



# **Phoenix Mountain**

## **Resort Master Plan**

### **Community Alpine Ski Resorts – Type I**

**November 1, 2012**



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## Executive Summary

### Project Vision

The Phoenix Alpine Ski Society would like to see Phoenix Mountain continue to be a viable operation that contributes to the social and economical values of the community and surrounding area. The purpose of this Master Plan is to create a phased development plan for Phoenix Mountain that looks towards gradually increasing the recreational capacity at the mountain, and moving towards all season use. The proposed expansion to the Controlled Recreation Area (CRA) will allow the ski hill to manage and control areas that our guests are currently using but are outside of the CRA boundary, and the expansion ensures that Phoenix has the necessary space to grow and meet increasing recreational demands

### General Overview of Business (Existing and Proposed)

Phoenix Mountain has been in operation since 1968. It is located in the southern interior of British Columbia, off of Highway 3 northwest of the city of Grand Forks. As a non-profit organization, the Phoenix Mountain Alpine Ski Society is operating the ski hill for one main reason: to provide an affordable family-oriented ski experience within the Kootenay Boundary Region. Phoenix currently operates during the winter months offering an exceptional downhill skiing experience. Phoenix is an important feeder/breeder ski hill for the surrounding destination ski resorts (Red Mountain, Big White, Silver Star and Whitewater). Price is definitely a barrier for entry into the sports of skiing and snowboarding, and we pride ourselves on being an affordable option for families to spend some quality time together, and be physically active in a pleasant atmosphere. Safety is also one of our primary concerns, both for our guests and staff (see Appendix 14 Management Safety Plan).

Phoenix's expansion plan will give the hill the opportunity to improve its winter operation as well as enter summer operation increasing the ski hill's economic viability.

#### Currently here are some of the holdings that define Phoenix:

- 3 hectares of skiable terrain
- Comfortable Carrying Capacity of 320 people per day
- Two surface lifts – T-Bar and Handle Tow
- A Day Lodge, Cafeteria, Ski School/Rental/Retail building, Maintenance shop, First Aid building and Dayskier Parking Lot
- Two slope grooming vehicles



- Lights for night skiing
- 2 Terrain Parks

After proposed expansion:

- 12 hectares of skiable terrain
- Comfortable Carrying Capacity of 1000 people per day
- Addition of three lifts
- Expansion of the existing base area, with increased parking and additions to the First Aid and Ski School/Rental/Retail building.
- Development of a 2<sup>nd</sup> base area with all of the features of the first.
- Cabin rentals
- Mountain bike trails
- New Terrain Park

### **Key Areas of Concern**

This expansion plan has been written with careful consideration to the environment in which we operate. Phoenix believes its expansion can mitigate and overcome all of the concerns mentioned in section 3 and 4. This included environmental and other land use concerns, as well as Phoenix's future needs.

Key areas of concern include:

- Wildlife Mitigation
- Pre existing Mining Tenures
- Land Use zoning requirements
- Public Recreational Use



## Section 1: Description of Existing Operation

### 1.1 General Description of Existing Ski Resort

Nestled in the mountains just Northwest of Grand Forks (see Appendix 1 Access Map), Phoenix Mountain is a regular destination for local ski and board enthusiasts during the winter months. Phoenix provides terrain for all skill levels ranging from beginner to expert. Our unique community atmosphere is always welcoming and inviting and provides much needed recreational opportunities to the surrounding communities.

### 1.2 Description of Experience/Activities Being Offered

Even with its modern day grooming equipment and terrain parks, skiing at Phoenix is an almost nostalgic experience. It reminds us all of our first and our best ski experiences. People tell stories of growing up at the hill and their kids being raised there. True Phoenix veterans entertain us with tales of how the hill was built, what the runs were named after, and who accomplished what.

Phoenix offers a fantastic and memorable ski experience. The hill typically operates from December to the end of March. School groups from Christina Lake Elementary School, Hutton Elementary, Perley Elementary and the Fred Walker Learning Center visit the hill midweek in January and February. Saturday nights in January and February the hill is open for headlamp night skiing, a truly a unique and exciting experience. The Saturday night ski has evolved into an open-to-the-public “Ski Free Saturday Night” sponsored by local businesses – promotional events for the hill and the sponsors.

	<b>December /Christmas break</b>	<b>January/February</b>	<b>March</b>
<b>Monday</b>	9:30 am to 3:30 pm	9:30 am to 3:30 pm *	Closed
<b>Tuesday</b>	9:30 am to 3:30 pm	9:30 am to 3:30 pm *	Closed
<b>Wednesday</b>	9:30 am to 3:30 pm	closed	Closed
<b>Thursday</b>	9:30 am to 3:30 pm	closed	Closed
<b>Friday</b>	9:30 am to 3:30 pm	9:30 am to 3:30 pm	10:00 am to 4:00 pm
<b>Saturday</b>	9:30 am to 3:30 pm	9:30 am to 3:30 pm ***	10:00 am to 4:00 pm
<b>Sunday</b>	9:30 am to 3:30 pm	9:30 am to 3:30 pm	10:00 am to 4:00 pm

\* Open for school programs for last three weeks in January and February

\*\*\* Saturday nights in January and February are private hill rental nights



Phoenix offers ski and snowboard rentals, repairs, and lessons. The 16 runs offer a variety of terrain (see Appendix 2 Existing Structures) including two well maintained, and carefully planned terrain parks, great glades, and some incredible groomed runs. Phoenix also operates a day lodge with a licensed cafeteria and a view of the slopes. Phoenix's ski patrol program has recently switched from a strictly volunteer program to a paid pro patrol supported by volunteers.

### **1.3 Base Operation and Improvements**

Phoenix's base of operations consists of a beautiful curved Steiner Arch A-frame. The 4,500 square foot Day Lodge building had a new roof installed in 2008 in which the hill's emblem, the phoenix, was artistically designed into the shingles. In 2011, with the financial assistance of RDKB Area D, an upgrade to the lodge was carried out to insulate its walls and replace all the existing windows and doors with energy efficient ones. The upper level now houses living quarters and an inventory room; previously it was a bar. The legal capacity of the 2nd floor is 34, the deck capacity is 44, and the bottom floor, although there is no legal capacity, can accommodate at least another 40 people. Because of the unique architecture of the building, additions to increase its occupancy are not valid options. Included in the occupancy is a deck that looks out at the ski slopes.

Adjacent to the lodge is the ski school/rental and repair shop. Phoenix has recently purchased the ski shop; prior to 2006, it was privately owned and operated. The ski school and rental and repair shop also has a retail area where logo wear and ski accessories are sold. Other existing buildings include a first aid building which was replaced and upgraded in 2010, a maintenance garage built in 2001, and a storage shed. The parking area can accommodate approximately 150 vehicles.

### **1.4 Mountain Operation and Improvements**

Since its inauguration in 1968, Phoenix has been transporting skiers to its summit via a Doppelmayr T-Bar. Over the years many changes have taken place. Currently the other elements that make up Phoenix Ski Hill consist of:

- 1 modern grooming vehicle ( BR 275, acquired in 2002)
- 1 older grooming vehicle used for snow packing early season, and to build terrain park (LMC 3700)
- 1 800 vertical feet Doppelmayr T-bar installed in 1968
- 1 fiber rope tow designed and built locally
- 15 rails
- 3 lift operator control rooms
- Lights on the hill's beginner area, as well as the two main runs along the lift line for night skiing



- Wireless timing equipment for races
- Wireless internet, Provider: Xplornet
- Cellular phone service, provider: Telus

## 1.5 Access

Phoenix Ski Hill is located 8km off of Highway 3 in Southern BC, in the Phoenix Interpretive Forest, which is at the midpoint of the southern border of British Columbia. The Phoenix Ski Hill road meets Highway#3 - 21 km west of Grand Forks and 19 km east of Greenwood, and is marked by an overhead sign. (See Appendix 1 Access Map) It is a gravel-surface public road all the way to the ski hill parking lot, and is well maintained by Emcon Services under contract to the provincial government.

## 1.6 Servicing

- Water: Phoenix currently gets our water from a well located in the parking lot (see Appendix 2 Existing Structures Map).
  - It provides us with about 11.5 liters of water per minute. Enough for the mountain's current needs but not enough to support any more draw on the system.
  - The water is treated through a coarse filter.
  - The water quality is tested monthly via water samples sent to the Ministry of Health and Safety.
  - Prior to this well two more were used:
    - The first was located at the base of the mountain near the bottom of the lift (see Appendix 2 Existing Structures Map).
    - The second was located in the trees between Little Annie and Bobcat; about a third of the way up the mountain (see Appendix 2 Existing Structures Map).
- Sewer: The waste water treatment is a septic field, located to the immediate north west of the day lodge and is regulated by the British Columbia Waste Water Association.
- Power: Our 40 year old electrical system was replaced in 2009 with a much safer 200 amp 347/600 volt WYE grounded system for the t-bar and rope tow. A 600-120/240 volt single phase dry transformer was installed in the new electrical building to power the building and most of the hill lighting. Another 400 amp single phase 120/240 volt system (behind the rental shop) feeds the rental shop, maintenance shop, daylodge, storage shed and ski patrol building, as well as the rope tow and parking lot lighting. (see Appendix 2 Existing Structures Map) The power supplier is Fortis.
- Internet/Telephone: Phoenix's satellite internet provider is Xplornet. Via this provider, the hill runs its web based work, and POS debit machine. The telephone provider is Telus.



## 1.7 Resort Capacity and Skier Visits

Phoenix Mountain has two lifts. A Doppelmayr T-bar and a home built fibre rope tow. The hill's T bar has the capacity of moving 800 people per hour (PPH) up the mountain. However, with an efficiency factor of 80% that number is reduced to 640 PPH. The Rope tow has the capacity of moving 514 PPH; with an efficiency factor of 60% that number is reduced to 309 PPH

Based on our lift capacity, and factoring the dispersions of our runs as well as our clientele's vertical demand per day per ability level, we find that our mountain's Comfortable Carrying Capacity (CCC) is around 320 people per day (see calculations in table below).

$$CCC = \frac{(VR, \text{Vertical rise of lift}) \times (\text{Lift Capacity, PPH}) \times (H, \# \text{ of operating hours in a day}) \times (E, \text{Efficiency factor of T-bar})}{VTM/\text{day, Weighted average vertical demand per day}}$$

### T-BAR

VR	243.84
PPH	800
H	6.5
E	80%
VTM/day	3324.8979

$$CCC = \frac{1014374.4 \text{ people per meter}}{3324.89792 \text{ meters per day}}$$

$$CCC = 305 \text{ people per day}$$

### ROPE TOW

VR	24.384
PPH	514
H	6.5
E	60%
VTM/day	3324.8979

$$CCC = \frac{48907.3371 \text{ people per meter}}{3324.89792 \text{ meters per day}}$$

$$CCC = 15 \text{ people per day}$$

### Mountain's total Comfortable Carrying Capacity

$$320 \text{ people per day}$$



Phoenix's skier visits increased by 45% over the 5 years from the 2004/2005 season (8,782 skiers ) to the 2008/2009 season (12,749 skiers ). They have stayed close to the 2009 level over the past three years, with the exception of the current short season (2011-2012) due to late-starting winter conditions.



Based on our mountain's comfortable carrying capacity of 320 people and operating about 74 days a season, our capacity will be reached with an annual skier visits number of 23,532 skiers.

We expect that with a continued growth of 5% to 10% a year, Phoenix's capacity should be reached in 10 to 15 years.



## Section 2: Overview of Proposed Expansion

### 2.1 Expansion Area

Phoenix Mountain would like to build and expand on its current operations, increasing the capacity on the mountain as well as moving towards year round recreational activities. The expansion of Phoenix is a necessary development for the mountain. The non-profit ski area has given the opportunity for locals to affordably ski and snowboard in their own backyard. As skier visits increase, so will the hill's need to offer more skiable terrain facilities to guests. Since the current CRA is already fully developed, expanding is the only option which will allow Phoenix to create more skier terrain while maintaining an acceptable skier density on the slopes and increasing local excitement with the addition of new runs.

Firstly, and as discussed in the following section, the proposed expansion encompasses areas that are currently being used by skiers. Including these areas into the CRA will allow Phoenix to be responsible for the areas and maintain them, thereby increasing skier safety and quality for our patrons (ie: stump removal, brushing, summer grooming).

Secondly, the expansion will also add to the vertical drop of the ski area. This will enable Phoenix to expand into summer operations such as mountain biking.

Thirdly, as the ski area needs to grow, Phoenix will have the opportunity to increase the skiable terrain and infrastructure by as much as 4 times its present level. The expansion will improve the overall experience for the regular customers and attract new visitors to the mountain.

The ski hill has developed a phasing schedule that will incorporate new and expanded base facilities with increased ski terrain and mountain development. The following table offers a summary of the proposed changes.



<b>Comparison of the Existing and Proposed Development</b>		
	<b>Existing</b>	<b>Proposed</b>
CRA Area	68.07 ha.	238.47 ha.
Phases	-	3
Lifts	2	5
Ski Terrain	3 ha.	12 ha.
Terrain Parks	2	3
CCC	320	1000
Parking	150	400
Season	Winter	All Season
Overnight Accommodation	No	Yes – cabin rentals
Mountain Biking	No	Yes

## 2.2 Existing Use in Expansion Area

There are two areas, currently being used by patrons of the ski area, that are outside of the current Controlled Recreation Area, these are the Lizard access and rail park and the South Side Glades.

Lizard Access and Rail Park: Lizard is the main top to bottom beginner run. Currently, to access the run, skiers must pass through a section of a hundred and fifty meters which is outside the CRA. Any other path to the lower portion of Lizard passes through intermediate or advanced terrain, an unacceptable option for beginners. This rolling and gentle terrain is also ideal for the rail park; one of Phoenix’s main youth draws (see Appendix 4, Existing and Proposed Structures).

