5 Built Form





5 Built Form

5.1 Block and Building Design Concept

Block, parcel, and building design in Little Mountain is based largely on the public realm concept, and the historical site context. The intention is for the buildings to frame and reinforce a coherent and holistic public open space system rather than architectural objects producing leftover spaces. This is achieved through the use of two design strategies: first, by aligning the bulk of building façades with the streets and open spaces, framing them and providing 'eyes on the street'; and second, by proposing buildings with a height and massing that allows a comfortable and distinctive public realm.

Along streets, building heights vis-à-vis street cross sections maintain traditional proportions of 1:1 to 2:1, ensuring an urban sense of place, while upper floor stepbacks reduce the apparent bulk of the buildings from the street level. Public spaces such as the Community Plaza and the Wedge Park, while also bordered with buildings, provide a more generous space than streets and mews, giving variety and amplitude to the overall scheme. The contrast between longitudinal circulation space and livable community space allows the public spaces to have more emphasis, be more legible, and become markers for intuitive wayfinding.

This traditional closed-block urban concept is further overlaid by breaks in the building façades that provide relief from overly long frontages. This porous façade allows for a better integration with the finer-grained surrounding single-family neighbourhoods, for better illumination and ventilation, and for intermittent sun access along all public and private open spaces. Breaking up the block structure is also necessary to increase physical and visual permeability – a precondition for a context-sensitive design that connects to its surroundings.

Building height also contributes to the integration of the site to its immediate neighbours, with shorter buildings at the site edges that are adjacent to existing residential buildings and with taller buildings along Main Street and the Community Plaza, Queen Elizabeth Park and central to the site. In addition, the use of terracing upper floors helps to transition the taller masses to shorter forms at every opportunity.

Table 5-1: Parcel-Based Development Statistics

Parcel	Parcel area		Gross building area*	
Faicei	m²	sq. ft.	m²	sq. ft.
AA	2,601	27,995	9,835	105,860
AB	3,742	40,274	5,409	58,224
AC	1,944	20,923	6,962	74,934
BA	2,099	22,594	6,730	72,440
BB	1,916	20,628	3,942	42,431
BC	3,458	37,223	10,372	111,640
CA	4,548	48,957	9,929	106,880
CB/CC	7,709	82,983	24,549	264,246
CD	4,736	50,981	19,515	210,059
DA	2,181	23,478	6,369	68,560
DB/DC	4,980	53,609	15,703	169,029
DD	3,047	32,799	15,400	165,760
EA	2,195	23,624	4,667	50,240
EB	2,554	27,491	8,022	86,348
EC	1,646	17,717	7,211	77,615
TOTAL	49,356	531,276	154,615	1,664,266

*Approximate, based on proposed building massing – final building and parcel areas may vary, provided overall density of 2.5 FSR is not exceeded.

Figure 5-1: Parcels and Buildings





5.2 Development Quadrants / Adjacent Area

The description of massing through this section references surrounding developments, both existing and planned. Of particular relevance is the recent completion of the Little Mountain Adjacent Area Rezoning Policy. This policy outlines new building types and heights permitted within the Adjacent Area, northeast of the project boundary. The policy permits the development of 4 to 6 storeys apartments and townhomes, as seen in Figure 5-2 below. Consolidation and construction within this area is likely to proceed within the near term. Building heights and transitions have been determined within the Little Mountain development so as to respect the surrounding single family homes, while also recognizing the potential redevelopment of the Adjacent Area.



Figure 5-3: Development Quadrants



Figure 5-2: Building forms/types permitted in the Adjacent Area



5.3 Building Massing

Building Heights 5.3.1

Building heights vary considerably across the site in order to respond to the objectives of contextual integration and unity/variety. Building heights range from four storeys to twelve storeys, with the higher buildings located in the central portions of the site, where their perceived size is minimized from the surrounding residential areas. Conversely, the buildings with lower heights are located at the northern and southern edges of the site, where two-storeys houses are across 33rd and 37th Avenues, respectively. Numerous parcel and building edges are 1-4 storeys to add to the contextual integration overall.

Upper floors on all buildings are stepped back between 8 and 20 feet to provide variety and architectural interest, transition, and decrease apparent height and increase solar access on the parks and open spaces.

Buildings that border the public lane of the northeast guadrant are 4 to 8 storeys high and step down to the site's limits, respecting the Adjacent Area rezoning policy and providing some transition between the development and the existing single family houses.

