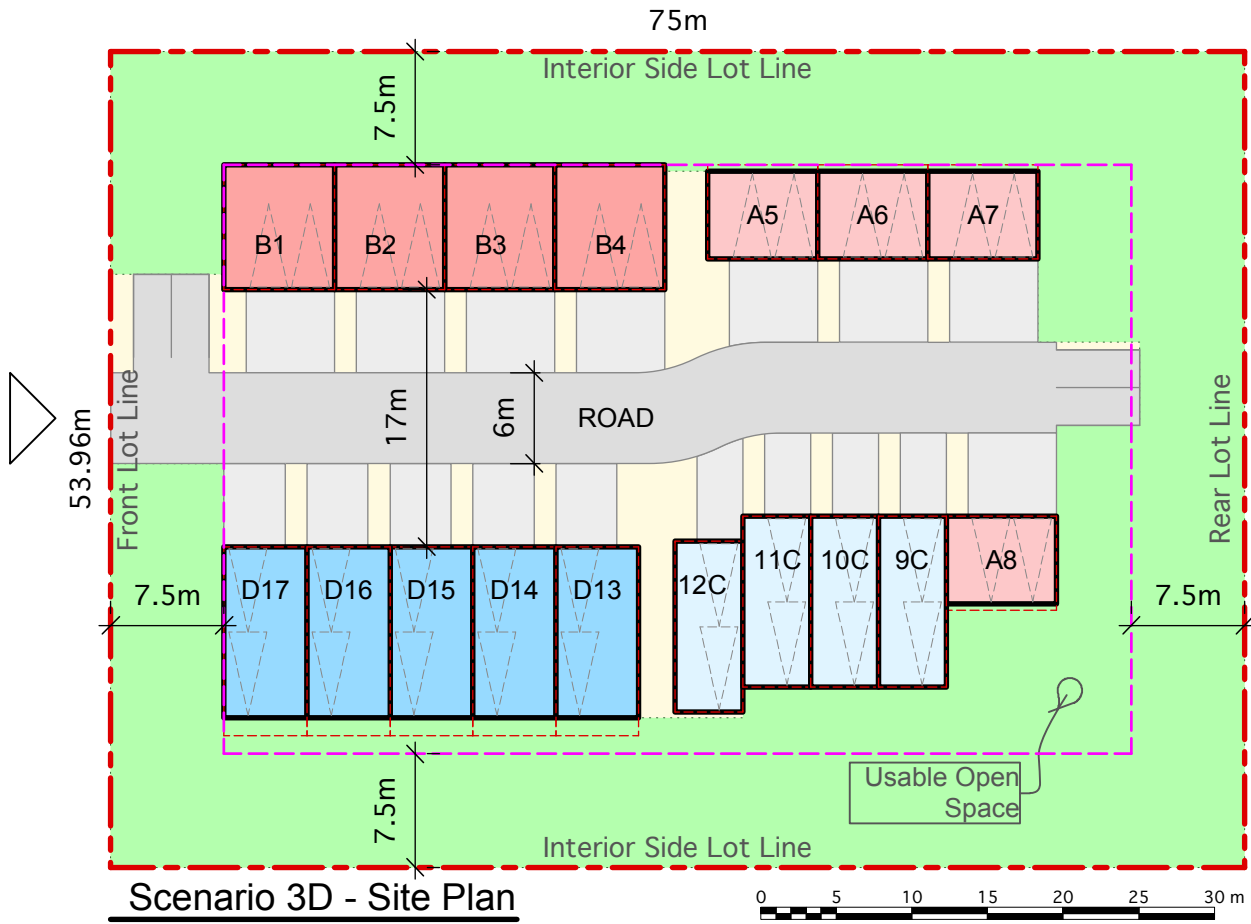
Site Plan Reconciliation

	Provided	Required		
# Units	20 Units		Site Area	4,047 m ² = 43,560 sq ft
# of 3 Bedrooms	10 Units		GFA	2,323 m ² = 25,000 sq ft
# of 2 Bedrooms	10 Units		Road Area:	718 m ² = 7,731 sq ft
% of tandem stall to units	50 %		Driveway Area:	205 m ² = 2,205 sq ft
% of double stall to units	50 %		Site Coverage:	1,125 m ² = 12,110 sq ft
Usable Open Space	1,819 m ²	750 m ²	Unit / Ha:	49.421
Common Activity Area	100 m ²	100 m ²	Road Site Coverage:	17.7 %
Visitor Parking @ 0.5	10 stalls	10 stalls	Driveway Site Coverage:	5.1 %
FSR:	0.574	0.600	Total Hard Surface Coverage:	22.8 %
Building Site Coverage:	27.8 %	40.0 %		

7.16. Scenario 3D - 50% tandem units with increased apron length

Variables

1)	Parking Type:	50% of Tandem & 50% of Double Wide parking stalls
2)	Usable Open Space:	45 m ² / 3 Bedroom & 30 m ² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.2 visitor stalls / unit
5)	Driveway Apron:	5.5m unit driveway