South Side Glades: The South Side Glades is Phoenix’s version of backcountry skiing. It is a powder slope that is accessed by a short hike outside of the Shields Trail (see Appendix 4, Existing and Proposed Structures). As it stands, this slope can be misleading; a clear catch road needs to be cut and clearly marked to ensure our patrons do not go lower than the current base of the ski area. In the past guests have gotten lost and ended up as



low as Highway 3 (see Appendix 1, Access). Minimal timber removal will be required to cut the catch road. Having this area within the CRA, formally marked and properly graded and maintained will increase skier safety and enhance the skier experience at Phoenix.

## 2.3 Base Improvements

To cope with the increasing skier population, we will have to improve our base facilities. Please refer to Appendix 5 - Development Phasing Map.

### Phase 1 (1-5 years):

- Existing Base Area:
  - Increased Parking Area: Expanding the existing parking area will allow for an extra 50 cars to be parked. This includes adding parking in the area to the next to the rope tow, at the north end of the parking lot, and to the east of our water supply (see Appendix 2 & 3, Existing Structures)
  - First Aid Building: Build a larger 50 square meter first aid building to better handle multiple injury scenarios and increase the comfort of our injured guests.
  - Extension of Rental/Ski School Building: An extension is required to increase the building capacity and allow for increased retail space. We will go from 50 square meters to 65.
  - Virtually no timber will need to be removed.
- New Base Area:
  - Power supply for New Beginner Lift – L1: The new lift will need to be powered; as will the future base area which will be near the bottom of the new lift. We will have to run power to that area of the mountain via overhead lines along the access road.

### Phase 2 (5-15 years):

- New Base Area (see Appendix 4, Existing and Proposed Structures):
  - New Parking Lot: This lot will be built at the high point of our access road. It will have the capacity of parking another 200 cars. Some timber removal and grading will be required.
  - Water: A new well will be dug to provide the required water for expansion.
  - Sewer: A new septic system will be installed to meet the increased service needs.
  - Power: With the power already having been run to that section of the mountain during Phase 1, it will only need a few spans to get to the new base area.



- New Day Lodge: A new 500 square meter day lodge will be built to supplement our original one. The new lodge will encompass all the services of the old one with the addition of retail space. Some timber removal and grading will be required.

### Phase 3 (15-25 years):

- New Base Area:
  - New Ski School / Rental / Retail building: A new 100 square meter Ski School/Rental/Retail building will be built to accommodate the higher skier visits targeted at 63,000 (see section 2.6), and allow for the necessary space to store a larger bike fleet for summer operations.
  - New First Aid Building: A new 50 square meter first aid building will be built to supplement our building in the original base area. In total we will have 100 square meters of first aid space spread evenly over two road accessible areas. This will give us sufficient first aid treatment capabilities for the mountain's new comfortable carrying capacity.
  - Skier overpass of access road: A skier overpass will be built to cross the access road and give skiers easy access to the new base area as well as to allow them to ski all the way down to the new Top to Bottom Lift – L3.
- Existing Base Area:
  - Original Ski School/Rental building: This original building will not go to waste. It will be turned into small staff accommodations/staff storage room.
- Cabin Area
  - Cabins: The resort will look at the possibility of providing some low density public beds.
    - All-season overnight cabins will be built. Low density rustic feel and look will be the image.
    - Number of bed units will depend on interest.
    - Very little timber removal required.
  - Road to cabin area: A road will have to be built from the original parking lot to the new proposed cabin area.
    - The road already exists though is decommissioned, it will simply have to be widened and re-graded.
    - Minimal timber will have to be removed.
  - Sewer: New septic system will have to be built for cabin area.
  - Water: New well will have to be dug for the cabin water supply.
  - Power supply: Power will have to be brought down from original base area to new cabin area via overhead lines.
    - Some timber will have to be removed.



## 2.4 Mountain Improvements

### 2.4.1 New Skiable Terrain

#### Phase 1 (1-5 years):

*This phase of expansion will increase our skier visits above 20,000 by making Phoenix a premiere affordable family learn to ski destination. The revenue per skier visit will increase by about 25%, because of the expected increase in lift ticket price.*

- Expanded Terrain Park: Terrain parks are the new playgrounds of ski areas. Currently, our terrain parks are, by far, the terrain most used by our youthful guests. The rolling, south facing area south of our existing rail park on Lizard is phenomenal beginner terrain. This provides natural landings and very little flat light because of the slope's southern exposure. We are proposing a new run on south side of Lizard road increasing terrain park area. The new run will provide an easier route down to Lizard going around the steeper section. Some timber removal will be necessary to create run. See Appendix 5 – Development Phasing Map.
- New Beginner Terrain Pod above access road: As great of a family oriented ski hill as Phoenix is, apart from the rope tow area, easy beginner terrain is rare. Glenside Trail and Lizard are beginner runs, however they are closer to being intermediate runs because of their slope gradient. Both runs are wide and well groomed, but their pitch can be intimidating for new skiers and snowboarders. This can make it difficult for Phoenix to retain new skiers. The area east of Montezuma is perfect beginner terrain. The slope gradient is gentle, and its length is perfect for new skiers and snowboarders. Timber removal is required to cut new green runs. Some cat work and blasting will also be needed to build a ski road into the new runs and back to the existing base area alongside the road. We would like the pod's area to be less than 2 hectares of skiable terrain. See Appendix 4, Existing and Proposed Structures, and Appendix 5 – Development Phasing Map.
- New Beginner Lift - L1: At a later date towards the end of end of Phase 1, a new, more beginner-friendly lift will be installed to service this new run pod. It will attract those who are dissuaded to ride Phoenix because of its glove-destroying rope tow, or its long steep T-bar. The new lift will travel about 150 vertical meters and will increase the mountain's comfortable carrying capacity from 305 to about 450 guests per day.
  - Phoenix has calculated that annual skier visits of 17,000 will make operating this third lift feasible based on a current revenue per skier visit of \$20. This is based on operating expenses, maintenance expenses, and the expense of putting aside replacement value of the new lift which amounts to roughly \$75,000 annually.



### **Phase 2 (5-15 years):**

- New Advanced Run Pod: The area marked as Proposed Advanced Downhill Skiing Area (see Appendix 4, Existing and Proposed Structures and Appendix 5 – Development Phasing Map) is currently skied by backcountry enthusiasts. It is steep and gladed, filled with small drops and old skid roads which were built over 100 years ago during the mining era; perfect for thrill hunters. Currently, skiing some of this terrain involves either leaving the slope and traversing back towards the bottom of Shields Trail prior to reaching the bottom, or the prospect of hiking back out of the area afterwards. The runs in this pod are geared towards advanced and intermediate riders. Some timber will have to be removed. We estimate another 3 to 5 hectares of skiable terrain to be readily available in the run pod.
- Traverse Road to Existing Base Area: In order for skiers to be able to get back to the base area from the new run pod, as well as creating an easy route down for beginners, a traverse road will have to be built. Some timber will need to be removed.
- New Lift for Advanced Run Pod – L2: A new 240 vertical meter lift will service this run pod. Some timber will be removed for the lift line. Combined with Phoenix’s original lift, the mountain’s vertical will be over 300 meters. It will increase the mountain’s comfortable carrying capacity to 575 people per day.

### **Phase 3 (15-25 years):**

- New Beginner and Intermediate Run Pod: The Area marked as proposed new beginner downhill terrain on the Existing and Proposed Structures Map and Development Phasing Map (see Appendix 4 & 5) will be continued below the access road. This pod will connect the new parking lot and day lodge (see section 2.3) to the newer advanced run pod marked as Proposed Advanced Downhill Skiing Area, essentially connecting 3 run pods into one. Some timber will need to be removed. We estimate another 2 hectares of beginner intermediate terrain will be available from this pod.
- New Top to Bottom Lift – L3: A new higher capacity lift, travelling from top to bottom with mid load and unload capabilities, will be needed to reconnect this lower elevation terrain to the original Phoenix terrain. This lift will be able to meet skier visit capacities up to 48,000, and will serve as the lift for lift access mountain biking. Some timber will have to be cut for the lift line. (see Appendix 4, Existing and Proposed Structures map) This lift will bring the mountain’s comfortable carrying capacity to about 1,000 people per day.



## 2.4.2 Mountain Biking

Downhill mountain biking is a growing sport in this region, so much so that a new nonprofit mountain bike association called Kettle River Mountain Biking Association was recently formed to cope with the increased demand for signage, trail maps, and trail maintenance. This fact matched with the great terrain and the region's shift to a recreational tourism destination, creates a great opportunity for Phoenix to expand into summer operations through downhill mountain biking. By expanding our CRA and increasing the mountain's vertical drop our downhill trails would be longer than most of the local trails and would be comparable to the vertical seen at other mountains that offer lift access mountain biking. In order for mountain biking at Phoenix to be successful, we will need to offer a better product than the trails freely accessible to the people who know the region. After consulting with many other ski areas who offer mountain biking as a summer operation (Silver Star, Panorama, Fernie, Blue Mountain, Whistler), we have learned not to rush headlong into trail building and feature installation. Good mountain bike trails take time to build and have to be given time to develop flow before throwing in top to bottom wood features, jumps and banked corners.

### Phase 1 (1-5 years):

- Building Trail Network: Over the next 5 years we will be building a network of downhill trails. Their difficulty will range from beginner to expert and will be designed with progression, safety and flow in mind.

### Phase 2 (5-15 years):

- Phoenix Mountain Bike Shuttles: With the existing network of logging roads and railway grades, shuttle serviced mountain biking has great potential. An off road passenger carrier would shuttle and guide pre booked groups through the network of trails. This type of service will allow us to offer the mountain biking at a low operational cost yet capitalize on the opportunity of offering a summer operation.
  - More man-made features will be built and installed.
  - A small fleet of rental bikes will be provided.
  - Concessions will be opened for lunch.
  - First aid will be present with groups.

### Phase 3 (15-25 years):

- Lift Access Mountain Biking: Once a new top to bottom lift has been installed, lift access mountain biking will be a viable option. The skid roads and railway grades will still be used as first aid evacuation points, but riders will use the lift to travel to the top of the mountain.



- Rental fleet of bikes will be increased.
- Mountain Bike School will be established offering lessons and summer day camps. These services will be offered through the new rental / ski school building (see Phase 3 Section 2.3).
- First aid will be increased to full time pro bike patrollers and volunteer bike patrol.
- More manmade features will be installed and built, and trail maintenance personnel will be needed full time.

## **2.5 Access Upgrades**

Access to the ski hill will remain the same with the exception of a ski overpass which will allow skiers to cross the access road to the new base area. The only new access needed will be the improvement to the decommissioned road going from the original parking area to the new cabin area (Phase 3 Section 2.3).

## **2.6 Projected Capacity and Skier Visits**

The proposed expansion has been done with increasing both our mountain's comfortable carrying capacity, and skier visits in mind. Our current normal level of skier visits is around 12,000 per year.

As mentioned in Section 1.6, our current Comfortable Carrying Capacity is 320 people per day, with maximum annual skier visits possible of 23,600.

### **Phase 1 (1-5 years):**

- The Beginner Terrain and Lift – L1 will bring our comfortable carrying capacity from 320 people per day to about 450, with a maximum allotted amount of skier visits of 33,000 people.
- We expect to run at 65% capacity or better which will give us skier visits of over 20,000 by the end of Phase 1
- The skiable terrain will be increased from 3 hectares to just over 5.

### **Phase 2 (5-15 years):**

- The new Advanced Terrain and Lift – L2 will bring our comfortable carrying capacity from 450 to about 580 people per day, with a maximum allotted amount of skier visits of 43,000.
- We expect to run at 65% capacity or better which will give us skier visits of over 28,000 by the end of Phase 2
- The skiable terrain will be increased from 5 hectares to as high as 10 hectares.



**Phase 3 (15-25 years):**

- The new run pod, Top to Bottom Lift – L3 and infrastructure will bring our comfortable carrying capacity from 580 to about 1,000 people per day. This will give us a build out total potential skier visits of 74,000.
- We reasonably expect to be operating at 65% of our capacity placing our skier visits around 48,000.
- Our skiable terrain will have been increased to 12 hectares, 4 times its original level.

	<b>Current</b>	<b>End of Phase 1, 5yrs</b>	<b>End of Phase 2, 15yrs</b>	<b>Build out, 25+ yrs</b>
<b>Comfortable Carrying Capacity</b>	320	450	580	1000
<b>65% of Maximum Skier Visits</b>	15400	21600	28000	48000
<b>Skiable terrain</b>	3 hectares	5 hectares	10 hectares	12 hectares

**2.7 Economic Benefits**

Currently Phoenix directly employs 30 people. This number will increase through the different expansion phases. We expect that at build out, Phoenix will employ up to 100 employees; mostly seasonal with some year round. Other economic benefits include: construction and trades jobs, boosts to local tourism businesses, sporting goods retail, gas stations, hotels, restaurants, etc.



## **Section 3: Overlap with Environmental & Cultural Values**

### **3.1 Fish Values**

There are no fish-bearing creeks inside our existing or proposed CRA; this has been determined through observation and discussion with our local conservation officer. Providence Creek only runs during the spring runoff. Phoenix carefully monitors what debris enters the creek via filtering at the entrance of our culverts. The hill foresees no conflict with fish values with our current or proposed CRA.