The two tallest buildings (up to 12 storeys) are located in proximity to the Wedge Park, near the centre of the development. The southern building is pulled back from the park to minimize shadowing, while the northern building is situated at the eastern end of the Wedge Park, creating a height transition to Queen Elizabeth

Park, and serving as a signature building to the development.

Four buildings up to ten storeys are located along the Ontario Street frontage and southern portion of the new central street. All are designed with upper floor stepbacks, providing transitions to adjacent shorter buildings. Additional stepbacks along the 10-storeys building west of the Community Plaza are included to increase solar access onto the plaza and the Daycare outdoor play area.

Four buildings up to eight storeys are located along the Community Plaza and Main Street and at the entrance to the site from 35th Avenue. These buildings help frame these important spaces, and will ensure a vibrant and animated Community Plaza, with many 'eyes on the street'. The building in the southeast corner of the site provides stepbacks to the north for solar access on the plaza, and to the south to transition with the surrounding single family homes.

Seven buildings 6 storeys and lower are located primarily along those edges adjacent to existing residential neighbourhoods: 33rd Avenue to the north; 37th Avenue to the south; and the Adjacent Area to the east. These buildings have stepped upper floors to assist with the transition to the neighbouring residential buildings.



Figure 5-4: Building Site Percent Coverage by Height



Figure 5-5: Density, Massing, and Height Plan



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5.3.2 Coverage

Site coverage by buildings is 40%, based on gross site area, reflecting successful residential midrise development patterns in Vancouver and other Canadian cities. Moreover, this building coverage corresponds to traditional city building parameters that ensures a balance between open spaces – public, semi-public, and private – and built-up areas. This, in conjunction with the design strategy of aligning most building frontages with the streets and public spaces, and breaking down the massing into individual buildings with reasonable length, results in a porous, open block design that allows permeability, spatial definition of public spaces, and good solar access.

The result is a fluid, yet contained spatial experience that rewards the resident and visitor with an array of places that are either physically or visually connected – from the traditional street framed by buildings to the more open public spaces, and from the courtyards to the more intimate pedestrian mews. Together with the offgrid angles maintained from the site's historical plan, this arrangement of building footprints allows for a sequence of views and focal points throughout the site. Some views allow for the appreciation of a particular urban space, such as a linear street. Some views open up to large open spaces outside the site, such as the view from Wedge Park towards the much larger Queen Elizabeth Park, while others only reveal a glimpse of what is behind a building or around the corner, such as an interior courtyard, a mature tree, or the park.

In all, the urban form product of building size and placement enriches the urban experience for the citizen, piques the curiosity to explore the different spaces, and gives the plan enough variety and interest within a unified, overarching structure.



Ground Floor Building Footprint (minimum 40% of site area)

---- Project Boundary



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5.3.3 Setbacks

Building setbacks are varied along the site's boundaries, not only to provide a varied pedestrian experience from the public realm, but also to preserve significant trees.

- Along 37th Avenue and Ontario Street the setback is set to a typical 12 feet. This allows for the use of patios for the ground floor units of the buildings as a transition between the public and the private realm, adding variety and interest at the ground floor along the sidewalk and increasing activity at street level.
- In several locations throughout the plan, 16+ feet setbacks to protect existing trees. The full extent of the setback will be determined by an arborists study, conducted during detailed design.
- Along Main Street, the buildings are set back 5 feet in order to widen the existing sidewalk, enhancing the ground floor retail / commercial experience. Further, to preserve some of the large trees that are located just inside the property, these buildings will include notches in the ground floor setback. This way, both the benefits of a continuous frontage on Main Street and the preservation of the trees is achieved.

The upper floor residential uses are also setback further from the street, taking advantage of the site's flexibility, and in an effort to preserve significant trees along the arterial streetscape.

- The development's internal setbacks vary in response to the different edge conditions required. The majority of buildings are set back 12 feet to provide residential patios in a private-public transition or outdoor seating opportunities in areas with ground floor retail. Along certain frontages, this typical setback can be reduced to 8 feet, improving design flexibility.
- Along the new central street, to accommodate the linear rain water feature, and at the western end of 36th Avenue to protect existing trees, building setbacks vary between 16-26 feet to accommodate the complex and detailed building and landscape design parameters.
- Buildings along the Quebec Street extension are set back 5 feet to frame the continuation of this right-of-way.
- Along the existing public lanes, a minimum setback of 5 feet allows for a landscape buffer, while upper floor residential is further stepped back as building height rises.



