

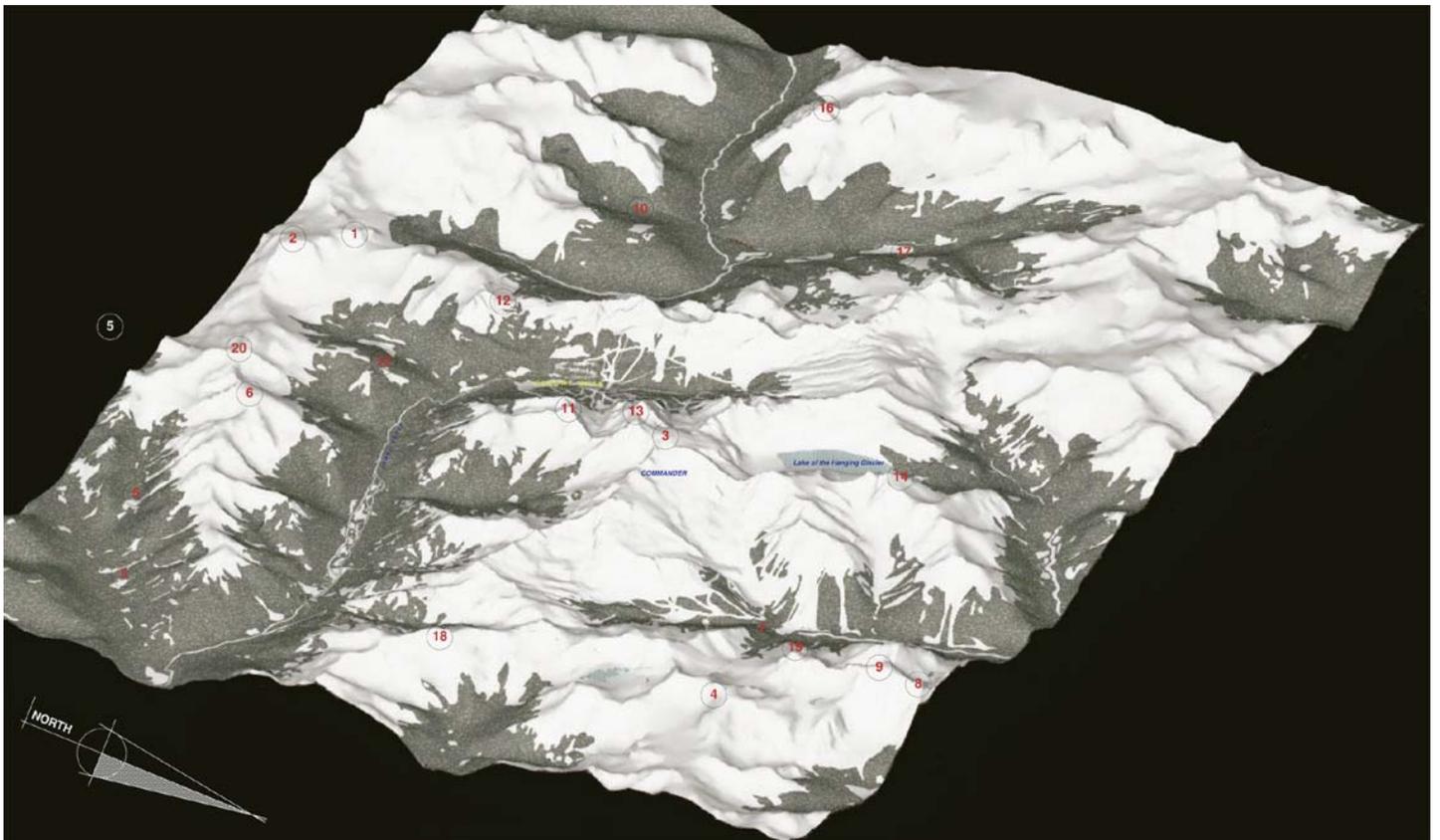
# **Jumbo Glacier Resort Master Plan**

## **Appendix 4-A**

### **Visual Impact Assessment & Mitigation**

# Jumbo Glacier Resort

## VISUAL IMPACT ASSESSMENT AND MITIGATION



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# 1. VISUAL IMPACT ASSESSMENT

## 1.1 INTRODUCTION

While little consideration has been given to the visual impact of ski resorts in the past, and little established precedent for comprehensive studies exist, the visual impact of a ski resort is becoming an increasingly important consideration for modern planners. Particular attention has been paid to visual quality and visual resources at Jumbo Glacier Resort. Visual quality is important to the tourism industry, and especially at Jumbo Glacier Resort, whose vision is to provide a superior level of year round glacier skiing in an awe-inspiring high alpine setting.

In British Columbia, beginning in the late 1970s, the forestry sector spearheaded attempts to study and manage the visual quality of the landscape. In 1981, the Ministry of Forests published the *Forest Landscape Handbook*. It explored the idea of visual landscape management and it introduced a Forest Landscape Management (FLM) system whose origins were related to work carried out by the US Forest Service in the 1970s. Policy was soon released and through the 1980s and 1990s, a province-wide visual landscape inventory was carried out. Visual Quality Objectives (VQOs) were established and these objectives became the cornerstone of the forestry sector's Visual Resource Management program.

The need to manage the visual quality of the landscape arose due to a number of evolving realities, including social considerations partly generated by a growing, more affluent, more mobile and better educated provincial population, and an increasing understanding of environmental issues. Forestry, as always, played a significantly large role in the provincial economy and society had become sensitive not only to the biological conservation of forests, but was also concerned with how the landscape *looked*.

Both Government and the forestry sector have consistently cited the needs of British Columbia's growing tourism sector as a primary reason for the implementation of visual resource management procedures. It was recognized that the provincial tourism motto "Super Natural British Columbia" does not fit with poor visual management of forested lands.

Paradoxically, however, forest management practices that were intended to safeguard the visual resources and scenic values of the province for tourism purposes are being applied to the tourism industry itself. In place of standards developed specifically for the tourism industry, visual impact assessment methodology developed for the forest industry is being extrapolated to assess the visual impact of marinas, lodges, and ski resorts. In some cases this is an effective interim solution. In many cases it is not.

At Jumbo Glacier Resort, which, unlike most British Columbia ski resorts, is situated in a high alpine glaciated environment, VQOs do not apply or have not been defined. VQOs are important because they serve to establish a number of benchmarks including:

- a definition of visual resources;
- a definition of the desired level of visual quality;
- criteria for estimating the acceptable limits on visual resource impacts; and
- defined impact limits that are binding once established and included in an operational plan.

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The lack of defined VQOs does not mean that visual quality is not an important issue at Jumbo Glacier Resort. On the contrary, for current land users, and especially for the Proponent, visual quality and its attendant aesthetic appeal is paramount to the resort's ultimate success.