### **3.2 Wildlife Values**

Although a number of species such as deer, bears, cougars, moose (fall), rabbits, etc. reside in the area and frequent the hill, our winter operations do not negatively affect wildlife use. Over the last ten years Phoenix has observed an increase in wildlife numbers. These observations have been made by Phoenix staff and patrons, as well as from local hunters. Phoenix is adjacent to some non-legal Old Growth Management Areas (OGMAs). However, we foresee no conflict between the OGMAs and our operations both present and future. Since the grizzly population in the area is extirpated, we see no possible conflict between our operations and this species. Phoenix and the proposed expansion area, is within an area identified as Ungulate Winter Range u-8-007 for species M-ALAL (Moose). The current winter operations do not negatively affect the moose in the area. The number of moose sightings has increased from year to year. In designing the proposed expansion of our CRA as well as when the time comes to implement these developments, special attention will be paid to minimizing and mitigating moose habitat loss by staying away from open flat meadows and keeping our run widths narrow. Phoenix is committed to following all pertinent legislation and best practices when working within the ungulate winter range. See Appendix 6 - Wildlife Interests Map.

### **3.3 Water Values**

The ski area is currently serviced by a deep water well. The well is located in the base area, east of the day lodge and parking lot, within DL 255S. While there are two wells shown on the water licence map in Appendix 7, only one of the wells is currently being used by the ski hill. The Ministry of Environment has two conditional water licences (#C060336 and # C060337) on Marshall (Providence) Lake for storage and conservation purposes. (see Appendix 7 - Water Interests Map). There are no active community watersheds overlapping the existing CRA or proposed expansion area, although there is a Land Act tenure in place for a Watershed Reserve in the name of the City of Grand Forks (see Appendix 11 – Land Act Interests Map). Phoenix foresees no impact to water values with the current or proposed future operations.



### **3.4 First Nations**

Phoenix Mountain recognizes that the Okanagan Nation Alliance, Penticton Indian Band, Lower Similkameen Indian Band, Osoyoos Indian Band and Splots'in First Nation have expressed an interest in the area. Our organization sent a letter to the individual First Nations in 2009 when we first began working on our Master Plan to express our interest in increasing our recreational offering, moving towards all season use and expanding the CRA. At that time we did not receive any objections to the proposal.



## Section 4: Overlap With Existing Use

### 4.1 Mineral Tenure

There are a number of mineral claims overlapping the existing and proposed CRA, these are listed in the table below.

Type of Interest	Description	Tenure Holder
Mineral Claim	Tenure # 516742	Kettle River Resources Ltd.
Mineral Claim	Tenure # 516746	Kettle River Resources Ltd.
Mineral Claim	Tenure # 516749	Kettle River Resources Ltd.
Mineral Claim	Tenure # 517226	Kettle River Resources Ltd.
Mineral Claim	Tenure # 517436	Kettle River Resources Ltd.
Mineral Claim	Tenure # 519633	Kettle River Resources Ltd.
Mineral Claim	Tenure # 519640	Kettle River Resources Ltd.
Mineral Claim	Tenure # 552663	Kettle River Resources Ltd.
Mineral Claim	Tenure # 580317	Kettle River Resources Ltd.
Conditional Staking Reserve	Tenure # 1003074	Resort Development Branch - Ministry of Forests, Lands and Natural Resource Operations

In addition, the undersurface rights have been sold for a number of surveyed parcels within the area of interest. These are identified in the following table and shown on the Mineral Interest map in Appendix 8.

Legal Description	Surface	Undersurface	Owner of Undersurface	Undersurface Sold Under "ACT"
DL 865 - Bullion Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral & Taxation
DL 3381 - Monte Cristo Fraction Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral & Taxation
DL 915 - Montezuma Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral, CG & Taxation
DL 977 - Gilt Edge Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral & Taxation
DL 1811 - Gipsy Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral & Taxation



DL 1260 - No. 13 Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral, CG & Taxation
DL 1809 - Midnight Mineral Claim	Crown	Private	Kettle River Resources Ltd.	Mineral & Taxation

I acknowledge that the mineral tenures listed above overlap with my area of use and understand that I may have to coordinate access and activities with the tenure holders. I further acknowledge that additional mineral tenures may be located in my area of use in the future and that I may have to coordinate access and activities with the tenure holders.

Signed: \_\_\_\_\_ 

Don Colclough, President  
Phoenix Mountain Alpine Ski Society

#### 4.2 Timber Tenure & Forest Use

The existing Phoenix Controlled Recreation Area (CRA), as well as the proposed expansion area is within the Arrow Boundary Forest District and the Kettle and Granby Provincial Forests. The Resort Development Branch, Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) is the authorizing agency with regard to timber administration within the CRA boundary under the Resort Timber Administration Act (RTAA).

If this Master Plan is approved and the CRA is expanded, the Order in Council for resort timber administration will be amended to follow the new CRA boundary. The intent of transferring the timber administration to the Resort Development Branch is to provide a “one window” approach for resort development within the CRA, in order to streamline and integrate provincial review and application processes. Also, the transfer recognizes that any land use decisions that may be made in relation to the CRA are for long term all season resort development purposes. To finalize government’s direction and intent of the RTAA, if the expansion is approved the expanded CRA will be removed from the Provincial Forests.

During the summer and fall, cattle graze the area within our existing and proposed CRA. The Range tenure belongs to Kevin Lafond # RAN075571. Phoenix’s current operation benefits from this tenure as the grazing cattle reduce the need for preseason brush cutting, and promote the growth of the grass on the slopes by means of manure. The Phoenix Mountain Alpine Ski Society recognizes the importance of ranching in the regional district of the Kootenay Boundary and acknowledges that certain measures will have to be taken to protect the



cattle as the hill moves forward into summer operation. Proposed measures involve fencing and cattle guards to keep the cattle off the mountain bike trails. This is also important for the safety of our guests and staff.

There are two woodlots adjacent to the proposed CRA boundary. On the western edge, One Creek Forestry Ltd has W1768 and on the northern edge of the boundary Darryll Hunt has W1766. There is no overlap with the ski hill and no foreseeable conflicts with the woodlot holders; however, the ski hill will keep the woodlot owners informed of development at the mountain that may have an impact on their interests. Please see Appendix 9 – Forestry Interests Map for reference.

None of the permitted roads that overlap with the CRA and that are shown on the Forestry Interests Map are currently active. And there are no active forest harvest authorizations in place over the existing or proposed CRA boundary.

The Forest Stewardship section of the Ministry of Forests, Lands and Natural Resource Operations is currently considering the establishment of the West Boundary Community Forest in and around Phoenix. Discussions have taken place between the Phoenix Alpine Ski Society, the West Boundary Community Forest group, the Resort Development Branch and the Forest Stewardship section. All groups agreed that it would be best to avoid overlap of the CRA and Community Forest to simplify the management of the area and reduce the likelihood of conflict in the future. BCTS also has an operating area that overlaps with the eastern edge of the proposed CRA boundary, and has harvesting interests in this area. To reduce the impact to forestry and the timber harvesting land base, the CRA was reduced and rationalized as much as possible to follow logical boundaries while still including the areas that Phoenix has identified as critical for future development. Please see Appendix 9 & 10 – Forestry & Community Forest Maps for reference.

#### **4.3 Land Use Planning, Local or Regional Zoning Requirements**

Phoenix is within the area that is covered by the West Kootenay Land Use Plan (WKLUP), approved in March 1995, as well as the more recent Kootenay-Boundary Higher Level Plan (KBHLP), approved in October 2002. Information about the planning process and links to the respective plans is available at <http://ilmbwww.gov.bc.ca/slrp/lrmp/cranbrook/kootenay/legaldocuments/index.html>. Phoenix is within the Boundary Resource Management Zone (RMZ) and the higher level plan has designated the area as an Enhanced Resource Development Zone for Timber.

The existing and proposed CRA are in Area D of the Regional District of the Kootenay Boundary. Phase 1 and Phase 3 of Phoenix's proposed expansion plan comply with all zoning regulation for Recreational Resource 2. Phase 2 and the proposed summer mountain biking operations are currently zoned as Rural Resource 1 (refer to section 2). Prior to these developments, this area will have to be Re-zoned as Recreational Resource 1 in order to comply with all regulations. Phoenix intends to move forward with the re-zoning application after the



approval of its expansion plan (see Appendix 13 - RDKB Zoning and Bylaws). The regional district has already been notified of Phoenix’s intentions.

#### **4.4 Commercial Recreation Tenure & Guide Outfitter Territories**

There are no known commercial recreation tenures in the area. The entire proposed expansion area is within Barry Brandow’s Guide Outfitter Territory #800630 his Trapline Territory TR0814T004. We spoke with Mr. Brandow back in 2009 when we began working on our expansion plans and confirmed his support and that he has no objection with our operation expanding. We foresee no conflict with the guide outfitting and trapping operations.

#### **4.5 Land Act Tenures**

Aside from the existing Alpine Ski Licence of Occupation on File 4400731 for Phoenix, there are only a couple other Land Act tenures that overlap with the proposed expansion area for Phoenix, these are listed in the table below and shown on the Land Act Interests Map in Appendix 11.

Land Act Tenures Table:

<b>File Number</b>	<b>Client</b>	<b>Purpose</b>
0092275	City of Grand Forks	Watershed Reserve
4402020	FortisBC	Licence for Power Line

#### **4.6 Public Recreational Use**

The CRA is often used by public for a number of activities outside of our operations. With water mitigation in mind Phoenix controls the use of motor vehicles on the slopes through word of mouth and signage. This is done in an attempt to prevent the erosion problems associated with those types of recreational activities. However our facilities are often used as a staging or lunch area for a number of outdoor enthusiasts; these include ATVs, dirt bikes, hunters, hikers, campers, snowshoers and cross-country skiers. Phoenix embraces the use of the existing and proposed CRA for these purposes. The existing and proposed CRA are excellent terrain for outdoor recreation and Phoenix considers itself fortunate to have this reserved recreational area within such a close proximity to town. The hill foresees no conflict with our operations and the other recreational uses of the existing and proposed CRA.

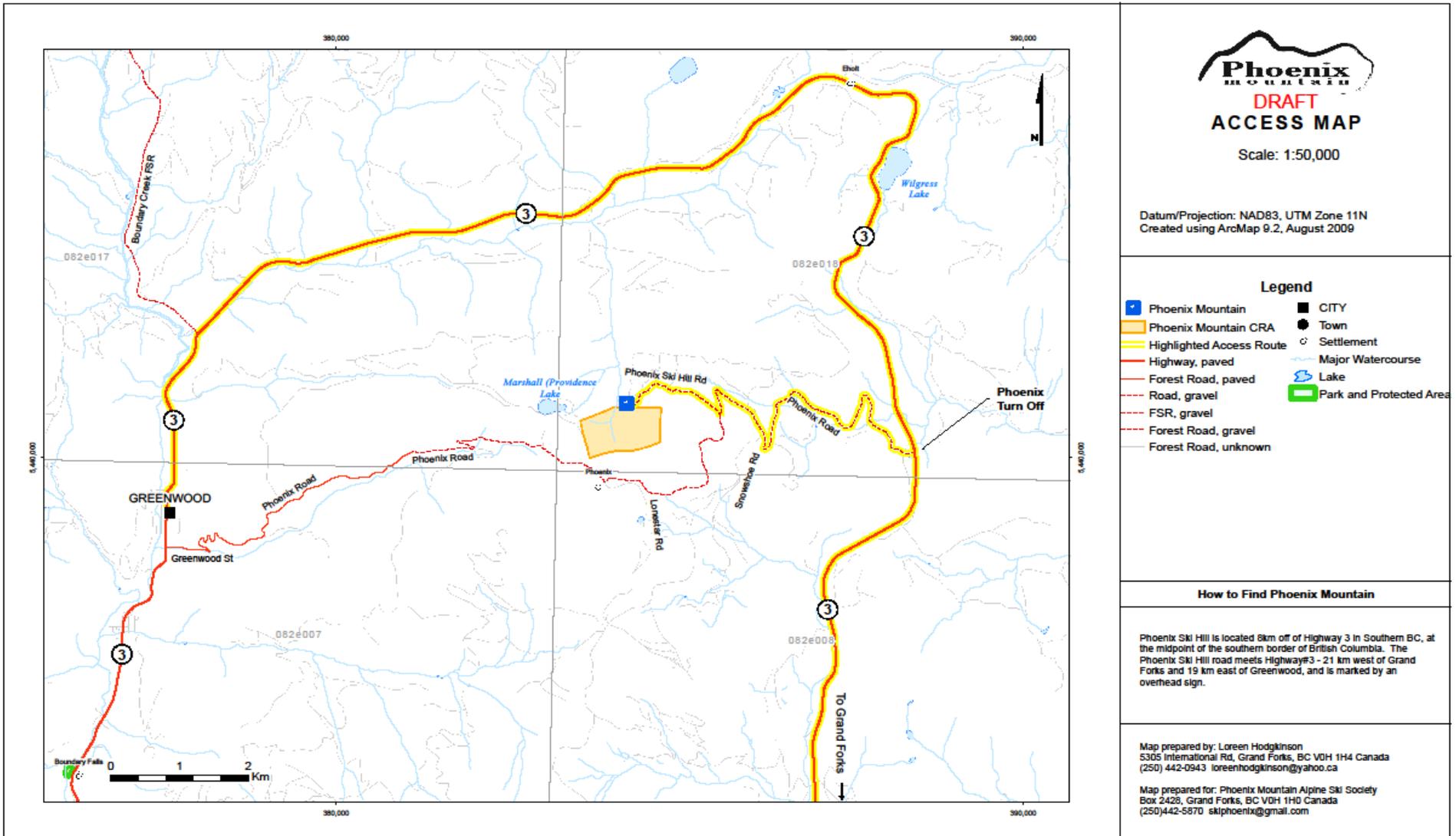
The Providence Lake XC Trails (REC6727) are operated by the Phoenix Cross Country Ski Society. We work with the Phoenix Cross Country Society to coordinate activities and help each other in a number of ways



