



Rezoning Application for Cheakamus Crossing Phase II

Parcel Legal Description

BLOCK A DISTRICT LOT 8073 NEW WESTMINSTER DISTRICT GROUP 1, EXCEPT PLAN EPP277

Location and Context

Cheakamus Crossing is located on the south side of the Highway 99 approximately 8km south of Whistler Village. The Cheakamus Crossing Phase II lands, also called the 'Upper Lands', are located at the southeast end of the Cheakamus Crossing neighbourhood adjacent to the Cheakamus River and accessed via upper Mt. Fee Road.

Historical Planning and Analyses

A number of planning processes and technical analyses have preceded this report, and information about them can be referenced in these documents:

- Cheakamus Crossing Development - Second Phase – Technical Memo, Sept 2018, KWL
- Preliminary Geotechnical Investigation Report – Cheakamus Crossing Phase 2, August 2018, GeoPacific Consultants Ltd.
- Cheakamus Crossing Development Master Planning – Second Phase – Site Analysis and Preliminary Concepts, May 2018, BHA
- Cheakamus Area Legacy Neighbourhood Design Guidelines, March 2007

Development Objectives

The objectives of the proposed development are to:

- Meet the current and future housing needs of the community through a diversity of housing types (including a range of options for rental and ownership) and density comparable to and compatible with the existing Cheakamus Crossing neighbourhood
- Maximize the resident restricted housing opportunity, while considering limited market housing
- Protect as much of the site as possible and undertaking the development in an environmentally sensitive manner.
- Optimize livability with an offering of unit types that meets the residents' needs and expectations. This includes providing adequate secured storage and appropriate parking.

Access to the Property

Cheakamus Crossing is accessible from Highway 99 via a paved 8m wide vehicular access along Cheakamus Lake Road across the Walter Zebrowski Bridge over the Cheakamus River. Connections to the neighbourhood are also available via the Valley Trail and other pedestrian trails and bicycle trails as well as Forest Service Roads (FSRs) leading to and from the neighbourhood providing access to the forest and recreation lands beyond.

Vehicle access to the Cheakamus Crossing Phase II parcel from the bridge is along Legacy Way then via Mt. Fee Road uphill towards the intersection of Cloudburst Drive.

It is understood that the single lane West Side Main FSR Bridge will be maintained for emergency egress as well as access to the Cheakamus River parking lots and House Rock recreation areas. It is also the intention that the bulk of the construction service traffic will be routed across this bridge and along the FSR until such time as the Mt. Fee Road extension has been completed.

Adjacent Amenities and Services

Services within the existing Cheakamus Crossing neighbourhood include a daycare, café, convenience store and professional services. Cheakamus Crossing has significant recreation amenities within and around Bayly Park (600m away), including a turf field, tennis courts, outdoor basketball and hockey surfaces, BMX track, children playground and sand volleyball courts.

The adjacent neighbourhood of Function Junction (1.5km away) provides commercial and retail amenities with a wide range of offerings including: restaurants, micro-breweries, cafes, bakery, coffee shops, distillery, gyms, hardware stores, garden centre, home decor, art gallery, office supply, pet store, and professional services. Additionally, play fields, a playground and a community school is located in nearby Spring Creek (2.5 km away).

Adjacent Industrial and Resource Land Uses

The neighbourhood is surrounded by the Cheakamus Community Forest, which is an active logging operation; however, no logging is proposed to occur with 1km of the neighbourhood with the exception of ongoing fuel reduction/thinning. Most areas adjacent to the neighbourhood are protected forest lands.

Future logging truck and industrial use access is planned for a route through the Whistler Aggregates gravel pit and along the Basalt Valley Forest Service Road (FSR). This route is partially complete, and completion would be aligned with future logging schedules. The creation of the Mt. Fee Road extension would facilitate decommissioning the current West Side Main FSR that bisects the site. Beyond the south boundary of the parcel, the FSR will be maintained, ultimately linking the Basalt Valley FSR and providing access to the recreation and industrial areas beyond.