Figure 5-7: Building Setbacks





5.3.4 Parking and Loading

.1 Underground Parking Access

Almost all parking within the private parcels is located underground to minimize the negative effects of parked automobiles to the quality of the urban environment. (The exception are the Daycare and Neighbourhood House, which have street-level drop-off parking at the rear.) All parking garages are located completely within the individual parcels; there is no parking under any street public right-ofway or dedicated public land (except for parcel AB, which is dedicated to the City.

About 90% of all underground area destined to parking corresponds to two-storeys parkades; the rest is one level only. The parkades occupy the majority of the parcels, but not all private land is occupied in order to maintain existing trees worth preserving, usually along the edge setbacks to existing streets but also for a couple of individual trees at the center of the site.

All vehicular accesses to underground parkades are located off the New Central Street or the back lanes; in no case is there any vehicular access from 33rd and 37th Avenues nor from Ontario Street to minimize any negative traffic impact on the surrounding residential neighbourhood.

Access to the underground parkades depends on the parcel: For parcels C and D, the ramp access is off the internal drop-off / turnaround at the private courtyard; for parcels that abut to the northeast quadrant, it is through the back lane; and for all other parcels or individual buildings it is from the public street and through the building itself. The location for vehicular ramps was carefully chosen to minimize the effects on the pedestrian environment, giving the higher priority and hierarchy to pedestrian circulations and entrances over vehicular access points.

.2 Loading

Loading spaces are provided for retail / commercial and residential uses, which is located on the ground floors of buildings AB and BC (~7,745 sq. ft. and ~20,000 sq. ft., respectively). The proposal includes one loading space for building AC, accessible from the lane, and three loading spaces for building BC. accessible from 36th Avenue.

The Neighbourhood House and the Daycare would share the loading spaces with building AC.

Two residential clusters – Buildings CB, CC and CD; Buildings DB, DC and DD – are both proposed to share two loading spaces within their respective drive courts. These spaces will be reserved, but will be designed with a consistent paving pattern as the rest of the entryway.

All other residential buildings contain less than 100 units, and are currently not planned with any offstreet loading. There is the possibility to provide a loading space on the easement between Buildings EC and AA, which may be explored at Development Permit stage, depending on the number of projected residential units.



Figure 5-8: Underground Parking Plan



5.4 Massing Visualizations/Photomontages

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Figure 5-9: View from Southwest







Figure 5-10: View from Southeast

5.4 Massing Visualizations/Photomontages cont'd



Figure 5-11: View from Northwest



Figure 5-12: View from Northeast





5.5 Block & Building Studies

5.5.1 Southeast Quadrant

The southeast quadrant is the community heart, with the Neighbourhood House, Daycare, commercial uses and community plaza. Invigorated by residential buildings above, the plaza will be a vibrant and active space.

The southeast quadrant will be the first area of the site to be developed, and will create a strong gateway to the development from Main Street.

The Neighbourhood House and the Daycare are located in the building to the west of the plaza, with excellent visibility and accessibility to the community. The Daycare incorporates four existing mature trees within the outdoor play area. At-grade drop-off spaces are provided for the Daycare from the lane to the north.

Mid-rise residential buildings include both market and non-market residential. Upper floors are stepped to provide a transition with adjacent residential uses, to decrease the apparent building mass, and to increase solar access on the Community Plaza.

The development statistics for the southeast quadrant are shown in Table 5-2.

Figure 5-13: Southeast Quadrant



Table 5-2: Development statistics

Use	Area gross m ²	Area gross sq. ft.
Retail / Commercial	2,578	27,745
Daycare	764	8,224
Neighbourhood House	1,115	12,000
Non-market Housing: Families	18,286	196,829
Non-market Housing: Seniors	3,942	42,431
Market Housing	23,776	255,915
TOTAL	50,461	543,144

Note: Approximate, based on proposed building massing – final floor areas by use may vary, provided overall density of 2.5 FSR is not exceeded.



Figure 5-14: Southeast Quadrant, View 1

Figure 5-15: Southeast Quadrant, View 2



Figure 5-16: Southeast Quadrant, View 3



Figure 5-17: Southeast Quadrant, View 4







5.5.1 Southeast Quadrant cont'd

Vehicular circulation is coordinated so as to create as seamless of a public realm for pedestrian and bicycle use as possible. For the buildings in the north half of the site, parking access and loading spaces are provided off of the public lane, reducing vehicular trips on 36th and the new central street. This includes Daycare drop-off/pick-up spaces, which are provided at grade behind the Daycare building. Two loading spaces, to be shared between buildings AB and AC are included at the back of building AC. For buildings BA and BC, vehicular access is restricted from 37th Avenue; as such, parking and loading is accessed off of 36th Avenue. Three loading spaces are located between buildings BB and BC.