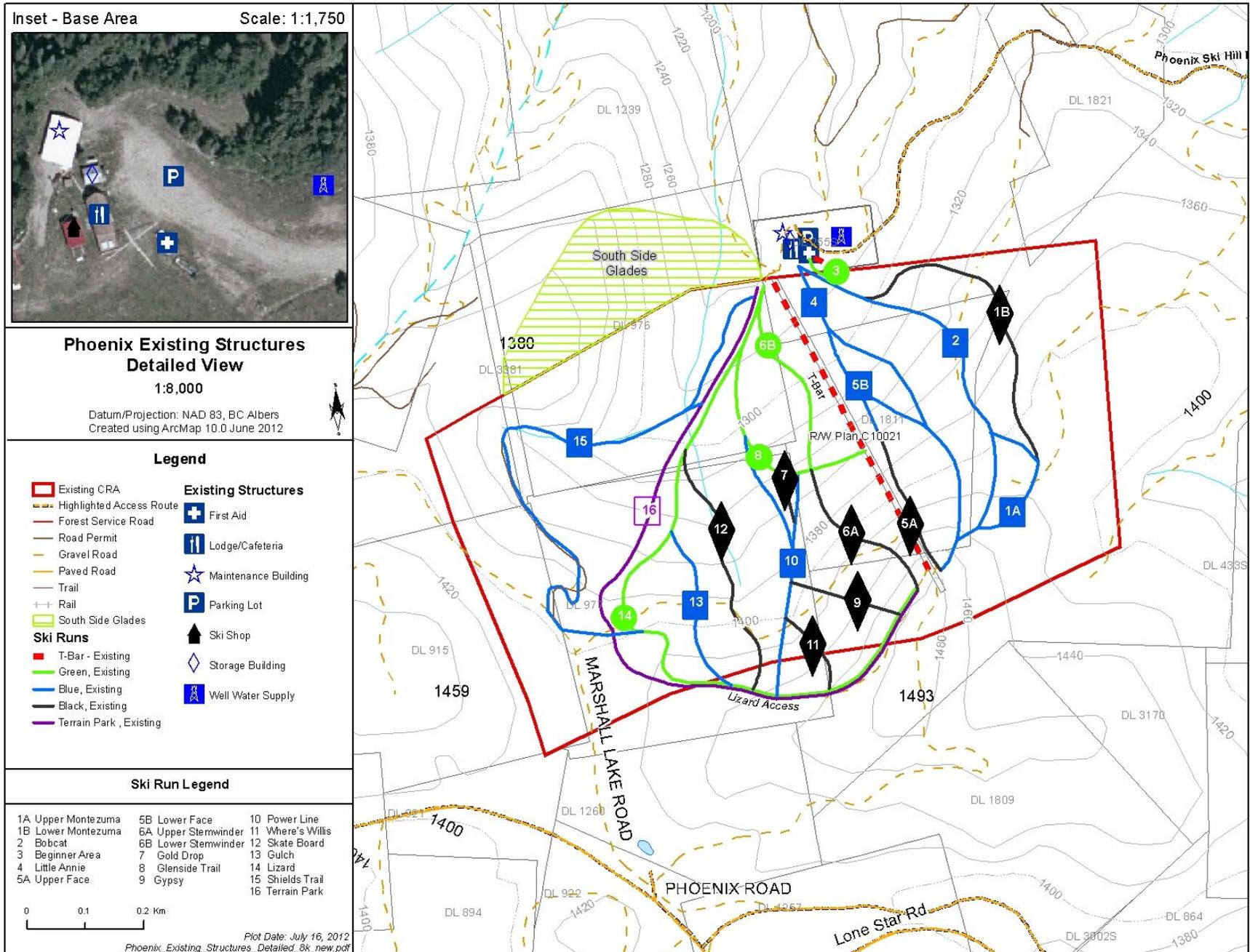
including assistance with fall trail maintenance, trail grooming and trail map dispersal. The Phoenix Mountain Alpine Society has discussed the proposed expansion with the Phoenix Cross Country Ski Society and we will be entering into an agreement (Memorandum of Understanding) to ensure the interests of both parties are taken into consideration now and into the future. Phase 2, development of the Advanced Terrain Pod, does overlap the existing cross country ski trails; therefore prior to initiation of this phase, more discussion will need to take place with the Phoenix Cross Country Ski Society to mitigate impacts to the existing trail system.

There is also summer recreation area around the north and east sides of Marshall Lake (REC167488) that was established for camping (campsites, picnic tables & outhouses). The public recreation permit area and trails are shown on the Forestry Interests Map in Appendix 9.

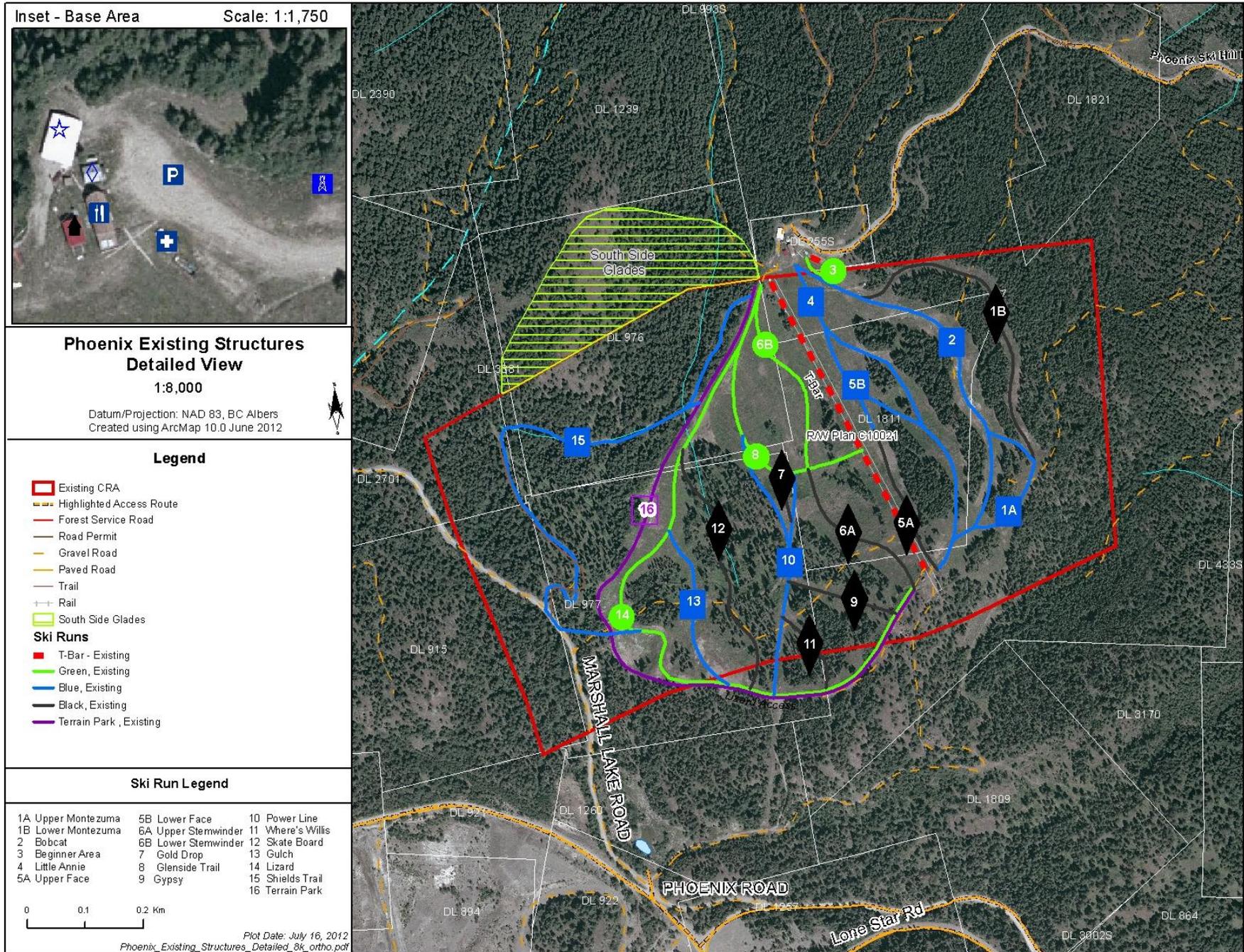
# Appendix 1 – Access Map



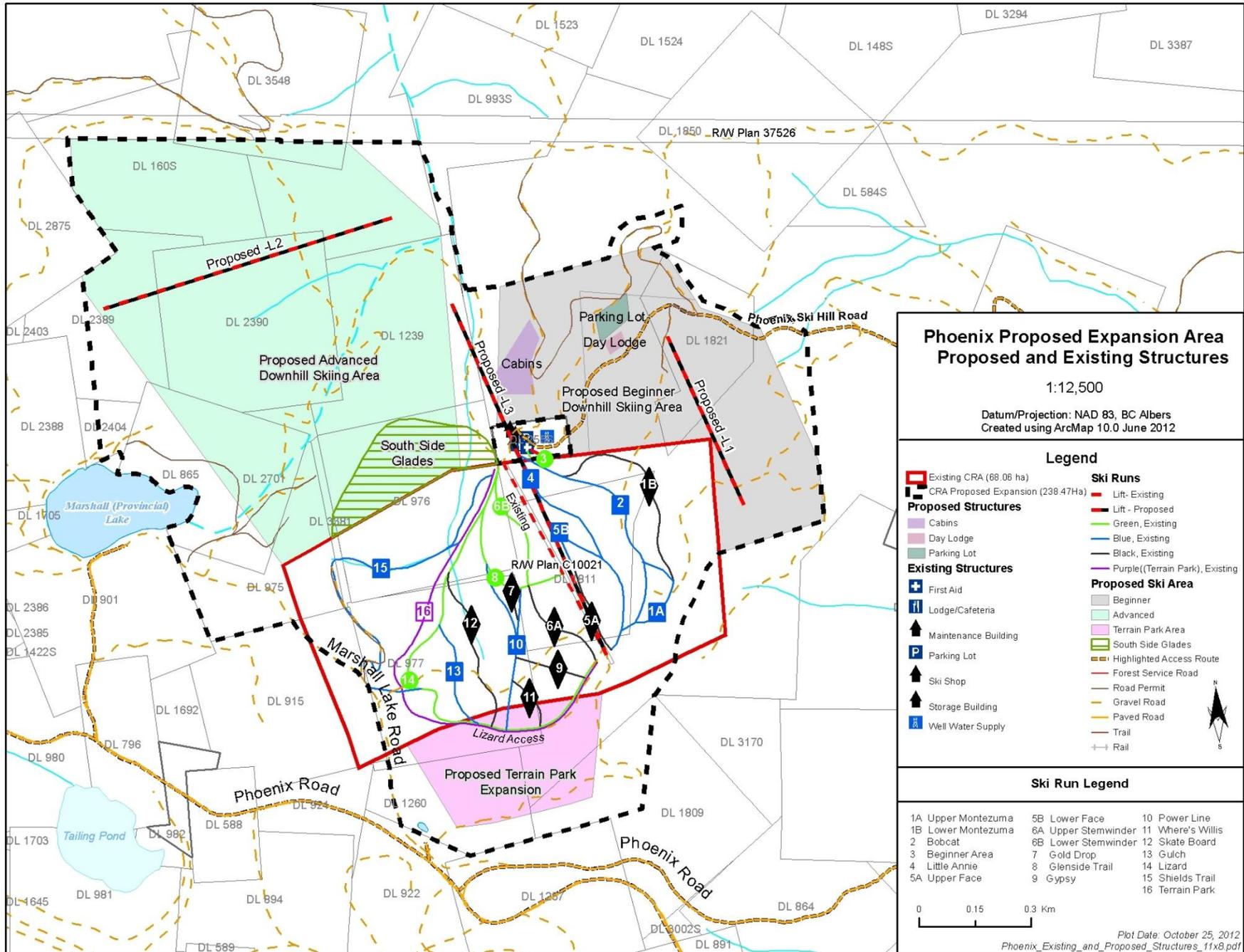
## Appendix 2 - Existing Structures Map



# Appendix 3 - Existing Structures – Orthophoto Map



# Appendix 4 - Existing and Proposed Structures Map



# Appendix 5 – Development Phasing Map

## Phoenix Proposed Expansion Area - PHASING MAP

Existing CRA

Proposed Phoenix Expansion

### Proposed Structures

- Cabins
- Day Lodge
- Parking Lot

### Existing Structures

- First Aid
- Lodge/Cafeteria
- Maintenance Building
- Parking Lot
- Ski Shop
- Storage Building
- Well Water Supply

### Ski Runs

- Lift - Existing
- Lift - Proposed
- Green, Existing
- Blue, Existing
- Black, Existing
- Purple((Terrain Park), Existing)
- South Side Glades