The existing gravel pit and open quarry located to the west of Cheakamus Crossing remains in operation. Operating licences have been extended to 2027 as outlined in the ten year renewal of the licence of occupation for Whistler Aggregates in September 2017. The asphalt plant is also located within this licence area.

Existing Conditions

Recreation trails surround and bisect the 15.49 hectare parcel. The West Side Main Forest Service Road intersects the eastern portion of the parcel. The site is undulating and well-treed, with the exception of a cleared and leveled area at the north end of the site that is currently used for neighbourhood parking.

Existing Land Use and Zoning

Within in the existing neighbourhood of Cheakamus Crossing, there are a mix of land uses including residential, mixed use, commercial, recreation, and short term accommodation at the Athletes' Lodge and Hostel with more remote portions of industrial lands. The Cheakamus Phase II lands are zoned as

Urban Reserve 1 (UR1); permitted uses include a mix of residential options as well as park and playgrounds.

Proposed Rezoning Overview

The intention of the proposal is not to change the current land uses permitted within the UR1 zone; rather, this application is being submitted primarily to allow for smaller parcels than the minimum currently allowed within the zone, and secondarily to modify setbacks to better suit the different types of housing proposed.

The proposed rezoning would enable the Phase II parcel to be subdivided into seven smaller parcels. In keeping with the names used in previous site plans, the parcels are named A, B, C, D1, D2, D3 and E. They are in sequential order, starting at the site access point at the top of Mt. Fee Road and continuing southward to the cul-de-sac, with Parcel E as the final parcel on the western flank.

The entire site will be accessed via the proposed 600m long municipal roadway extending from upper Mt. Fee Road to a cul-de-sac/round-about at the southern end of the property. The Parcels A through D3 are predominately located on eastern/river side of the roadway with the exception of Parcel D1 on the west side of the road.

An extensive iterative and detailed design process has resulted in the proposed subdivision layout. Robust and thorough site planning, civil servicing design, earthwork analysis, constructability review, architectural design, site access considerations and building massing supported by extensive 3D modelling and view analyses for the entire parcel has resulted in what we believe to be a highly desirable and extremely viable solution that will help to meet the current and future needs of the community.

A summary of the parcel sizes and the current proposed use is outlined below.

Parcel	Size	Primary Housing Type
A	10,982 sqm	Apartment (3-4 storey)
B	2,332 sqm	Townhome (2 storey)
C	7,445 sqm	Apartment (3 storey)
D1	10,203 sqm	Apartment (2-4 storey)
D2	9,782 sqm	Townhome (2 storey)
D3	16,753 sqm	Duplex and Detached (Market)
E	74,679 sqm	Reserve lands for future
Road and Park Dedication	remainder	Road and park dedication and ancillary uses

Table 1. Summary of parcel sizes

Density mix and unit types

The proposed Phase II development has been designed to accommodate a diverse mix of resident restricted housing, supported with market housing as was done in the first phase of Cheakamus Crossing.

The number and type of units will be adjusted as needed over time to best suit community needs as they evolve over the course of the phased development. Since the commencement of the project, the mix of units has already been adjusted to suit the emerging demands of Whistler residents as identified

by the Whistler Housing Authority needs assessment. This assessment will continue to influence the mix of unit types over time.

The following table presents the current anticipated mix of unit type by parcel and provides a reasonable guideline for civil servicing design criteria and future planning. This is subject to change based on a number of external factors that may influence housing demand.

Unit Type	Parcel A	B	Parcel C	Parcel D1	Parcel D2	area/unit
1 bedroom	24		15	32	16	585 sqft
2 bedroom	48		9	33	8	835 sqft
2 bedroom (corner)	20	4	8	8	10	855 sqft
3 bedroom (corner)	8	4	4	4	12	1055 sqft
Total	100	8	36	77	46	
Summary of unit mix by type: 1 bedroom (33%) 2 bedroom (55%) 3 bedroom (12%)						

Table 2. Anticipated mix of unit type by parcel

Development Phasing

In addition to preliminary design for each of the parcels, detailed architectural design and site planning has been completed for Parcel A. Parcel A would result in two apartment buildings with a combined total of 100 units, comprised of a mix of one-, two- and three-bedroom units. Vehicle parking will be predominantly underground with some surface parking for over-height vehicles. Parcel A is at the north end of the site and can be easily accessed with nominal earthworks; as such, it is the most logical parcel to develop first.