In lieu of defined VQOs, and in deference to what is largely an evolving policy on visual resource management in British Columbia, this study undertakes a comprehensive assessment of sightlines and visible elements for Jumbo Glacier Resort, as outlined by the Project Report Specifications. What is essentially an inventory of all significant geographic features surrounding the project's study area, irrespective of frequency of use, will be assessed.

Where appropriate, visual impact analysis criteria outlined by the Ministry of Forest's *Visual Landscape Design Training Manual* and the *Visual Impact Assessment Guidebook* will be utilized.

### 1.2 VISUAL CONTEXT

#### 1.2.1 General

The study area is located in the Purcell Mountains of British Columbia. The landscape contains high peaks, dramatic, muscular landforms and active glaciation. The topography is rich in rock outcrops and features plenty of diversity. The valleys containing and adjacent to the study area are relatively narrow and contain a great variety of visual forms due to fire history, a variable landform, and high forestry activity, including glading and ski runs cut for heli-skiing, as well as mining activity. The extensive variability of the landscape provides a high visual absorption capacity.

##### 1.2.1.1 The Site

The proposed resort is located at an abandoned sawmill site at the base of Jumbo Mountain and Glacier Dome, which have been chosen as the best accessible destinations in North America both for year round skiing and sight seeing. Jumbo Mountain is located in the Purcell Mountains of British Columbia at latitude 50 degrees, 24 minutes and longitude 116 degrees, 34 minutes. Its elevation is 3,419 meters (11,214 ft). Glacier Dome is located at latitude 50 degrees, 26 minutes and longitude 116 degrees, 37 minutes. Its elevation is 3,000 meters (9,850ft).

Approximately 90 kilometres (55 miles) to the North of the site lies Bugaboo Provincial Park, and, in the drainage immediately Northeast of the proposed resort, there is the Lake of the Hanging Glacier. To the South lies the Leona Creek drainage, and beyond that, the Purcell Wilderness Conservancy. Surrounding the site there are a number of other glaciers, including the Macbeth Icefield and the Horseshoe and Starbird Glaciers.

From the standpoint of engineering and amenity considerations, as well as for optimum lift access and servicing flexibility, the best location for the resort base site is near an abandoned sawdust and log pile in the upper Jumbo Creek valley, where the original sawmill was located. This is situated within a previously logged

area at the upper end of the road that leads into the Jumbo Creek drainage area.

The jagged peaks, the glaciers and the valleys surrounding Jumbo Mountain provide spectacularly beautiful scenery. This mountain majesty provides the kind of setting that is characteristic of so many fine European mountain villages. Nestled in the partially tree covered valley floor, the resort is designed to merge in the landscape of the restored forested valley in which it is situated.

Jumbo Creek winds through the valley, carrying snowmelt and rainwater down to Toby Creek. The project is designed to protect and restore the creek's riparian area and the creek will contribute to the visual amenity of the area.

A number of existing forestry and mining roads also wind down the valley along both sides of Jumbo Creek. The variability of the surrounding landform and the overall high visual absorption capacity of the valley helps mitigate their visual impact.

Vegetation in the valley is relatively abundant, although a large amount of the tree cover has been removed through extensive logging operations and through forest fires. New growth has already started to take place in the areas previously logged or devastated by fire, and the resort development will help stabilize the growth, providing for sensitive distribution and future care of the tree cover.

#### **1.2.1.2 Basic Landscape Elements**

The landscape texture features a strong contrast between the forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual elements is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.

#### **1.2.1.3 Affected Peaks and Glaciers**

The ski area will include portions of Glacier Dome, Jumbo Glacier, Commander Glacier and potentially, Farnham Glacier. Mountain peaks within, or partially within, the Controlled Recreation Area (CRA) include Jumbo Mountain, Karnak Mountain, The Lieutenants, The Guardsman and The Cleaver.

#### **1.2.1.4 Affected Valleys and Trails**

The upper portions of the Jumbo Creek valley will contain the resort base and a number of ski runs. The area immediately below the toes of Commander and Farnham Glaciers will include some ski runs. There are no established hiking trails within the study area.

### 1.2.2 Existing Viewing Opportunities and Scenic Values

#### 1.2.2.1 General

The lack of defined VQOs for the area, as well as the lack of policy in studying visual impacts of high-alpine resorts has led to the selection of an inventory of almost every surrounding geographical feature over a number of kilometres distance. These include mountain peaks and outcroppings which potentially may be scaled by expert mountain climbers. A list of potential viewing opportunities is included in Project Report Specification E.5(C).

Because of considerations for a wide gamut of users, ranging from foresters to mountaineers, as well as the geography, size and composition of the study area, there are in theory an almost limitless number of viewing opportunities.

A common characteristic of many of the viewpoints, however, is that they are particularly difficult to access. A landscape which is rarely seen has little visual value to the majority of the population. Allowing safe, easy access to impressive viewpoints is fundamental to Jumbo Glacier Resort.

In Canada, places such as Lake Louise, the Jasper Parkway, and Niagara Falls are examples of locations that combine easy access with significant scenic value. While the kind of visitors and mass tourism experienced by these locations is fundamentally different from what is expected and planned for Jumbo Glacier Resort, the international fame of these locations, and the fact that they have inspired poems, literature, movies and music, is a testament to the link between access and the perceived scenic value of a location.

Again, one of the challenges of utilizing visual impact criteria developed for the forestry industry, is that it does not recognize the fact that a primary purpose of many backcountry resorts is to provide access to impressive scenery.

#### 1.2.2.3 Viewing Opportunities

Many of the viewpoints outlined in the Project Report present limited viewing opportunity due to their difficult access. Most of the mountain peaks listed in the report have been visited by only a handful of people over the last century. From these peaks some lifts will be in the line of sight, but the distance, colours, light and scale of the objects will make them invisible without binoculars and very good orientation.

Hiking trails on the other hand, present a more tangible viewing opportunity. The only available trail in the direct proximity of the study area is the trail leading to the Jumbo Pass Hut, from which the resort will not be visible (see Section 1.4.12 below). Only expert hikers will be able to gain access to the major mountain tops at the southern end of the drainage from which it will be possible to see the resort. The resort will be contained within a previously visually disturbed area.

A review of existing land use by hikers, mountaineers and ski tourers is detailed

in Volume 2, Section 2.7.2. of the Master Plan. Individual assessments of viewpoints are detailed in Section 1.4, below.

#### **1.2.2.4 Scenic Values**

People are aesthetically sensitive to the environment to different degrees. A logger, or someone who works in the backcountry and has a close connection to it, may view the visual resources of the landscape more pragmatically than a city dweller, who may find spiritual value in viewscapes of wild, natural land that contrasts with the built environment in which he or she lives.