Highlighted Access Route

Forest Service Road

Road Permit

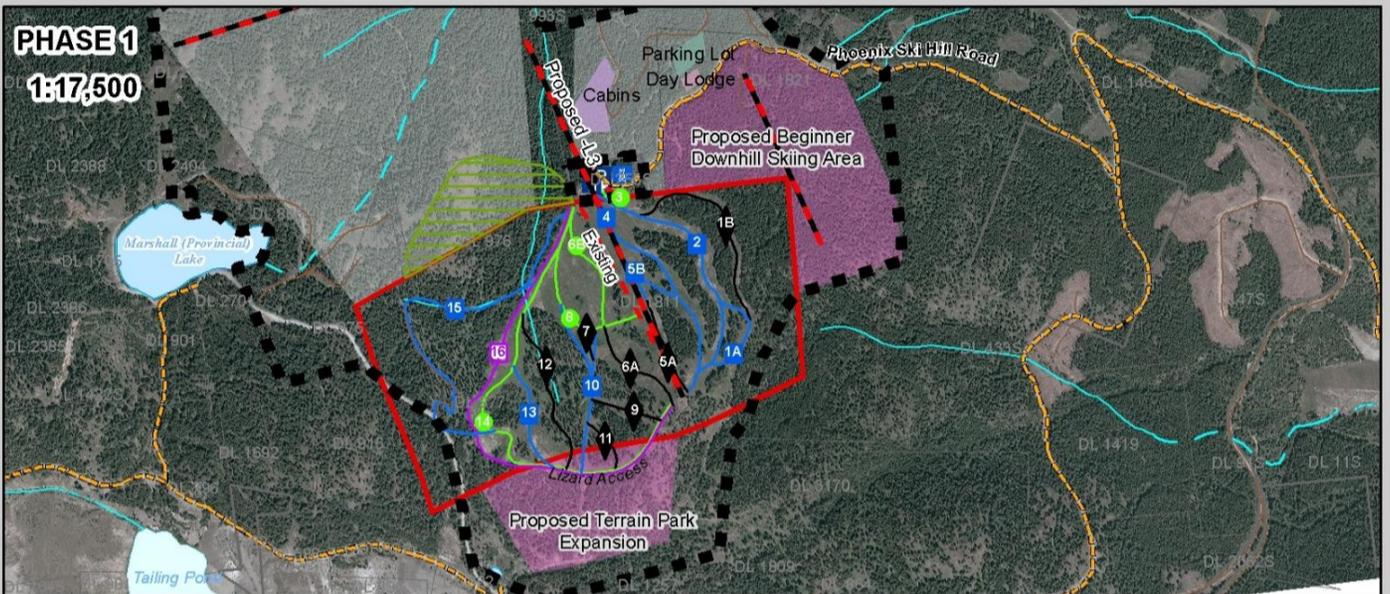


Datum/Projection: NAD 83, BC Albers  
Created using ArcMap 10.0 July 2012  
Orthophotography, 2005

Plot Date: Oct 25, 2012  
Phoenix\_Phasing\_Map.pdf

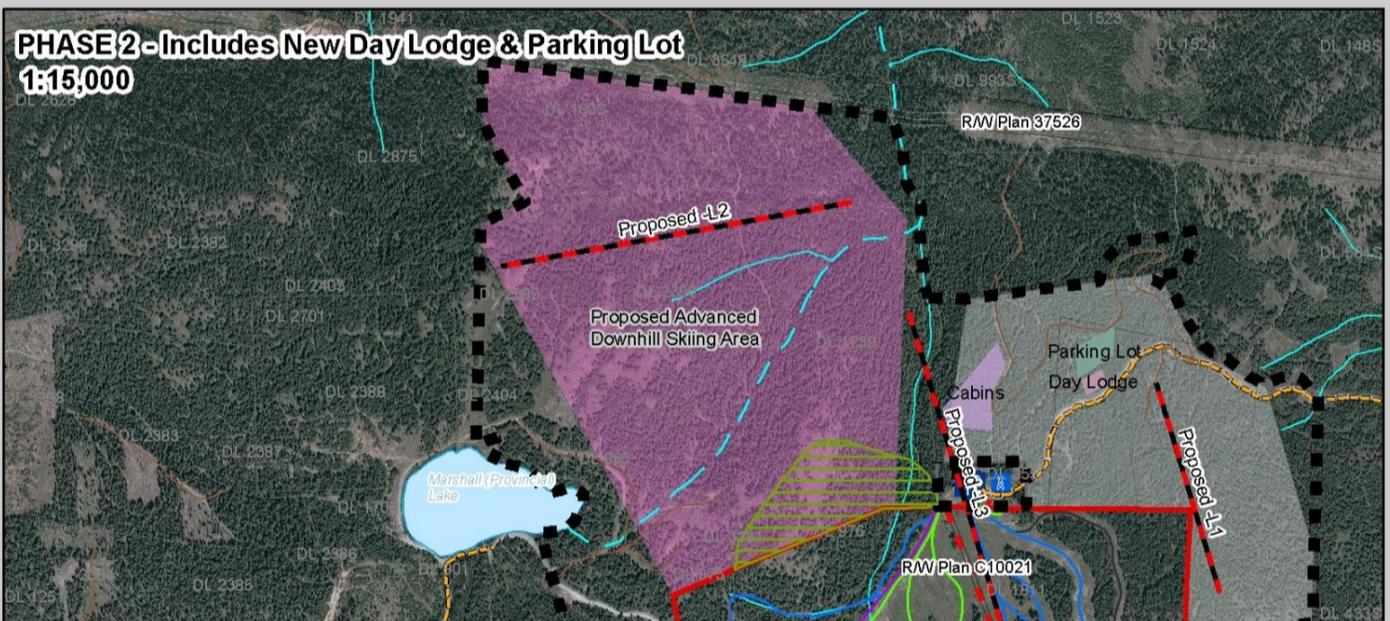
### PHASE 1

1:17,500



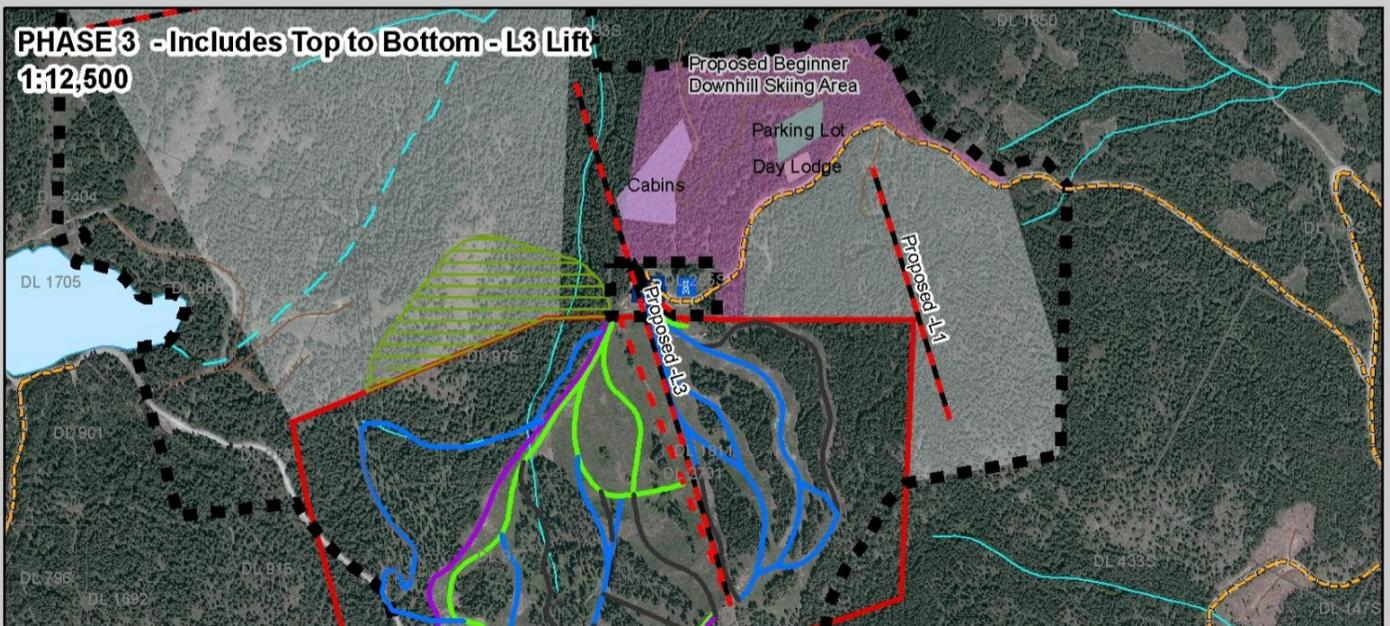
### PHASE 2 - Includes New Day Lodge & Parking Lot