While subsequent phases of development are subject to change based on funding and market demand, it is anticipated that the second phase of development would be Parcel D3. The location of this parcel is well separated from Parcel A and could proceed easily without impacting other construction underway. Furthermore, it would provide additional area for storage and processing of materials (e.g. aggregates) required in other areas of the project. Market detached and duplex lots are proposed for this parcel to address WDC debt to the RMOW and provide equity for Phase II infrastructure and rental buildings.

The third phase of development would likely be Parcel B, which is a small, accessible parcel that would likely have its initial site works completed in parallel with Parcel A in order to provide crew parking and materials storage.

The table below outlines the anticipated phases of development that will be adjusted as needed to accommodate market conditions and housing demand.

Phase	Parcel	Housing Type	Units (approx.)
1	A	Apartment	100
2	D3	Detached/Duplex	17-40
3	B	Townhome	8
4	C	Apartment	36
5	D1	Apartment	77
6	D2	Townhome	26
7	E	TBC	TBC

Table 3. Likely Phases of Development

Proposed Changes to the Existing Zoning

Item	Current zoning	Proposed zoning
Permitted uses	Residential, Parks and Playgrounds	No change
Maximum permitted gross floor area of all buildings	41,850 sqm	No change
Maximum permitted size for a detached dwelling	325 sqm	No change
Minimum permitted size for a detached dwelling	46.5 sqm	No change
Auxiliary residential dwelling unit gross floor area	Maximum 90 sqm Minimum 32.5 sqm	Maximum as allowed under current BC Building Code Minimum – no change
Maximum permitted size for any other dwelling	175 sqm	209 sqm
Maximum permitted floor area for auxiliary parking use contained in a principal or auxiliary dwelling or structure	Detached dwelling: 55 sqm per parcel Duplexes: 50 sqm per dwelling unit Townhouses: 40 sqm per dwelling unit	60 sqm for detached dwellings No change for other uses
Maximum permitted height	Apartments: 18.0m Detached Dwellings: 8.0m Duplexes: 8.2m Live Work Units: 12.0m Townhouses: 10.7m	No change
Minimum permitted parcel area	15.49 hectares	500 sqm
Setbacks	For all uses: Front setback 6.0m Rear setback 6.0m Side setback 6.0m	Apartment: Front 6.0m, Rear 2.0m, Side 6.0m Multi-family: Front 6.0m, Rear 3.0m, Side 6.0m Single Family and Duplex: Front 5.0m, Rear 3.0m , Side 3.0m
Parking	As outlined in accordance to Part 6 of the zoning bylaw except that Duplexes provide 1.5 spaces for dwelling unit and Townhouse and Apartment need only provide 75% of the parking spaces required under Part 6 of the Zoning bylaw	Duplexes provide 2 spaces for dwelling unit Townhouse and Apartment to provide – no change
Maximum Occupancy per Bedroom	Two	No change

Table 4. Changes proposed as part of this rezoning application.

Environmental Consideration

Riparian areas are located along the Cheakamus River and border the south and eastern edge of the Phase II site. The 30m riparian setbacks will be maintained throughout this zone and many areas exceed 40m. Some wetland pockets and associated riparian areas exist within the parcel; applicable setbacks will be maintained and monitored by Qualified Environmental Professionals. It has been proposed that building envelopes setbacks are an additional 3m from the 30m riparian area setback.