On a general level, high-quality scenery has been known to enhance people's lives, both psychologically and physiologically. People under stress, people recovering in hospitals, people in recreational and other settings have been shown to benefit from the restorative attributes associated with pleasant, natural-appearing landscapes.

The restorative value of visually appealing natural landscapes has been known for centuries. In Canada, locations such as the Banff Springs Hotel, and the various lodges and resorts throughout the Rockies, were recognized for their restorative values since their early years.

In many western societies, attitudes towards the landscape are changing. A larger segment of the population lives and works in urbanized settings, while fewer people are directly exposed to the natural environment on a daily basis. Consequently, demand by urban dwellers to access natural landscapes for recreation or vacation has reached unprecedented levels. On occasion, this scenario has led to conflicts between those who use the landscape to earn a living (loggers, miners, and farmers, for instance) and those who simply wish to enjoy the landscape's natural qualities, or use it for recreation.

In many instances, however, a balance between the scenic values of those who use the landscape to earn a living, and those who use it for other purposes is possible. In the Jumbo Creek valley, industrial activity has occurred in the valley for almost a century, yet today (largely because of the area's easy access due to previous industrial road-building), the area sees a considerable amount of recreational activity. Hikers, mountaineers and ski tourers on Jumbo Pass tend not to make note of the visual impact of the clearcut forests, heliski runs, or numerous mining exploration and forestry roads that exist within the Jumbo Creek valley below. Snowmobilers tend not to complain about the tailings dump from the Mineral King Mine at the entrance to the valley.

This is partly due to the considerable visual absorption capability of the area's variable geography. It is also due to the fact that the scenic values of valley users may be specific to their pursuits. A snowmobiler may not be disturbed by the presence of a logging road. A ski tourer may be inspired by the majestic distant glaciers and alpine environment and therefore will notice heli-ski runs cut into the valleys below to a lesser extent.

Similarly, visitors to a mountain resort such as Jumbo Glacier Resort are

expected to seek aesthetic qualities that are in concert with their pursuits. Experience has shown that visitors will tend to hold and seek particular qualities, including:

1. Ability to see mountains with beautiful peaks and majestic features, such as glaciers.
2. Identification of interesting ski runs on the landscape and the expectation of the skiing experience.
3. Appreciation of the natural setting, whether pristine or regenerated.
4. Lifts and man made features that blend into the landscape rather than fight it.
5. Small scale buildings that blend into the landscape.
6. Ability to reach and enjoy views.

### **1.2.2.5 Existing Visual Disturbances**

In the Jumbo Creek valley, logging has been on going for over a half century, and the valley landscape has been substantially modified. There are large areas of cut and side cast in the relatively narrow valley. The lower portion of the valley has been significantly affected by fire. Upper Jumbo Creek is also visibly affected by heli-ski runs and avalanche tracks.

Numerous logging roads exist on both sides of the valley. The roads in the upper Jumbo Creek valley are especially noticeable due to a number of instances of visually poor alignment choices. Existing and planned roads are reviewed in further detail in Section 1.3.4.

The resort base will be located in an abandoned sawmill site and the entire resort will be contained within an area which has been previously visually disturbed.

The entrance to the Jumbo Creek valley is visually impacted by a tailings dump at the Mineral King Mine (shown in Exhibit 1.2).

Many of these visual disturbances are noticeable at higher elevations on a macro scale, and may be visible to skiers, ridge hikers, mountaineers, rock climbers, ski tourers, etc. However, at a micro scale, because of the long history of industrial use of the valley, there are numerous disturbances which are likely to be seen by hikers. These include collapsed bridges, buildings, abandoned culverts, sawdust piles, and misc. forestry and mining exploration debris.

Exhibit 1.1: Upper Jumbo Creek Valley



*The upper Jumbo Creek valley and former sawmill site location. Existing visual disturbances include cut blocks, cut heli-ski runs, roads, and the sawmill site itself. The proposed resort base location will be centred on the abandoned sawmill site.*

**Exhibit 1.2: Mineral King Mine**



*Mineral King Mine tailings at the entrance to the Jumbo Creek valley.*

Exhibit 1.3: Forestry Debris (1)



*Sawdust pile at former sawmill site.*



*Abandoned culvert.*

**Exhibit 1.4: Forestry Debris (2)**



*Collapsed building at the sawmill site.*



*Debris in Jumbo Creek tributary.*

### 1.2.3 Visual Characteristics of High Elevation Alpine Ski Resorts

One of the challenges in conducting a visual assessment for a high alpine ski resort is the fact that conventional analysis criteria and methodology have been largely developed to assess specific, and often dramatic, elements on a landscape from limited points of view.

For example, in forestry, a cut block, a series of cut blocks, or a road may be visually assessed from a finite number of points of view, such as a highway lookout, or a vantage point along a valley trail. These points of view are typically areas of high use with a high frequency of visual exposure. In other industries, such as hydro, or pulp and paper, a single installation (a new plant, for example) may be visually assessed from specific, frequently visited vantage points (such as a pier, a lookout, etc.). In the case of ski resorts, a low elevation resort, located on a single mountain face, and featuring ski runs cut into densely forested slopes, has a visual impact which, to some degree, may be assessed using methodologies similar to those employed by the forestry industry. On the other hand, a remote, high elevation ski resort, largely above treeline, and spanning mountain peaks, challenges conventional visual assessment methodology and assumptions which cater to the forestry industry.

This is the case when considering the visible elements being assessed. A T-bar ski lift on a large glacier does not compare in terms of visual impact to a cut block in the midst of a uniform landscape, or a pulp mill at the entrance to an inlet.

High elevation ski resorts are visually characterized by a landscape featuring alpine peaks and glaciers. At higher elevations, the natural landform consists of rugged, massive, broken shapes providing a sharp visual contrast with the distant forested valley bottoms. The scale of the landscape is usually massive. Lighting is often highly variable and contrasting due to the high reflectivity of glacier ice and snow. Rock and ice formations and land contours create visual lines and planes that are scattered and broken. Large variability of landscape, lighting and texture all contribute to a high visual absorption capacity for man-made features.

Due to ease of access considerations and in some cases, lack of foresight in planning, the majority of ski resorts in North America are found at low elevations on densely forested slopes. Ski runs situated on densely forested lower elevation slopes are subject to more challenging visual absorption conditions.

Conversely, ski lifts and runs located at higher elevations – where vegetation is thin and strong landforms, massive glaciers, rock formations and snowfields contribute to a visual environment featuring bold contrasts, high variability and a correspondingly high visual absorption capacity – are often difficult to see by the unaided eye, even from moderately close distances.