1:15,000

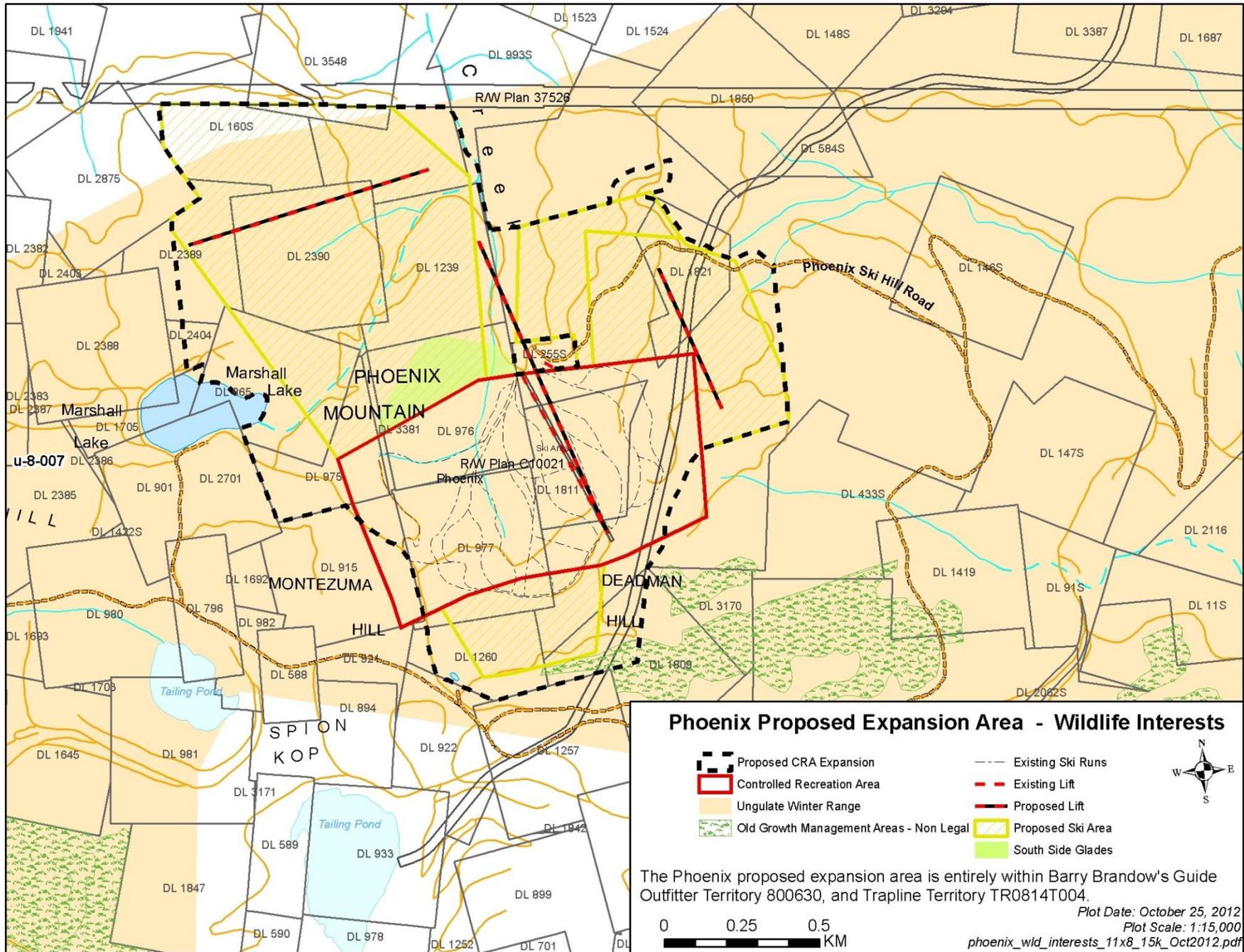


### PHASE 3 - Includes Top to Bottom - L3 Lift

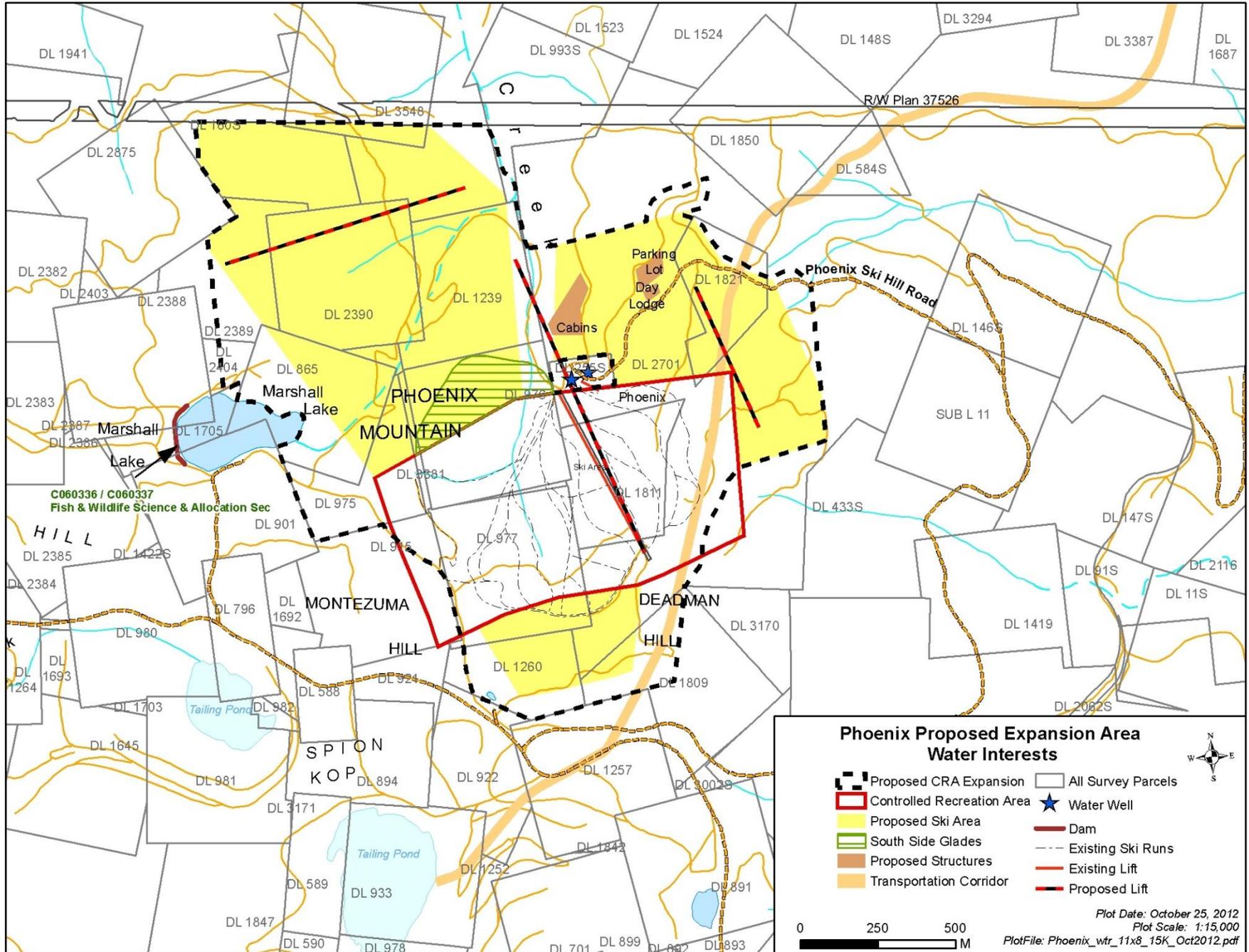
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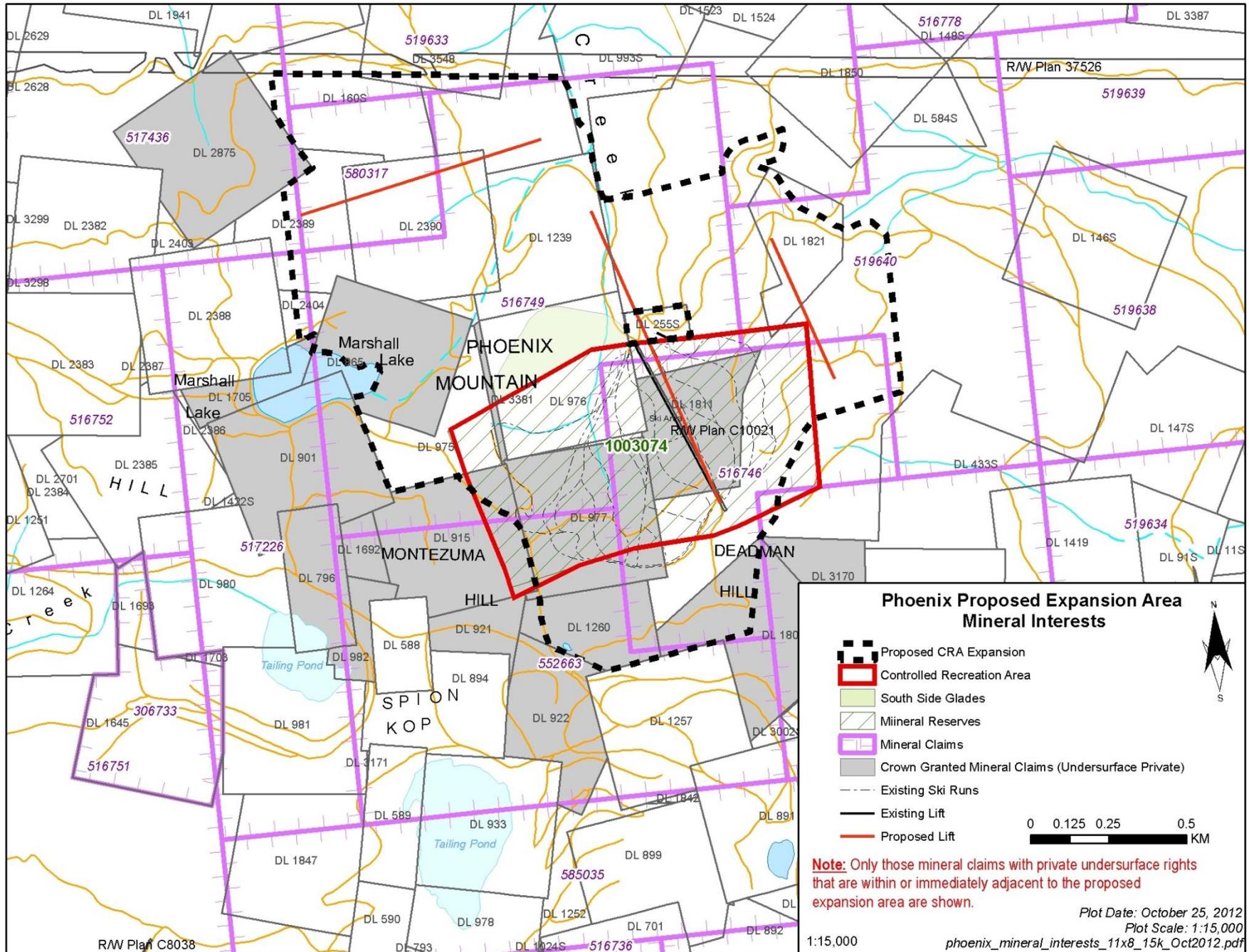
## Appendix 6 – Wildlife Interests Map