Parks and Preservation Areas

The Phase II parcel is surrounded almost entirely by Crown land and mature forests. Riverside trails along the south and east flanks of the property provide good connectivity to wild spaces beyond the parcel. In addition to the preservation areas identified as Cheakamus River riparian zone and the wetland zones in Parcel A and Parcel E, a centralized natural preservation area mid-way along the Mt. Fee Road extension between Parcel C and D2 will provide forested connectivity to the vegetated area adjacent to the Cheakamus River. This centralized preservation area will provide a forested element at the heart of the parcel and provide wildlife and trail connectivity throughout the life of the project rather than just at completion of construction when all parcels are connected to the adjacent trail network.

Each parcel will have localized landscape areas specific to the needs and scale of the development, and that meet municipal permit guidelines. Parcel D2 has potential for a pocket park that would provide enhanced and accessible green space to support play and social connections.

Trail connectivity

The Riverside Trail will be maintained in its entirety with some minor realignments proposed in areas where necessary. Trail connections linking the proposed neighbourhood development phases are proposed to ensure ease of access to the Riverside Trail from within each developed parcel.

The Ridge Shortcut Trail from the Westside parking lot will be realigned to suit the development of the upper Parcel E at a suitable time in the future.

The Lower Ridge Trail would remain undisturbed, and suitable trail connectivity to Parcel E will be developed in concert with the subdivision layout at that time.

The Valley Trail will be extended from the intersection of Mt. Fee Road and Cloudburst Drive along the entire length of the new Mt. Fee Road extension to the round-about at the south end of the parcel, providing safe and easy access to the trail from the entire development. The Valley Trail will be lit by standard Valley Trail lighting.

Roadway and Traffic Calming Considerations

The extension of the Mt. Fee Road will be built to municipal road standards and will accommodate two single lanes of traffic for a total travel width of 7m. This width is in concert with the road widths of lower Mt. Fee Road and Cloudburst Drive, both of which have a 7m width. The roadway proposed will be approximately 600m in length, and will terminate in a round-about/cul-de-sac at the southern end of the property. The roadway will provide access to lands beyond via the gravel FSR and also provide access to the final portion of the property (Parcel E).

As is the case throughout the rest of the Cheakamus Crossing, there will be no road-side parking. Pull-ins and lay-bys will be suitably located road-side in front of apartment buildings or on the individual parcels. These lay-bys will accommodate short-term stopping for pick-ups and drop-offs, as well as areas for temporary parking of moving vans, couriers, postal delivery workers and utility meter readers.

Crosswalks locations and street lighting provisions have been identified on detailed civil engineering plans to provide safe pedestrian movements at anticipated points of interaction with vehicles.

Snow Clearing Considerations

The 7m wide roadway has been designed to accommodate municipal snow clearing equipment with provision for vehicle turn around at the end of the Mt. Fee Road extension. The west side of the new road will have a standard ditch to accommodate snow storage and snow melt. Additional snow storage and snow plough push-zones have been accommodated near the surface parking area opposite Parcel A. No excess snow is to be stored within the centre of the cul-de-sac at the top of the Mt. Fee Road extension; doing so would impede visibility to pedestrians and oncoming traffic. The centre of the round-about would be planted with low-lying vegetation, allowing for natural levels of snow to accumulate while still maintaining good visibility. Snow management for each parcel will be planned for and handled on each site.

Locations of above-ground infrastructure such as fire hydrants, street lights, signage and Valley Trail lights will be suitably located to avoid damage from snow clearing equipment.

Valley Trail and sidewalk municipal design standards will be implemented throughout the subdivision to enable snow clearing by municipal equipment.

Transit Planning

Current transit access to Cheakamus Crossing is provided by a loop up Cloudburst Drive and down Mt. Fee Road. Access to transit for Parcel A and Parcel B can be accommodated by the existing transit route. The walk to the existing bus stop located at the top of Cloudburst Drive would be approximately 200m.