**Exhibit 1.5: Panorama, British Columbia**



*Ski runs located on densely forested lower elevation slopes are subject to more challenging visual absorption conditions. The cut ski runs create a visual force which attracts the eye. The vast majority of ski resorts in North America are located on densely forested, lower elevation slopes. It is noteworthy, however, that the actual ski lifts are not visible to the unaided eye.*

**Exhibit 1.6: Meribel, France**



*Higher elevation alpine locations often offer a much higher visual absorption capacity for ski lifts, runs and resort infrastructure.*

**Exhibit 1.7: Kicking Horse Mountain Resort, British Columbia (1)**



*Kicking Horse Mountain Resort as seen from a distance of about 6 kilometers from Highway 95, just south of Golden. Even though this is a relatively low elevation ski resort, in summer, due to the existence of avalanche tracts along the mountain range, as well as the variability of the foliage and lighting conditions, the ski runs are barely discernable to the unaided eye. The ski lifts and gondolas are completely invisible to the unaided eye.*

**Exhibit 1.8: Kicking Horse Mountain Resort, British Columbia (2)**



*With the first snowfalls, the ski runs are more discernable, yet they can still be obscured by the existence of avalanche tracts. The ski lifts and gondolas are not visible to the unaided eye.*

While vegetation, vivid landforms and glaciers are all contributing factors to the visual mix and visual absorption capacities of high alpine landscapes, scale, and hierarchy of scale also play an important role. Scale is a balance between human size – and in the case of ski resorts, infrastructure and dwellings – and the landscape. The human eye constantly shifts focus from the large scale to the small via a medium scale middle ground. A visual hierarchy is established and when the hierarchy of scale ranges from a massive mountain peak to a lonely figure on a relatively flat, expansive glacier, the resulting middle ground of massive land forms becomes the dominating visual feature. This is true both in a vertical and horizontal sense. Scale and visual hierarchies in mountainous landscapes are usually considered in a vertical sense, but it is often the case that at high elevation mountain resorts, skiing infrastructure such as lifts and huts are located amidst wide open alpine plains and glaciers or along a long ridge of mountain peaks, and depending on the viewer's angle and distance, a horizontal element of scale further mitigates the visual intrusion of human-made objects on the landscape.

Lighting and colour are also factors that can affect visual perceptions in the mountains. The amount, quality and direction of light can have a major effect on our perception of the landscape. For example, ambient or “flat” light may help obscure man-made objects set against a natural background, whereas direct sunlight may cause shadows or reflections off windows or unpainted metal. Lighting is particularly interesting at high alpine elevations where massive glaciers, permanent snow and rock faces often have an overwhelming reflective capacity even in low or ambient lighting conditions. The glare and resultant backlighting often obscures much of the surrounding landscape causing ideal visual absorption conditions.

Where there is colour variation it is easier to accommodate some change in visual elements. Contrasting colours, such as snow on clear cuts (or ski runs in heavily wooded areas) in very even coloured landscapes (such as lower elevation, heavily timbered slopes) are difficult to accommodate visually. Conversely the dramatic colour ranges of high elevation alpine environments – ranging from glaciated peaks, azure lakes, to forested valley bottoms – have a high visual absorption capacity, particularly during the more sensitive summer months.

The following exhibits give an indication of the visual properties and effects of scale, lighting and colour on high alpine glaciers in summer.

**Exhibit 1.9: Jungfrau Glacier, Switzerland**



*Summer skiing and “play area” on the upper extremities of the Jungfrau Glacier. Only about 5% of the massive glacier is visible in these pictures. At about 500 meters viewing distance, the massive scale of the surrounding landscape begins to absorb and diminish the visual intrusion of the tourism infrastructure on the glacier.*

**Exhibit 1.10: Summer Skiing on Farnham Glacier, British Columbia (1)**



*Summer ski training on Farnham Glacier (a part of the study area). On close inspection, significant activity and man-made visual disturbances are present on the glacier.*

**Exhibit 1.11: Summer Skiing on Farnham Glacier, British Columbia (2)**



*Because of scale, and the reflective properties of glacier snow, the gates, skiers, snowcats and hut are not visible to the unaided eye from a few hundred meters viewing distance.*

**Exhibit 1.12: Summer Skiing on Farnham Glacier, British Columbia (3)**



*“Farnham Hut” at the bottom of Farnham Glacier. Because of scale, distance and the reflective properties of glacier snow and ice, the ski training on the upper left side of Farnham Glacier is not visible to the unaided eye.*

**Exhibit 1.13: Chair Lift at Meribel**



*Ski lifts situated in high elevation alpine environments, when painted in muted colours, blend easily into the background.*

**Exhibit 1.14: Gondola Lift at Kicking Horse Mountain Resort**



*The use of naturally coloured paint on the lift towers, ample spacing between gondolas, and the use of muted colours on the gondola cabins ensures that the main gondola lift at Kicking Horse Mountain Resort blends in well with the natural landscape and is barely noticeable even at close distances.*

**Exhibit 1.15: Chair Lift at Kicking Horse Mountain Resort**



*The use of naturally coloured paint on the lift towers and muted colours on the lift assemblies ensures that the chair lift at Kicking Horse Mountain Resort blends in well with the natural landscape and is barely noticeable even at close distances.*

**Exhibit 1.16: Aerial Tram at Chamonix**



*A high alpine aerial tram in France. Because of scale, lighting and the variability of the massive landform, the top station is not visible to the naked eye, even though it is located less than half a kilometer away. The lift cables are also easily obscured by the impressive background.*

**Exhibit 1.17: Aerial Tram at Zermatt**



*An aerial tram in Switzerland. Again, even though it is less than 300 metres away and in the direct line of sight, the top station is not visible to the unaided eye. Aerial trams feature the added benefit (in terms of visual impact) of requiring a minimal number of towers in crossing or covering significant distances.*

### **1.3 RESORT COMPONENTS**

#### **1.3.1 Resort Base**

A complete overview of the proposed resort base can be found in the Master Plan in Volume 4, Section 4.3.

For reference purposes, conceptual views and plans of the proposed resort base at full buildout are outlined in Exhibits 1.18 and 1.19 in the subsequent pages.