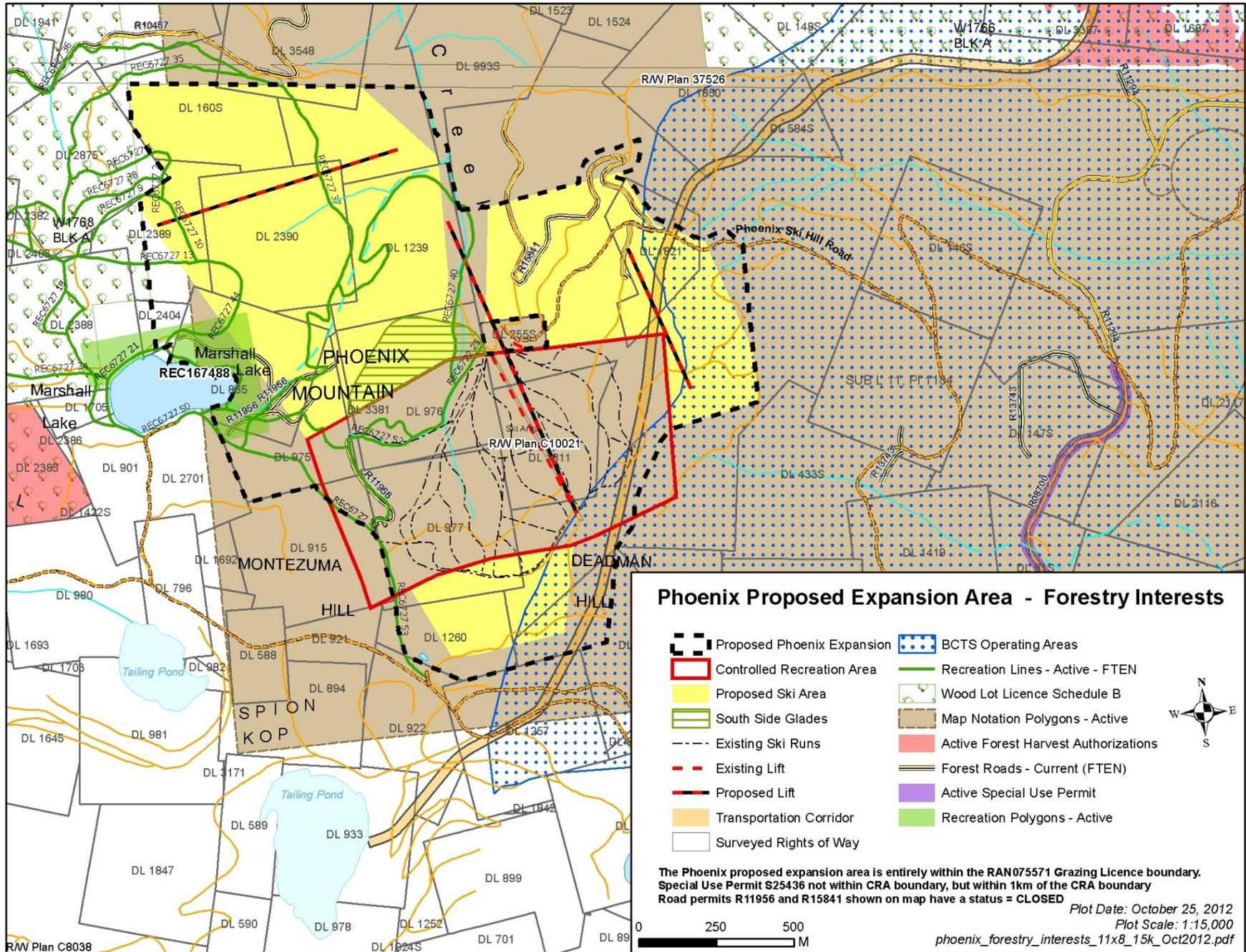
# Appendix 7 – Water Interests Map



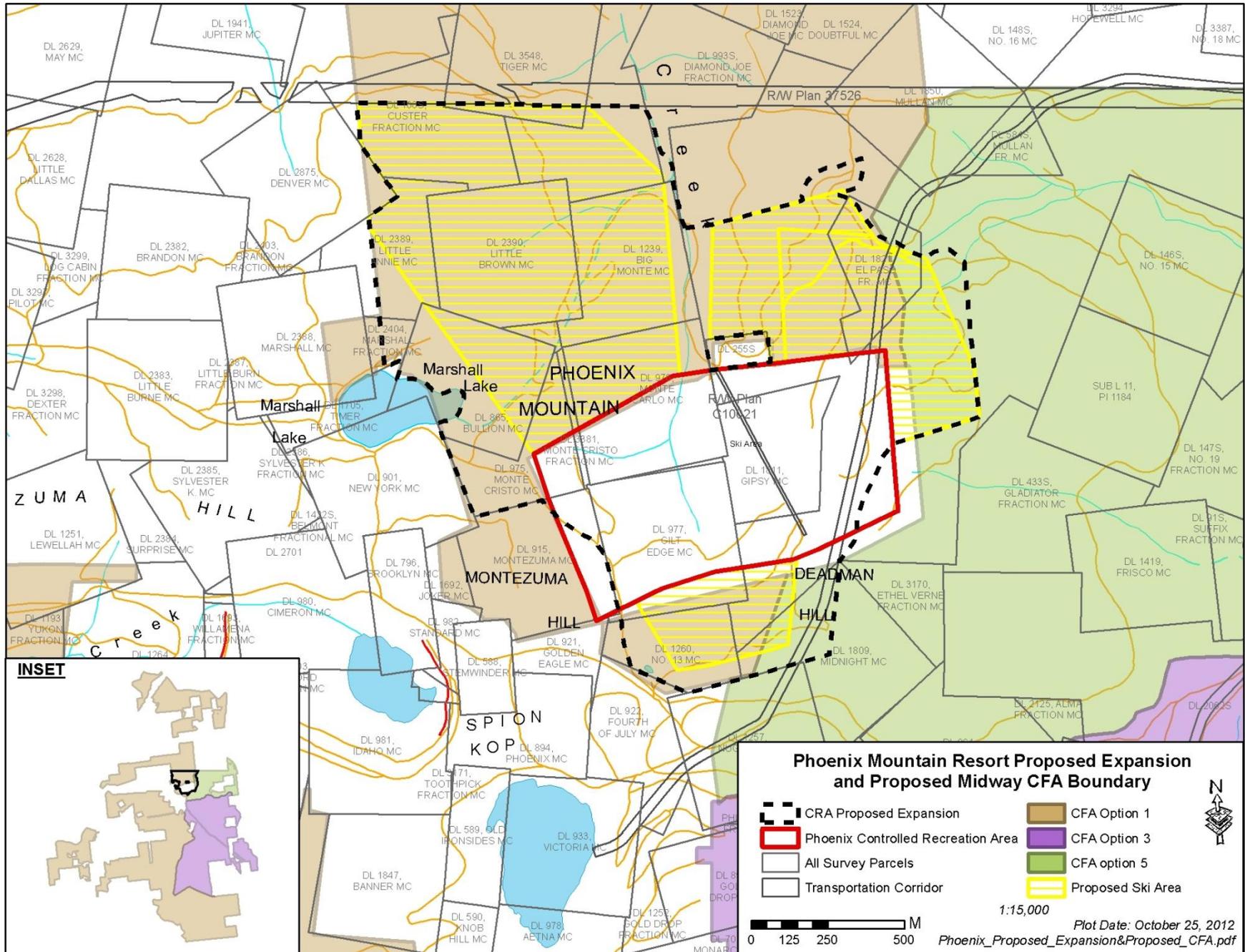
# Appendix 8 – Mineral Interests Map



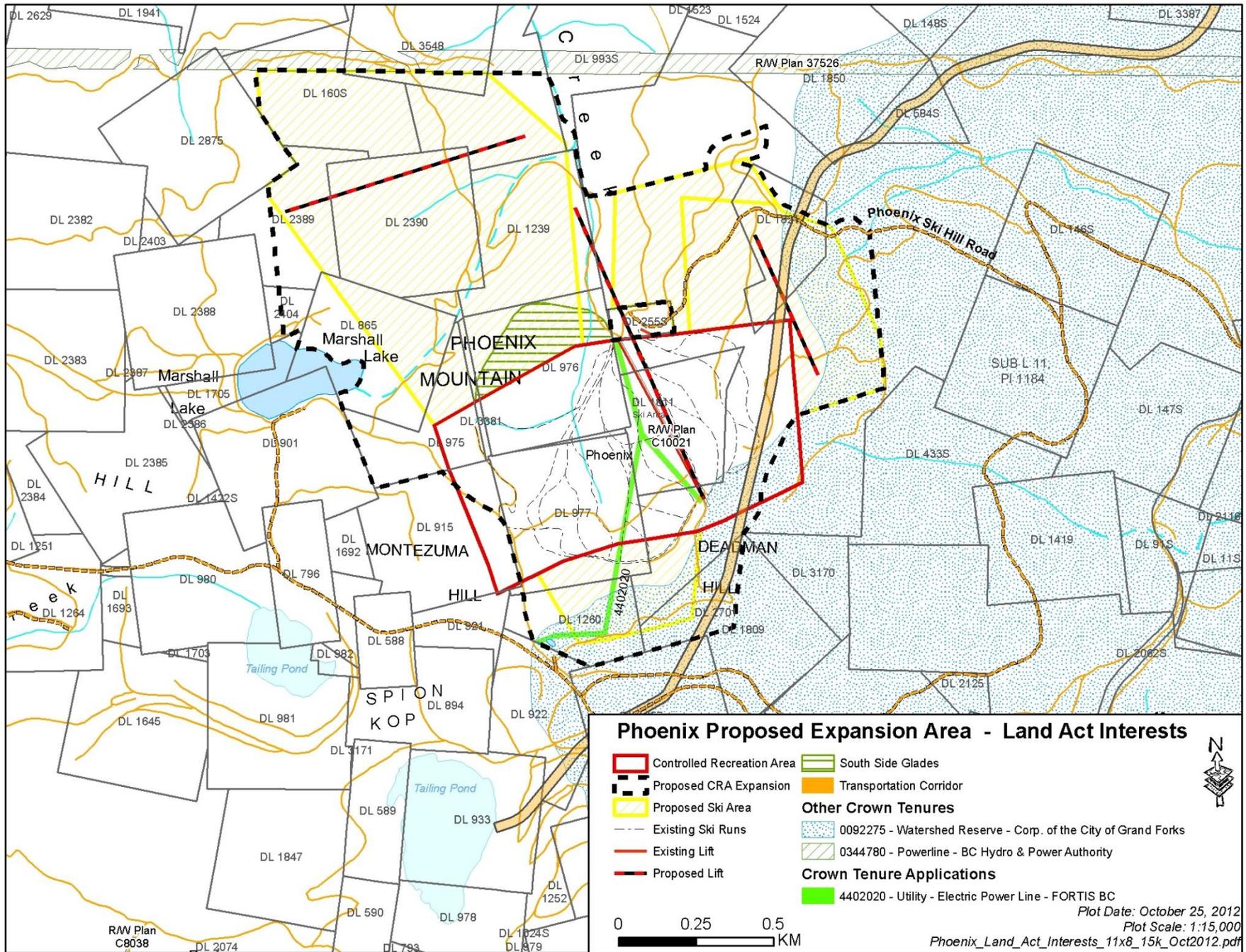
# Appendix 9 – Forestry Interests Map



# Appendix 10 – Community Forest Proposal Map



# Appendix 11 – Land Interests Map



## Appendix 12 - Water Licences

WATER MANAGEMENT  
BRANCH

MINISTRY OF  
ENVIRONMENT

### THE PROVINCE OF BRITISH COLUMBIA—WATER ACT CONDITIONAL WATER LICENCE

The Honourable Minister of Environment, Parliament Buildings, Victoria, B.C. V8V 1X5

is hereby authorized to store water as follows:

- (a) The source of the water supply is Providence Lake.
- (b) The point of storage is located as shown on the attached plan.
- (c) The date from which this licence shall have precedence is 1st May, 1956.
- (d) The purpose for which the water is to be used is conservation.
- (e) The maximum quantity of water which may be stored is 118 acre feet per annum, and such additional quantity as the Engineer may from time to time determine should be allowed for losses.
- (f) The period of the year during which the water may be stored is the whole year.
- (g) This licence is appurtenant to the conservation project of the licensee within Lots 865, 2388 and 2404, all of Similkameen Division of Yale District.
- (h) The works authorized to be constructed are dam, which shall be located approximately as shown on the attached plan.
- (i) The construction of the said works has been completed and the water shall be beneficially used on or before the 31st day of December, 1985.
- (j) This licence is issued in substitution of Conditional Water Licence 23755 under Section 16 of the Water Act.

*D.B. Lovdahl*

D.B. Lovdahl, P. Eng.  
Regional Water Manager  
Okanagan Region

File No. 0211677 Date issued: *May 20, 1984* Conditional Licence 60336

ENTERED ON
Map No. <i>W 3064</i>
By <i>J.S.</i>

WATER MANAGEMENT  
BRANCH

MINISTRY OF  
ENVIRONMENT

### THE PROVINCE OF BRITISH COLUMBIA—WATER ACT CONDITIONAL WATER LICENCE

The Honourable Minister of Environment, Parliament Buildings, Victoria, B.C. V8V 1X5

is hereby authorized to store water as follows:

- (a) The source of the water-supply is Providence Lake.
- (b) The point of storage is located as shown on the attached plan.
- (c) The date from which this licence shall have precedence is 15th September, 1966.
- (d) The purpose for which the water is to be used is conservation.
- (e) The maximum quantity of water which may be stored is 148 acre feet per annum and such additional quantity as the Engineer may from time to time determine should be allowed for losses.
- (f) The period of the year during which the water may be stored is the whole year.
- (g) This licence is appurtenant to the conservation project of the licensee within Lots 865, 2388 and 2404, all of Similkameen Division of Yale District.
- (h) The works authorized to be constructed are dam, which shall be located approximately as shown on the attached plan.
- (i) The construction of the said works have been completed and the water shall be beneficially used on or before the 31st day of December, 1985.
- (j) This licence is issued in substitution of Conditional Water Licence 31940 under Section 16 of the Water Act.

*D.B. Lovdahl*

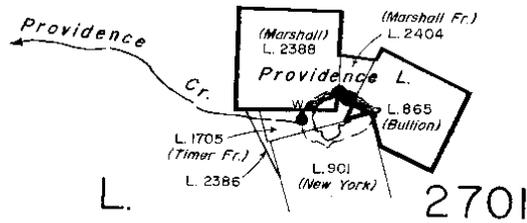
D.B. Lovdahl, P. Eng.  
Regional Water Manager  
Okanagan Region

File No. 0270520 Date issued: *May 22, 1984* Conditional Licence 60337

ENTERED ON
Map No. <i>3064</i>
By <i>EW</i>



Province of British Columbia



WATER DISTRICT :GRAND FORKS  
 PRECINCT :GREENWOOD  
 LAND DISTRICT :SIMILKAMEEN DIVISION OF YALE

LEGEND

Scale : 20 Chains to 1 inch  
 Dam : ●  
 Map Number : WR 3064

Permit over Crown Land:

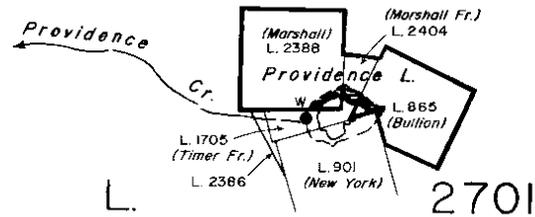
Signature: *S. J. ...*  
 Date: *May 28, 1984*

F.L. 60336 for C.L. 23755  
 File 021677  
 P.C.L. 14200

The boundaries of the land to which this licence is appurtenant are shown thus:



Province of British Columbia



WATER DISTRICT :GRAND FORKS  
 PRECINCT :GREENWOOD  
 LAND DISTRICT :SIMILKAMEEN DIVISION OF YALE

LEGEND

Scale : 20 Chains to 1 inch  
 Dam : ●  
 Map Number : WR 3064

Permit over Crown Land:

Signature: *S. J. ...*  
 Date: *May 28, 1984*

F.L. 60337 for C.L. 31940  
 File 0270520  
 P.C.L. 14201

The boundaries of the land to which this licence is appurtenant are shown thus:

## Appendix 13 - RDKB Zoning and Bylaws

### 409. RURAL RESOURCE 1 ZONE (RUR 1)

The following provisions apply to lands in the Rural Resource 1 Zone:

#### 1. Permitted Principal Uses

Only the following principal uses are permitted:

- (a) Agriculture;
- (b) Campgrounds (See Sections 303 and 318);
- (c) Conservation areas, ecological reserves, wildlife sanctuaries;
- (d) Forestry, logging, silviculture;
- (e) Guest ranches (See Section 319);
- (f) Intensive agriculture, only on properties located within the Agricultural Land Reserve;
- (g) Interpretive centres;
- (h) Log dumps and yards;
- (i) Log home manufacturing;
- (j) Portable shake, shingle and sawmills;
- (k) Post and tie operations;
- (l) Processing of agricultural products; only if a minimum of 50% of products processed are grown on-farm;
- (m) Ranching;
- (n) Riding stables;
- (o) Sales of agricultural products grown or raised in the area, only if sales floor area is less than 112 m<sup>2</sup>;
- (p) Single family dwelling;
- (q) Veterinary clinics excluding kennels/animal shelters.

#### 2. Permitted Secondary Uses

Only the following secondary uses are permitted and only in conjunction with a use listed in paragraph 1 above:

- (a) Accessory buildings and structures;
- (b) Home-based business (See Section 306).

#### 3. Parcel Area

For lands to be subdivided, parcel size must not be less than 10 hectares.

#### 4. Dwelling Units

Maximum one dwelling unit per parcel.

#### 5. Setbacks

Minimum setbacks for buildings and structures:

- (a) for parcels less than 1 hectare in area:

#### Appendix 6 RDKB Zoning and Bylaws (continued)

- (i) 7.5 m from a front parcel line;
- (ii) 1.5 m from an interior side parcel line;
- (iii) 4.5 m from an exterior side parcel line;
- (iv) 4.5 m from a rear parcel line.
- (b) for parcels 1 hectare or greater in area minimum setback must not be less than 7.5 m from any parcel line.

#### 6. Parcel Coverage

Maximum Coverage by buildings & structures combined

Commodity 20%

Apiculture 25%

Tree, vine, field and forage crops 35%

Mushrooms 35%

Livestock (including confined livestock areas), poultry, game and fur 35%

Nurseries, specialty wood crops and turf farms 75%

Greenhouses

#### 7. Parking

Off-street parking must be provided in accordance with the parking regulations as shown in Part 3 of this Bylaw.

## **Appendix 13 - RDKB Zoning and Bylaws (continued)**

### **410. RECREATIONAL RESOURCE 1 ZONE (REC 1)**

The following provisions apply to lands in the Recreational Resource 1 Zone:

#### 1. Permitted Principal Uses

Only the following principal uses are permitted:

- (a) Interpretive centre;
- (b) Recreation facilities (indoor and outdoor);
- (c) Retreat camps;
- (d) Ski lifts and tows;
- (e) Ski lodge.

#### 2. Permitted Secondary Uses

Only the following secondary uses are permitted, and only in conjunction with a use listed in paragraph 1 above:

- (a) Accessory buildings and structures
- (b) Accessory uses customarily incidental to ski resort operations;
- (c) Eating and drinking establishments contained within a ski lodge;
- (d) Guest cabins;
- (e) Property maintenance facilities;
- (f) Single family dwelling solely for the use of the caretaker of the property.

#### 3. Parcel Area

For lands to be subdivided, parcel size must not be less than 2 hectares.

#### 4. Density

Maximum one care taker unit per parcel and maximum six guest cabins per parcel

#### 5. Setbacks

Minimum setback for buildings and structures is 5 metres from any parcel line.

#### 6. Parcel Coverage

Maximum 20% of the parcel area may be covered by buildings and structures combined.

#### 7. Parking

Off-street parking must be provided in accordance with the parking regulations as shown in Part 3 of this Bylaw.

### **411. RECREATIONAL RESOURCE 2 ZONE REC 2**

The following provisions apply to lands in the Recreational Resource 2 Zone:

#### 1. Permitted Principal Uses

Only the following principal uses are permitted:

- (a) Downhill and Cross-country ski areas;
- (b) Outdoor recreation facilities;
- (c) Picnic sites;
- (d) Ski lifts and tows.