Transit access for the other Phase II parcels could be accommodated by furthering the transit route up the Mt. Fee Road extension. This up and back route would increase the transit route by 1.2km. Two transit stops have been identified and proposed along the new route; one stop near the end of the road above Parcel D1, and one adjacent to the forest parkland between Parcel C and D2. The latter should be considered for a shelter as it will likely see the most users.

The additional transit stops would not only provide service to Phase II residents, but also to recreation users in the area, including improved transit access to Loggers Lake.

The school bus service that already existing within Cheakamus Crossing could also extend its route up the Mt. Fee Road extension to better serve children living in the new homes.

Forest Service Roads

The existing West Side Main Forest Service Road that parallels the Cheakamus River and bisects the site will be maintained during the course of construction for public access and utility service providers. Upon completion of the new Mt. Fee Road extension, the portion of the Forest Service Road that runs through the Phase II Lands (at approximately the intersection of Mt. Fee Road and Cloudburst Drive) will be decommissioned.

Access to the Forest Service Road and the gravel parking area just beyond the site will be maintained via the new Mt. Fee Road extension.

Fire Protection

Municipal fire protection will be serviced by existing and proposed hydrants along the extension of Mt. Fee Road. The new housing will continue to be serviced by the Spring Creek fire hall located 2.5 km away.

Wildfire and Fire Smart Considerations

Wildfire and associated interface areas remain a considerable risk to the municipality and residential areas. As part of the ongoing fuel thinning practices, fuel reduction operations are planned along the Cheakamus Lake FSR and the area immediately to the southwest of Cheakamus Crossing.

Surface parking and Vehicle Charging Stations

A 19-stall asphalt surface parking area opposite Parcel A is proposed to provide over-height vehicle parking and additional parking for residents and visitors to the area. Consideration for conversion to pay parking for these stalls would be accommodated by providing power and a designated area for a parking kiosk. Additionally, electric vehicle charging stations have been planned for and could be accommodated in this parking lot should the municipality choose to include these at a future date.

The gravel parking lot located at the end of the Mt. Fee Road extension on Crown land will be maintained and will provide seasonal parking for recreational users.

Sanitary Sewer

A sewer main will be extended to the Phase II parcel and connected to the sanitary collection network at the top of Mt. Fee Road. A 200mm diameter sewer main is proposed for the length of the new Mt. Fee Road extension to service the subsequent parcels.

Water Supply

The Phase II lands are serviced from the municipal water reservoir on the west shoulder of Whistler Mountain above Cheakamus Crossing. This storage is sufficient to supply fire flows (197 L/s) for up to 2.5 hours. Currently, the site is supplied by a 200mm diameter water main located at the end of Mt. Fee Road. This water main will provide sufficient supply for domestic water and fire protection for Parcel A and potentially Parcel B.

Other parcels will require high pressure water supply which can be achieved by extending the 300mm diameter water main terminated near the cul-de-sac at the end of Madeley Place. The extension of this line is proposed to follow along the West Side Main Forest Service Road to the Phase II lands. Preliminary engineering design for this waterline extension has been completed.

Gas/Hydro/Telephone/Internet

BC Hydro and TELUS/Shaw service connections are available immediately adjacent to the Phase II parcel at the intersection of Mt. Fee Road and Cloudburst Drive. It is understood that there is sufficient capacity within the system for the proposed development. The FortisBC gas supply line would need to be extended from its current termination on Cloudburst Drive approximately 40m from the intersection. The extension of this line has been approved and there is sufficient capacity within the gas system to

meet future demands of the development. Currently, the gas line is proposed to extend the entire length of the road extension and to also provide future connection to Parcel E.

District Energy System

The current District Energy System (DES) employed throughout the existing Cheakamus Crossing neighbourhood will be expanded to include the Phase II area of development. Each parcel will be provided with a DES service connection to the property line, with optional connectivity to the DES infrastructure.

The current DES system has sufficient heat capability to provide more thermal energy, but as energy demands are increased, upgrades to the gas-fired boilers or the heat exchangers may be required. Similarly, as demands increase, an additional circulation pump(s) may be required at the DES energy building.