Primary entrances to the various buildings are located off public streets and the plaza. Several buildings may have secondary entrances, which will be finalized at detailed design.















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Figure 5-22: Southeast Quadrant, Section B-B



Figure 5-23: Southeast Quadrant, Section C-C



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Figure 5-25: Southeast Quadrant, Section E-E



Figure 5-26: Southeast Quadrant, Section F-F









5.5.2 Southwest Quadrant

The southwest quadrant is characterized by courtyards and public parks. Market residential buildings frame the open spaces, with building height increasing from the south to north.

A public pedestrian mews (easement) is provided connecting the Community Plaza to the east with Queen Elizabeth Park to the west. Ground level residential units along the path help animate the path and increase neighbourliness.

A large semi-private courtyard is provided, framed by the three taller buildings in the north. Three storeys townhomes are located at the southern end of the courtyard to enhance solar access and ensure a human scale along the mews. The courtyard will provide outdoor amenity space for all residents in the quadrant.

The quadrant is bounded by the Wedge Park at the north. The tallest building within the quadrant is set back from the Wedge Park to minimize shadowing, in favour of 3 and 4 storeys buildings directly fronting the Park. All other buildings provide stepbacks along their southern edges to transition to the adjacent residential uses and reduce the apparent height of the buildings. The southernmost buildings vary in height between 4-6 storeys.

たたたたたたた Wedge Park Private front patios Townhomes Drive court Linear rain garden Private courtyard Inner private patios Public easement Community gardens within Quebec Street extension Retained existing trees \mathbf{T}

Figure 5-27: Southwest Quadrant

Table 5-3: Development statistics

Use	Area gross m²	Area gross sq. ft.
Market Housing	53,993	581,185
TOTAL	53,993	581,185

Note: Approximate, based on proposed building massing – final floor areas by use may vary, provided overall density of 2.5 FSR is not exceeded.







Figure 5-28: Southwest Quadrant, View 1

Figure 5-29: Southwest Quadrant, View 2



Figure 5-30: Southwest Quadrant, View 3



Figure 5-31: Southwest Quadrant, View 4







5.5.2 Southwest Quadrant cont'd

Vehicular access to the buildings within the southwest quadrant is restricted to the new central street in order to minimize cars/trucks from the two surrounding bikeways (Ontario Street and 37th Avenue). Two access points are included: access in the south serves as an extension of 36th Avenue, and creates a three-way intersection with the new central street; and a northern access point creates a drive court that serves as a drop-off, loading zone and provides underground parking access for the northern buildings within the quadrant.

Primary pedestrian entrances to the various buildings are located off public streets and the drive court. Secondary entrances may be included to provide additional access to the courtyard space, which will be finalized at detailed design.



Figure 5-32: Southwest Quadrant Ground Level Plan

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Figure 5-34: Southwest Quadrant Upper Level Plan















Figure 5-36: Southwest Quadrant, Section B-B







Section Key Plan







Figure 5-38: Southwest Quadrant, Section D-D





5.5.3 Northwest Quadrant

The northwest quadrant contains the final residential buildings that will be constructed within the Little Mountain development. The tight geometry of the quadrant lends to the development of regularized buildings that frame both Ontario Street and the new central street.

The buildings fronting Ontario Street and the Wedge Park are taller, and contain many terraces to provide transitions and visual interest. The tallest building is situated at the key crossroads of 35th Ave., the new central street and the Wedge Park, and is envisioned to be an iconic building within the site. The remaining buildings are six storeys or shorter, responding the more compact nature of the quadrant and building heights adjacent to the development.

Two public pedestrian mews (easements) are provided, linking the Adjacent Area to the east with Queen Elizabeth Park to the west. The linear rain garden will create visual interest along the central street, and will link the quadrant with the southern quadrants described above.

The development statistics for the northwest quadrant are shown in Table 5-4.



Table 5-4: Development statistics

Use	Area gross m²	Area gross sq. ft.
Non-market Housing: Families	4,667	50,240
Market Housing	45,494	489,697
TOTAL	50,161	539,937

Note: Approximate, based on proposed building massing – final floor areas by use may vary, provided overall density of 2.5 FSR is not exceeded.