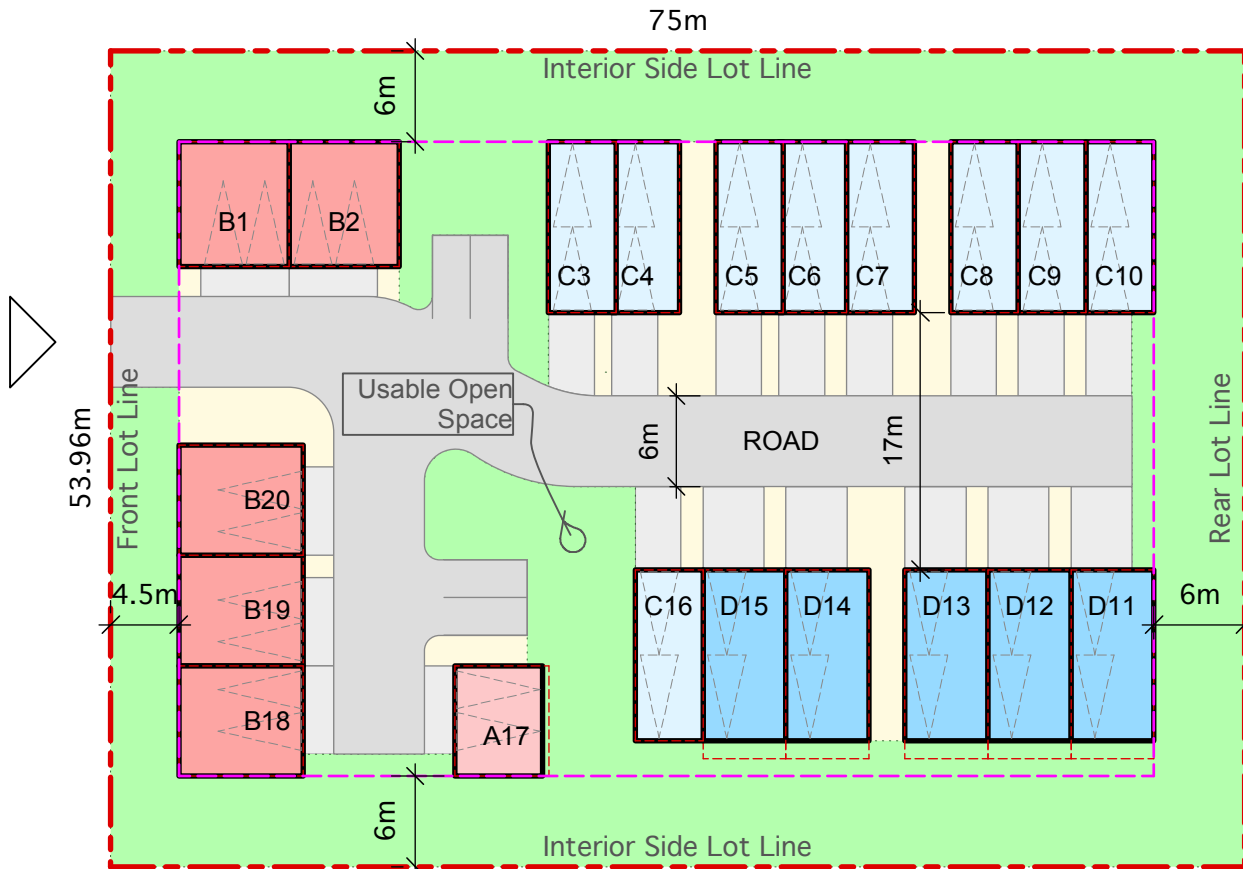
Scenario 3D - Site Plan
Scale: 1:500

Site Plan Reconciliation		Provided	Required	
# Units		17 Units		Site Area
# of 3 Bedrooms		9 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms		8 Units		GFA
% of tandem stall to units		53 %		1,997 m ² = 21,500 sq ft
% of double stall to units		47 %		Road Area:
Usable Open Space	2,016 m ²		645 m ²	438 m ² = 4,713 sq ft
Common Activity Area	85 m ²		85 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls		3.4 stalls	437 m² = 4,707 sq ft
FSR:	0.494		0.600	Site Coverage:
Building Site Coverage:	23.9 %		40.0 %	969 m ² = 10,427 sq ft
				Unit / Ha:
				42.008
				Road Site Coverage:
				10.8 %
				Driveway Site Coverage:
				10.8 %
				Total Hard Surface Coverage:
				21.6 %

7.11. Scenario 2F - 70% tandem units with variances

Variables

1)	Parking Type:	70% of Tandem & 30% of Double Wide parking stalls
2)	Usable Open Space:	65 m² / 3 Bedroom & 50 m² for 2 Bedroom
3)	Common activity area:	5 m ² / unit
4)	Parking:	0.2 visitor stalls / unit Visitor parking complies with setbacks
5)	Driveway Apron:	5.5m unit driveway, tandem garage only
6)	Variances:	Front Yard Setback 4.5m, all other setbacks 6.0m



Scenario 2F - Site Plan
Scale: 1:500

Site Plan Reconciliation			
	Provided	Required	
# Units	20 Units		Site Area
# of 3 Bedrooms	10 Units		4,047 m ² = 43,560 sq ft
# of 2 Bedrooms	10 Units		GFA
% of tandem stall to units	70 %		2,323 m ² = 25,000 sq ft
% of double stall to units	30 %		Road Area:
Usable Open Space	1,703 m²	1150 m²	635 m ² = 6,831 sq ft
Common Activity Area	100 m ²	100 m ²	Driveway Area:
Visitor Parking @ 0.2	4 stalls	4 stalls	331 m² = 3,560 sq ft
FSR:	0.574	0.600	Site Coverage:
Building Site Coverage:	28.3 %	40.0 %	1,146 m ² = 12,337 sq ft
			Unit / Ha:
			49.421
			Road Site Coverage:
			15.7 %
			Driveway Site Coverage:
			8.2 %
			Total Hard Surface Coverage:
			23.9 %