Exhibit 1.18: Conceptual View of Resort Base at Full Buildout (1)

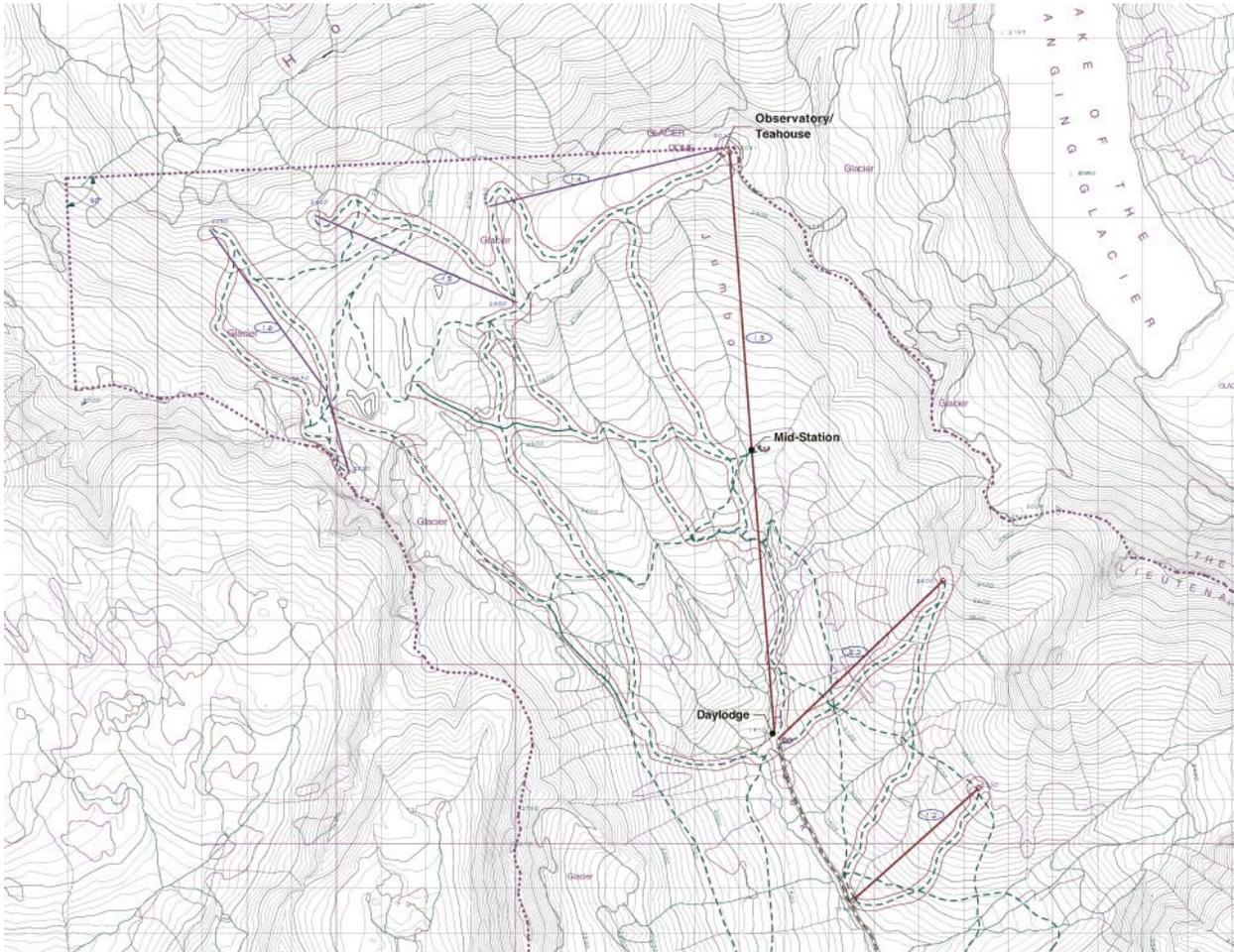


Exhibit 1.19: Conceptual View of Resort Base at Full Buildout (2)