#### 2. Permitted Secondary Uses

Only the following secondary uses are permitted, and only in conjunction with a use listed in paragraph 1 above:

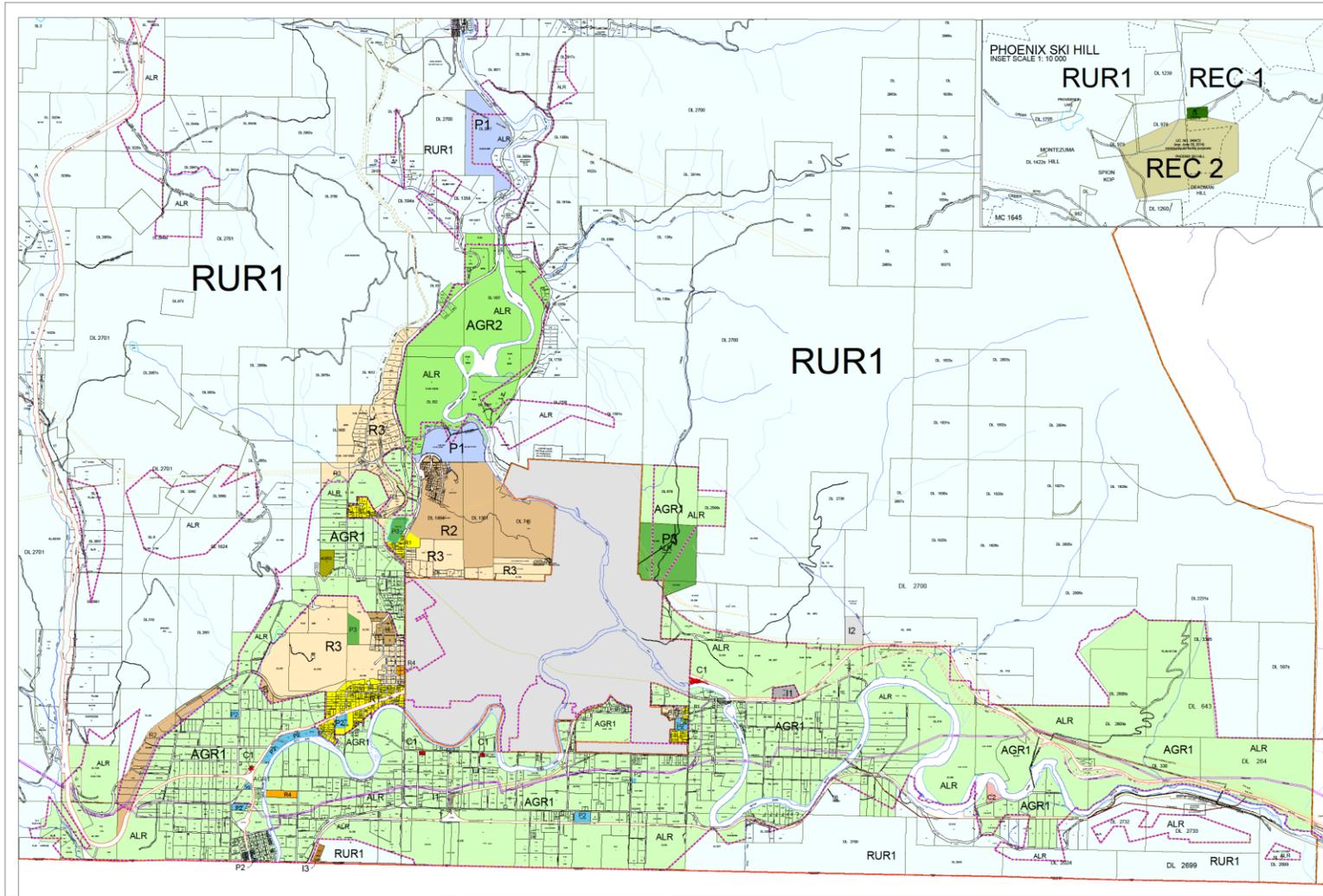
- (a) Accessory buildings and structures.
- (b)

#### 3. Parcel Area

For lands to be subdivided, parcel size must not be less than 20 hectares.

#### 4. Parking

Off-street parking must be provided in accordance with the parking regulations as shown in Part 3 of this Bylaw.



**ELECTORAL AREA D**  
**ZONING MAP**  
**SCHEDULE 'A'**  
SCALE 1:220 000

**RESIDENTIAL**

- R1- Residential 1
- R2- Residential 2
- R3- Estate Lot Residential 3
- R4- Manufactured Home Park Residential 4

**RESOURCE**

- AGR1- Agricultural Resource 1
- AGR2- Extension Agricultural Resource 2
- AGR3- Agricultural Resource 3
- RUR1- Rural Residential 1
- REC-1- Recreational Resource 1
- REC-2- Recreational Resource 2

**COMMERCIAL**

- C1- Highway Commercial 1
- C2- Recreational Commercial 2

**INDUSTRIAL**

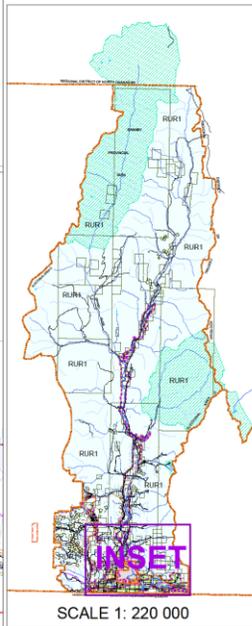
- I1- Light Industrial 1
- I2- Light Industrial 2
- I3- Industrial 3
- I4- Industrial 4

**PUBLIC**

- P1- Community Recreation 1
- P2- Institutional & Community Facilities 2
- P3- Public Open Space 3
- ALR- Agricultural Land Reserve

**AMENDMENT NO. 108/19**  
1984, Nov. 17, 2019

1



# Phoenix Mountain Management Safety Plan



Created by Christian Théberge: General Manager,

Approved by: 2007 Board of Directors

Phoenix Mountain Management Safety Plan

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Maintenance Records	Page 11
Compliance	Page 12

# Phoenix Mountain Management Safety Plan

## **Introduction:**

The Safety Management Plan for Phoenix Mountain will identify policies, procedures and/or systems that we have in place with regard to safety and training. This document will ensure that, employees, and any other persons (i.e. external contractors) who are allowed to perform maintenance functions on their passenger ropeways and passenger conveyors have the appropriate skills and training and adequate supervision to carry out the scope of their responsibilities.

The Safety management plan will be broken down into 7 headings in accordance to the template sent by the BC Safety Authority.

1. Scope of Responsibility
2. Safety Policies
3. Training and Supervision
4. External Contractors and Authorities
5. Scheduled Maintenance Testing and Inspection
6. Maintenance Records
7. Compliance

## **1. Scope of Responsibility**

Phoenix Mountain operates two surface lifts, a Doppelmayr T-bar installed in 1968, and a home built Fibre Rope Tow.

For the purpose of this document the Lifts will be referred to as follows.

**Lift A: T-bar**

**Lift B: Fibre Rope tow.**

Maintenance at Phoenix is performed by the General Manager with assistance of volunteer members of the Board of Directors who have also passed the Selkirk College Surface Lift Mechanics Course. The only persons involved in maintenance who have not passed the Surface Lift Mechanics course are the lift operators who occasionally drive the lift during carrier relocation, and other members of the Phoenix Mountain board of directors who have not taken the Surface Lift Mechanics course. In both cases these people work under the supervision of the General Manager or a certified Surface Lift Mechanic.

## **2. Safety Policy**

Phoenix Mountain follows the policies and standard operating procedures with respect to safety in the maintenance, repair, testing and inspection of Lift A and Lift B as specified in the these manuals:

- Z 98 Passenger Ropeways and Conveyors
  - o All information pertaining our lifts in sections :
    - 3. General Requirements
    - 6. Surface passenger ropeways
    - 7. Rope tows
    - 10. Ropes and Chains
    - 11. Inspections, Testing, Operations, and Maintenance of Passenger Ropeways
  
- Doppelmayr General Operations and Service Manual for T-bar
  
- Worksafe BC
  - o Occupational Health and Safety Regulations
    - All information pertaining to our lift in sections:
      - 1. Definitions
      - 2. Application
      - 3. Rights and Responsibility
      - 4. General Conditions
      - 7. Noise, Vibrations, Radiation, and Temperature
      - 8. Personal protective Clothing and Equipment
      - 9. Confined Spaces
      - 10. De-energizing and Lockout
      - 11. Fall Protection
      - 12. Tools, Machinery and Equipment
      - 13. Ladders Scaffolds, and Temporary Work Platforms
      - 14. Cranes and Hoists
      - 15. Rigging
      - 16. Mobile Equipment
      - 17. Transportation of Workers
      - 18. Traffic Control
      - 19. Electrical Safety
      - 20. Construction, Excavation and Demolition
      - 21. Blasting Operations
      - 23. Oil and Gas
      - 26. Forestry Operations

## **Appendix 14 - Management Safety Plan (continued)**

- WCB Standards
  - All information pertaining to our lift in sections:
    - LDR1-2004 Job Built Ladders
    - OFA 1 Certification of Occupational First Aid Attendants
  
- Safety Standards Act
  - All information pertaining to our lifts in Parts:
    - 1. Application
    - 2. Administrative Responsibility
    - 3. Adoption of Standards, Effects of Certification Mark and Regulated Product Approval
    - 4. Safety Officers and Safety Managers
    - 5. Registry
    - 6. Licensed Contractors and Certificate of Qualification
    - 7. Administration and Enforcement
    - 8. Safety Standards Appeal Board
    - 9. Review and Appeal Process
    - 10. Prohibitions, Offences and Penalties
    - 11. General
    - 12. Delegation of Administration
    - 13. Regulations making Authority
    - 14. Transitional Provisions
    - 15. Transitional Appropriation
  
- Safety Standards General Regulations
  - All information pertaining to our lifts in Parts:
    - 1. Certificate of Qualification and Contractors' Licences
    - 2. Permits
    - 3. Inspections by Safety Officers
    - 4. Prototype
    - 5. Field Safety Representatives
    - 6. Safety Officers
    - 7. Documents
    - 8. Incident Reporting

## **Appendix 14 - Management Safety Plan (continued)**

- Elevating Devices Safety Regulations
  - o All information pertaining to our lifts in Parts:
    - 1. General Qualifications and Licensing Provisions
    - 2. Permits, Field Safety Representatives and Inspections
    - 3. Safety Officers
    - 4. Incidents
    - 5. Technical Requirements
    - 6. Operational Requirements
    - 7. Technical Requirements
  
- Phoenix Mountain Lift Operations Manual

Safety is of the up most importance to Phoenix Mountain. All members of our staff who are involved in lift operations are made aware of the safety concerns with regards to riding, operating, maintaining, testing, and inspecting the lift.

These members include:

- General Manager
- Board of Directors
- Slope Grooming Staff
- Lift Operating Staff
- Ski School and Rental Shop Manager
- Ski School instructors
- Ski Patrol Director
- Volunteer Ski Patrol

Phoenix would also inform regulatory authority such as BCSCA and our insurance broker, as well as our manufacturer, Doppelmayr, of any emerging safety concerns involved with the operation or maintenance of our lifts. This document was written by Christian Théberge, General Manager of Phoenix Mountain as of November 2006, and was approved by the 2007 Phoenix Mountain Board of Directors; Don Colclough, Gordon Dahl, David Fitzgerald, James Hall, Ken Markortoff, John Malins, Gary Onions, Tim Palek, Gord Smith, Bob Van, and Adam Williams.

### **3. Training and Supervision**

Staff involved in maintenance and operation of our lifts are both trained and supervised as needed. No untrained personnel or volunteers shall perform or assist in maintenance without being trained or supervised.

- Required training and skills:
  - o As mentioned in the Scope of Responsibility section, Lift maintenance personnel must have completed the Selkirk College Surface Lift Mechanics course.
  - o Non certified personnel may assist in maintenance operations if they are trained and supervised by a Certified Lift Mechanic.
- Ensuring minimum competency levels
  - o The General Manager has the task of ensuring any personnel or assistance in maintenance procedures is reasonably competent and has been trained to perform the required task.
- Training record keeping procedures
  - o A training record book is kept. It logs the name of every person performing maintenance tasks as well as the training they have received pertaining to a particular task.
- Informing personnel of changes in codes or procedures
  - o Personnel shall be informed of any changes or updates to codes and or procedures and or regulations.
- Positions responsible for training
  - o Training of maintenance personnel is to be done by the General Manager after having successfully completed both the Selkirk College Train the Trainer course, and the Surface Lift Mechanics course.
  - o When a new General Manager has been hired, he is to be trained by one of the members of the board of directors who has completed both the Selkirk College Train the Trainer course, and the Surface Lift Mechanics course.

## **4. External Contractors and Authorities**

All external parties performing or assisting in maintenance operations and procedures shall produce proof of their qualification (certification) before they perform the task at hand. They shall not perform tasks outside of their licensed qualifications. They shall be made aware of Phoenix Mountain's safety policies as noted in this document. Their qualification and shall be logged into an External Contractor Log book for record keeping purposes.

## **5. Scheduled Maintenance Testing and Inspections**

Maintenance, Testing, and Inspections for both Lift A and Lift B shall be performed according to:

- The Doppelmayr General Operations and Service Manual for T-bar
  - o Bulletins and Updates sent by Doppelmayr
- The Z-98 code Passenger Ropeways and Conveyors
- Occupational Health and Safety Regulations
- WCB Standard
- Safety Standards Act
- Safety Standards Regulations
- Elevating Devices Safety Regulation
- Phoenix Mountain Lift Operations Manual
- Our insurance broker's requests

## **6. Maintenance Records**

Record keeping is conducted in accordance with clauses 11.24.1 and 11.24.2 of the Z98 Passenger Ropeway and Conveyor code book.

- Maintenance logs shall be updated when maintenance occurs. In the absence of a specific maintenance sheet, a lift operating log will be used with maintenance information being noted in the notes section of the log.
- Maintenance Records are kept in the maintenance shop, with past records kept in lodge office.
- The general manager is responsible for updating maintenance records. If someone else performs the maintenance the General Manager will ensure all parties involved have signed the record.
- Work sheets and reports from external contractors shall be kept with maintenance records.

## **7. Compliance**

Phoenix Mountain, its board of directors and its general manager are aware of their legal obligations as per applicable acts and regulations. As mentioned in Section 2, our safety policy follows the Z98 Code, our manufacturer's general operations and service manual, the WCB standards, the Occupational Health and Safety Regulations, the Safety Standards Act, the Safety Standards Regulations, and the Safety Standards Elevating Devices Safety Regulation.