Figure 5-40: Northwest Quadrant View 1

Figure 5-41: Northwest Quadrant View 2



Figure 5-42: Northwest Quadrant View 3



Figure 5-43: Northwest Quadrant View 4







Northwest Quadrant cont'd 5.5.3

Vehicular access to the buildings west of the new central street is provided off that street, as access is restricted from 33rd Avenue and from the Ontario Street bikeway in order to minimize cars/trucks. One access point is provided for buildings DA-DD, which will serve as a drop-off area, loading, and provide access to underground parking.

The two buildings east of the new central street do not require loading, and will have access to the underground parking from the off-site public lane.

Primary pedestrian entrances to the various buildings are located off public streets and the drive court. Secondary entrances may be included to provide additional access to the courtyard space, which will be finalized at detailed design.

















Figure 5-47: Northwest Quadrant, Section A-A



Figure 5-48: Northwest Quadrant, Section B-B













Figure 5-50: Northwest Quadrant, Section D-D



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5.6 Solar Access/Shadow Studies

A shadow analysis has been prepared, which compares the current plan to the plan prepared for the Little Mountain Policy Statement (representing 2.5 FSR). The plans have slightly different open space areas, as the new central street alignment has been straightened in the current plan, creating a larger Wedge Park.

The shadow analysis focuses particular attention on the solar access of the Wedge Park and Community Plaza. The comparative percentage of these open spaces in sun is provided at each of the times illustrated, as seen on the following pages.



Total Parks & Open Space: 3,036 m²

Total Parks & Open Space: 3,282 m²



5.6 Solar Access/Shadow Studies

Shadow Studies are provided for Summer Solstice and Equinox to assess the shadow impacts of the development.

.1 Summer Solstice



% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Solstice - 10am	97%	98%

Figure 5-54: Summer Solstice – 12 pm

% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Solstice - 12pm	94%	97%

Figure 5-55: Summer Solstice – 2 pm



% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Solstice - 2pm	97%	99%

*Open Space Area represents Wedge Park and Plaza only



Figure 5-56: Summer Solstice – 4 pm

% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Solstice - 4pm	93%	94%

5.6 Solar Access/Shadow Studies

.2 Equinox

Figure 5-57: Equinox – 10 am



% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Equinox - 10am	76%	71%

Figure 5-58: Equinox – 12 pm

% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Equinox - 12pm	74%	77%

Figure 5-59: Equinox – 2 pm



% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Equinox - 2pm	75%	84%

*Open Space Area represents Wedge Park and Plaza only





% Total Open Space Area* in Sun (m²)	Policy Statement Plan (2.5 FSR)	Current Plan
Equinox - 4pm	79%	85%



5.7 View Studies

View studies from various locations around the site were established for the development of the Little Mountain Policy Statement. The same views are represented on the following pages on which the outline of the massing devleoped during the Policy Statement is indicated; however, the massing represented in the Policy Statement has been adjusted from 2.8 to 2.5 FSR to be comparable to this rezoning application.

Careful consideration has been taken into placing taller buildings along Ontario Street, and ensuring good transitions and stepping of height towards adjacent residential neighbourhoods. As a result, views from adjacent residential areas are all improved compared to the massing within the Policy Statement. The current massing establishes a strong boundary to Queen Elizabeth Park, and prominent street wall along Main Street – a retail and transit corridor.



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Figure 5-61: View from top of Queen Elizabeth Park







Figure 5-62: View from pond within Queen Elizabeth Park





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Figure 5-64: View from 33rd Avenue looking east





Figure 5-65: View from 33rd Avenue at Quebec Street looking west



Figure 5-66: View from Main Street at 37th Avenue looking north





Figure 5-67: View from Ontario Street near 37th Avenue looking north



Figure 5-68: View from 37th Avenue at Ontario Street looking east





Figure 5-69: View from Quebec Street at 38th Avenue looking north



Figure 5-70: View from Main Street at 33rd Avenue looking south





Figure 5-71: View from 36th Avenue near Walden Street looking west

5.8 Daycare Shadow Study (Winter Solstice)

A Shadow Study is provided for the Daycare to assess the proposed location relative to the surrounding buildings. The City of Vancouver "Childcare Design Guidelines" document stipulates the requirements for solar access on outdoor play areas during the day at winter solstice.

The shadow studies reveal that the current site achieves the sun penetration requirements. The outdoor areas receive good morning and early afternoon sun.

Figure 5-72: Daycare Shadow Study







10:00 am



10:30 am





11:30 am



12:30 pm

9:00 am



1:00 pm



1:30 pm



2:00 pm

11:00 am

2:30 pm





3:00 pm

3:30 pm