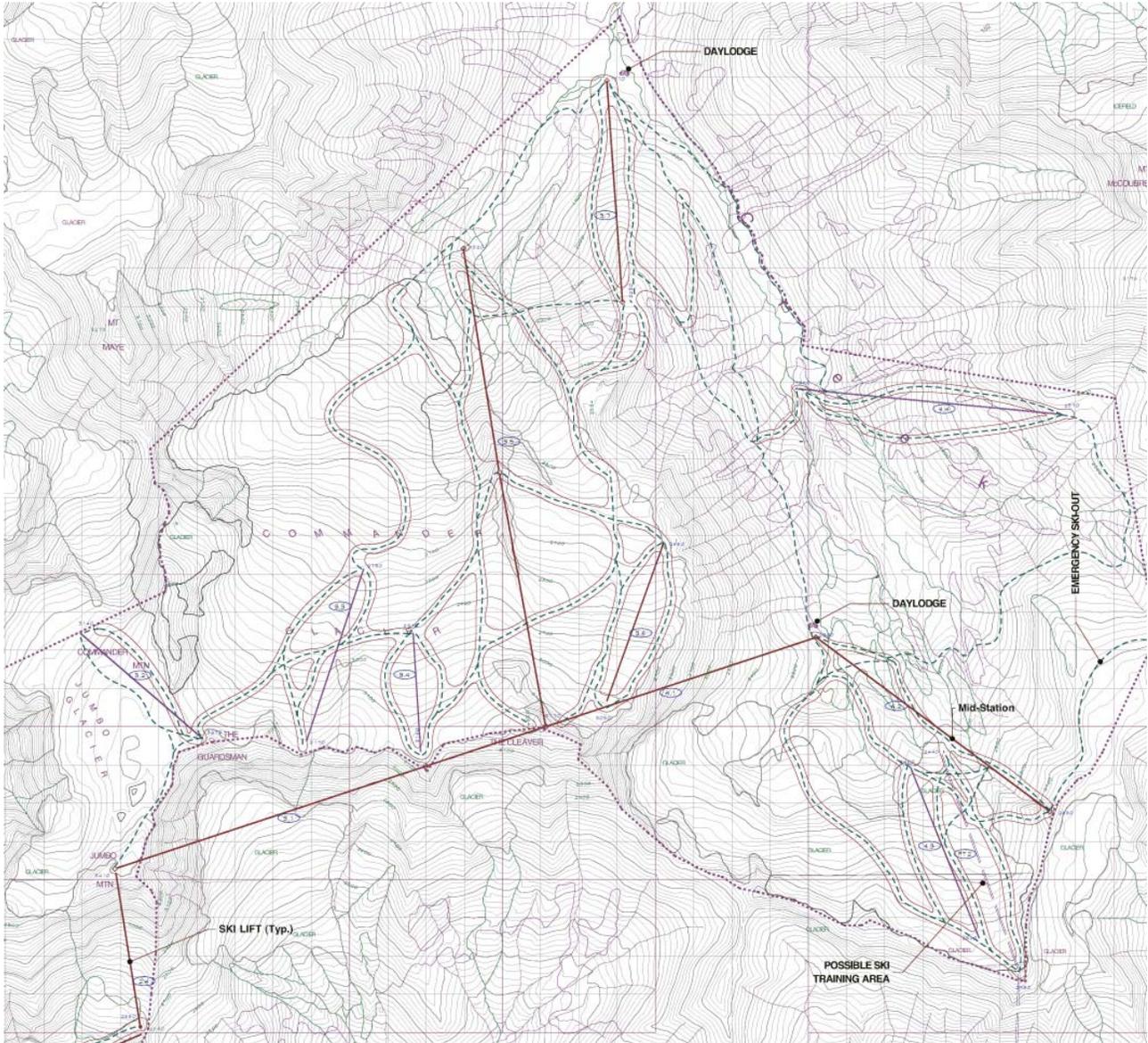


Exhibit 1.21: Glacier Dome Area Lift Layout and Ski Runs at Full Buildout



*Closer view of the Glacier Dome area ski lifts and runs.*

**Exhibit 1.22: Commander and Farnham Glacier Area Lift Layout  
and Ski Runs at Full Buildout**

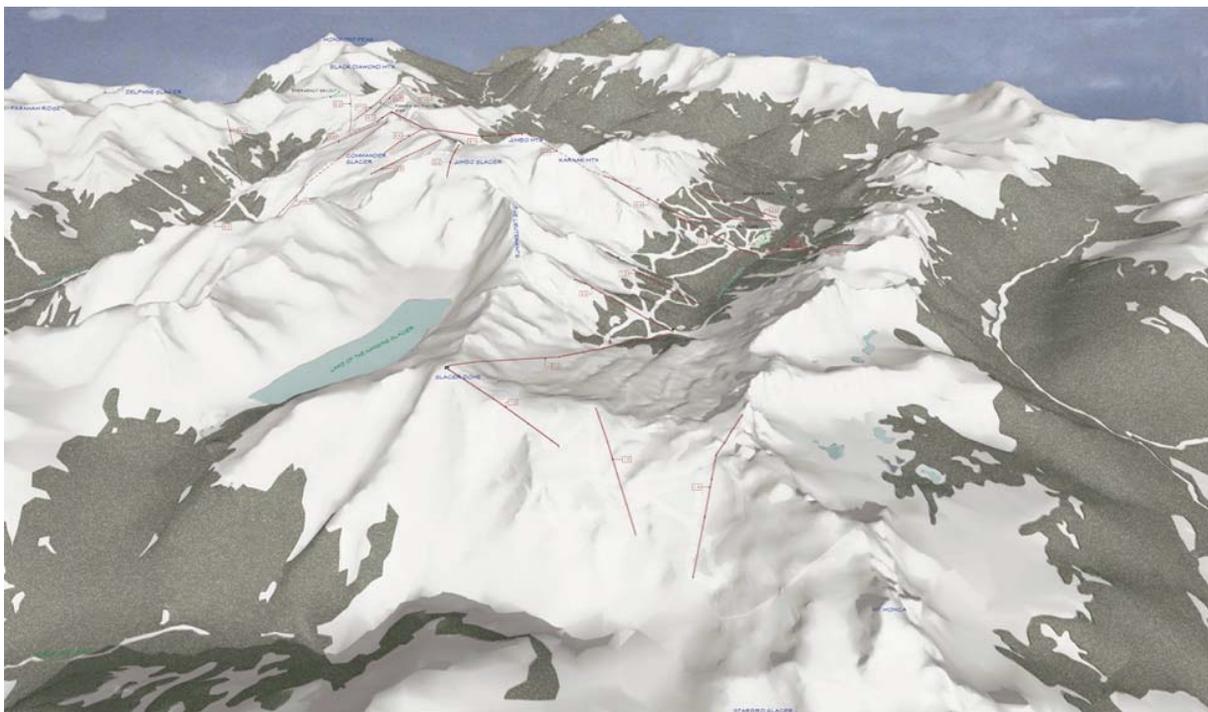


*Commander and Farnham Glacier ski lifts and runs.*

**Exhibit 1.23: Conceptual View of Lift Layout and Ski Runs at Full Buildout (1)**

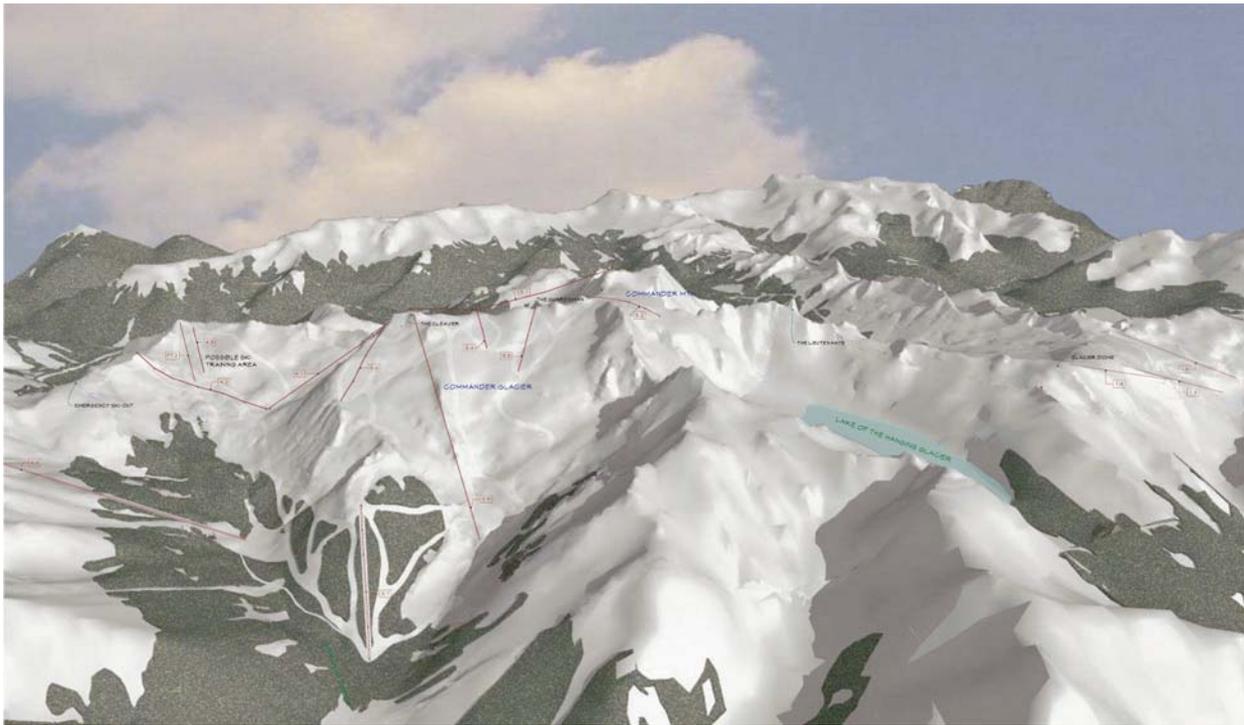


*Aerial view of the upper Jumbo Creek Valley showing the resort base, Jumbo Mountain and Glacier Dome. (Lift Systems are shown in an enhanced scale – they would not be visible at the scale of the digital model.)*



*Looking in a southerly direction at Glacier Dome and the upper Jumbo Creek valley and resort base. Commander Glacier is visible in the upper left hand corner of the picture. (Lift Systems are shown in an enhanced scale – they would not be visible at the scale of the digital model.)*

**Exhibit 1.24: Conceptual View of Lift Layout and Ski Runs at Full Buildout (2)**



*Looking south towards proposed lifts on Commander and Farnham Glaciers. Glacier Dome is on the far right hand side of this picture. (Lift Systems are shown in an enhanced scale – they would not be visible at the scale of the digital model.)*

### 1.3.4 Roads

#### 1.3.4.1 Existing Roads

A number of existing forestry and mining roads wind down the Jumbo Creek valley along both sides of Jumbo Creek. The variability of the surrounding landform and vegetation, and the overall high visual absorption capacity of the valley helps mitigate their visual impact.