Expansion of the DES into this Phase II area should not require any upgrades to the existing piping infrastructure within the current neighbourhood. However, in order to accommodate development higher in elevation than the existing system, the operating pressure of the DES loop system would need to be increased. Furthermore, vertical development (greater than 15m to 20m) beyond the current high-point of the loop at intersection of Mt. Fee Road and Cloudburst Drive, may require the installation of a booster pump station and/or pressure reducing station in order to extend the DES loop to the higher development areas. A booster pump station could be accommodated north of the surface parking area opposite Parcel A.

It is understood that the impacts of additional demands on the DES system are under review by consultants retained by the Municipality and further recommendations will follow upon completion of their assessment.

Stormwater

The stormwater design for Phase II builds on the original design for the Cheakamus neighbourhood. The design envisioned a portion of Phase II development would drain directly into the Cheakamus River and a portion would drain towards the central pond located behind the Whistler Athletes' Centre.

The existing downstream drainage system has the capacity to receive the flows from Parcel A. This includes capacity for peak flow conveyance to the central pond and downstream of the pond, as well as detention capacity in the pond and water quality treatment in the pond.

The drainage systems for other upland catchment areas will discharge directly into the river and will require further review in parallel with the detailed designs for the parcels.

Due to high costs of construction and maintenance for the rain garden style of stormwater management employed throughout the rest of Cheakamus Crossing, more traditional forms of stormwater management (e.g. roadside ditch) are proposed for the Phase II site.

Groundwater Considerations

The static ground water table was not encountered during geotechnical investigations and it is expected to be below development grades. Perched groundwater levels are expected to be very seasonal with generally higher levels following sustained precipitation. Perched groundwater conditions may be encountered within the existing fill materials where permeable soils exist over less permeable soils or bedrock.

Geotechnical Considerations

Overall, the site is considered very low risk with respect to geotechnical hazards. Given the dense soil and rock conditions found on site and the average slope angle (1.6H:1V to 1.8H:1V) it is expected that the risk of slope instability would be low.

Based on site investigations, competent native soils can be found at relatively shallow depths. Some localized blasting or chipping may be required to excavate below grade structures where bedrock exists.

It is expected that structures will be founded on conventional pad and strip footings bearing on native dense sand, gravel or bedrock.

Hydrology and Flood Hazard Considerations

The proposed development area is substantially set back (30m or more) from the river. While there is potential for erosion in the riparian areas, the erosion risk to the proposed development is minimal given the substantial setbacks and the extensive bedrock conditions.

The 200-year clear-water flood (including 1.3m freeboard) is well contained by the natural topography of the Cheakamus River along the entire site. Due to the depth of the river channel, the site is not subject to risk of flooding from the Cheakamus River as indicated in consultant reports. The Flood Hazard Area Land Use Management Guidelines published by the Province establish the designated flood as the 200 year period event. Consultants have evaluated the flood hazard on the basis of this standard and have prepared a plan to mitigate the hazards to the proposed development. Applying this standard with due consideration of the conditions and mitigation of the risks, the land may be used safely for the intended purpose. Minimum building elevations have been established to mitigate flood hazard risk.

Cross sections of the river at intervals adjacent to the site were surveyed in 2007 and 2019. These cross sections have been compared and the variation over time is negligible. Differences observed are largely due to the more detailed surveying completed in 2019 (particularly through the water column) compared to 2007. The upland river banks are very similar, suggesting negligible change to existing conditions.

Canada Post and Community Mailbox Considerations

Currently, postal boxes are proposed for each of the buildings within the lobby area or within the strata parcel. However, in the event that Canada Post requires provision for community mailboxes or at a centralized area, an area has been designated just north of the surface parking area at the entrance to the neighbourhood opposite Parcel A. This location would provide convenient access for residents and centralized mail delivery.

Market Housing

In order to offset the costs of the Phase II development, some market housing will be required as part of the proposed development. Allowance for market housing is currently permitted within the zoning bylaw and this would remain unchanged.