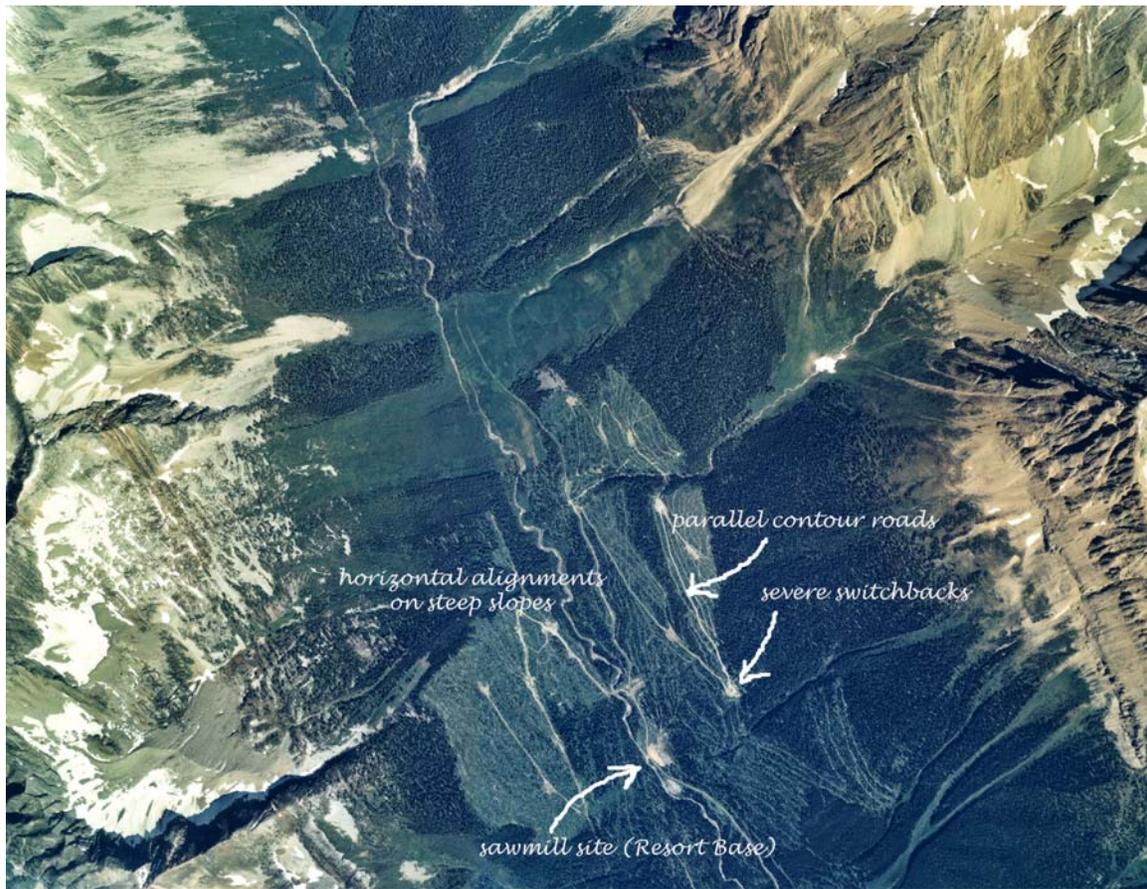
#### **Exhibit 1.25: Aerial Overview of Existing Roads in lower Jumbo Creek valley**



*Multiple road alignments exist on either side of Jumbo Creek – roughly following the creek’s contours. This portion of the valley features high variability, partly due to the extensive clear cutting and forest fire damage which is visible in the above photograph. The valley’s high visual absorption capacity helps mitigate the roads’ visual impact.*

Newer forestry roads, particularly those ascending the valley sides in the upper Jumbo Creek Valley in the vicinity of the abandoned sawmill site (the resort base site) have a number of characteristics which make them more visually intrusive. These roads feature severe switchbacks and are at grades which cut across the landform.

**Exhibit 1.26: Aerial Overview of Existing Roads at the Resort Base Site**



*The existing roads ascending the steep valley sides in the immediate vicinity of the resort base are significantly more visually intrusive than the access roads in the valley below. The visible parts of the roads are not in scale with the landscape. Severe switchbacks, grades which cut across the landform, horizontal alignments and parallel contours all have a detrimental effect on the visual quality of this portion of the valley.*

*Note: This photo was taken prior to 1991, before additional cutting for new heliski runs took place.*

**Exhibit 1.27: Viewscapes of Existing Roads at Resort Base (1)**



The visual impacts of forestry roads and clear cuts for both harvesting and heliskiing operations are particularly dramatic in winter. The resort base site will be centered on the abandoned sawmill site (the cleared area in the middle of the valley).



*Note: These photos were taken after 1991, following renewed logging. The newly cut heliski runs are clearly visible in the bottom picture.*

**Exhibit 1.28: Viewscapes of Existing Roads at Resort Base (2)**



The upper Jumbo Creek valley and sawmill site in summer. The variable foliage in the clearcut areas helps diffuse some of the visual impact during the summer months.



**1.3.4.2 Planned Access Route**

The sawmill site proposed for the resort base is approximately 54 km west of Invermere, which is approximately 2 km west of Highway 95. Existing access to the site is provided by an all-weather, asphalt, two lane, 60 km/h surfaced roadway to Panorama (approximately km 0 - km 18); an all-weather, gravel roadway to Mineral King Mine at the confluence of Toby and Jumbo Creeks (approximately km 18 – km 38); and by a forestry roadway to the proposed resort base site (km 38 – km 54), upgraded in the 1990s and now suitable for all vehicles.

The access route to the resort base site will follow the alignment of the existing forestry roads and is described in detail in Volume 5, Section 5.2 of the Master Plan.

**Exhibit 1.29: Existing Access Roads in Lower Jumbo Creek**





Exhibit 1.31: Viewpoint Locations



- |                                    |                                 |
|------------------------------------|---------------------------------|
| 1. Bastille Mountain               | 11. Jumbo Mountain              |
| 2. Blockhead Mountain              | 12. Jumbo Pass                  |
| 3. Commander Mountain              | 13. Karnak Mountain             |
| 4. Mount Delphine                  | 14. Lake of the Hanging Glacier |
| 5. Earl Grey Cabin, Trail and Pass | 15. Leona Creek                 |
| 6. Mount Earl Grey                 | 16. Mount Macbeth               |
| 7. Farnham Creek Forestry Road     | 17. Monica Meadows              |
| 8. Farnham Towers                  | 18. Monument Peaks              |
| 9. Mount Farnham                   | 19. Mount Peter                 |
| 10. Glacier Creek                  | 20. Redtop Mountain             |

1.4.1 Bastille Mountain

Exhibit 1.32: Bastille Mountain Viewscape

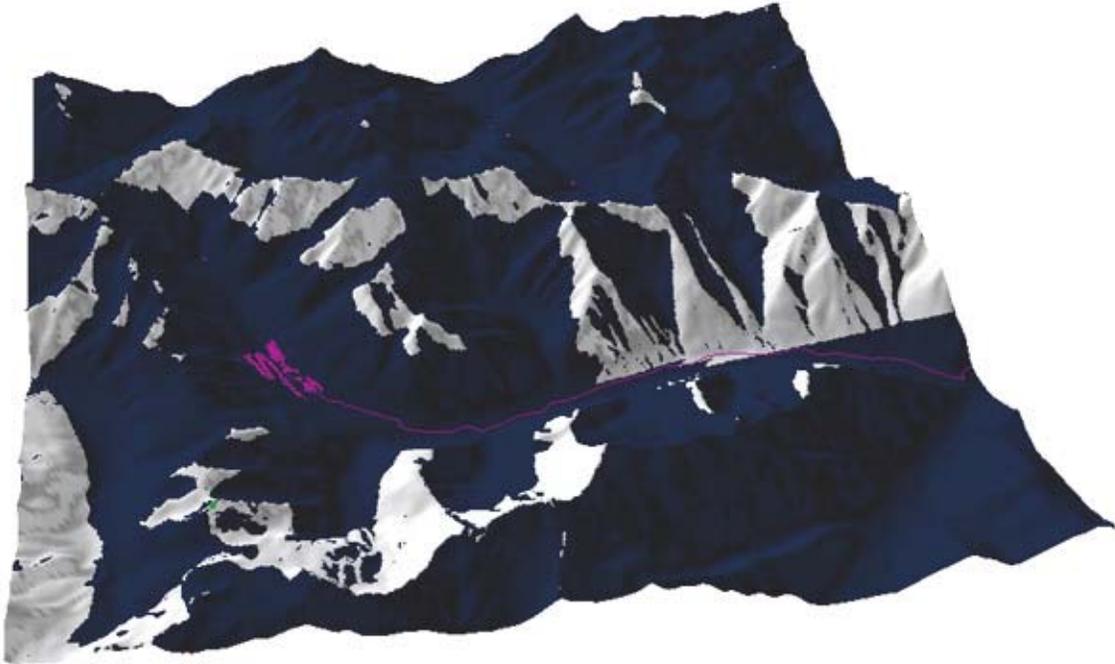


Table 1.1: Bastille Mountain Visual Analysis

Resort Elements in Line of Sight	
Upper reaches of Glacier Dome Gondola	
Distance From Viewpoint:	Visual Impact:
12 km	None
Visibility by “naked eye”:	
No. Distance, visual properties of the landscape, and comparatively small size of man-made features obscures visibility.	
Comments:	
<u>Visual Analysis:</u> Rugged, massive landscape hides or obscures all resort components from view. Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, size of visual elements is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.	

1.4.2 Blockhead Mountain

Exhibit 1.33: Blockhead Mountain Viewscape

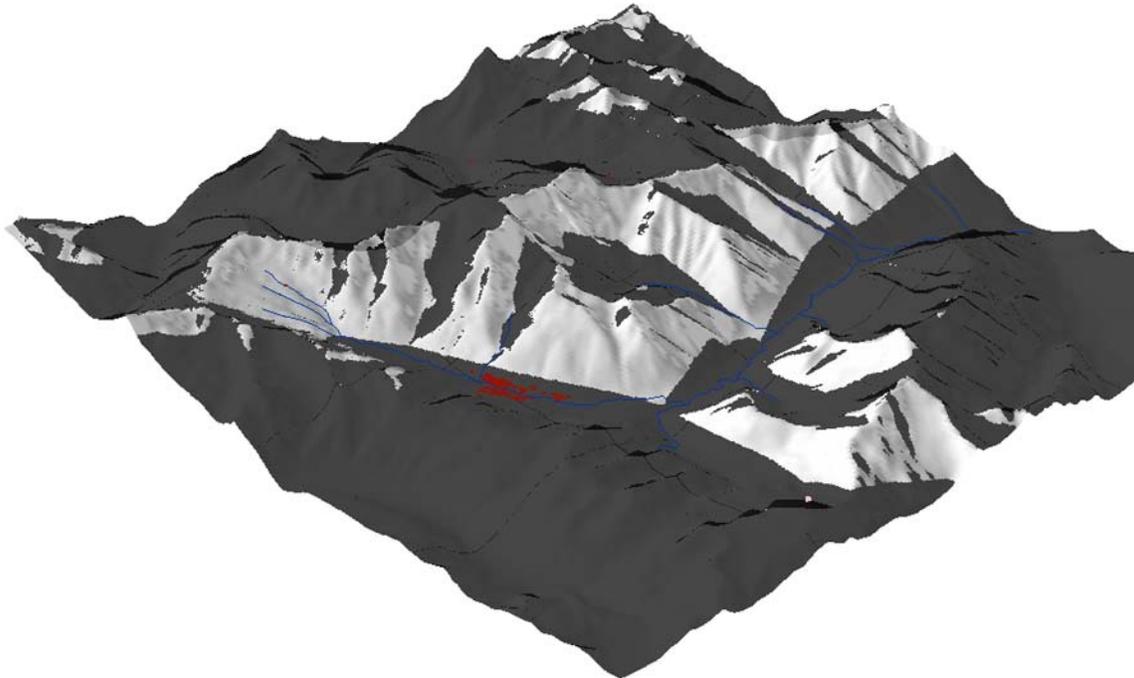


Table 1.2: Blockhead Mountain Visual Analysis

<b>Resort Elements in Line of Sight</b>	
Portions of lifts 1.1, 2.2, 2.3, 2.6, Glacier Dome Gondola and portions of ski runs on eastern side of resort base.	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort element: approx. 7 km	Negligible
<b>Visibility by “naked eye”:</b>	
Negligible. Distance, visual properties of the landscape, viewing angle, and comparatively small size of man-made features obscures visibility. Portions of ski runs that are visible are largely contained within the existing heli-ski run cut blocks and previously logged areas.	
<b>Comments:</b>	
<u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of landform elements is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.	

1.4.3 Commander Mountain

Exhibit 1.34: Commander Mountain Viewscape

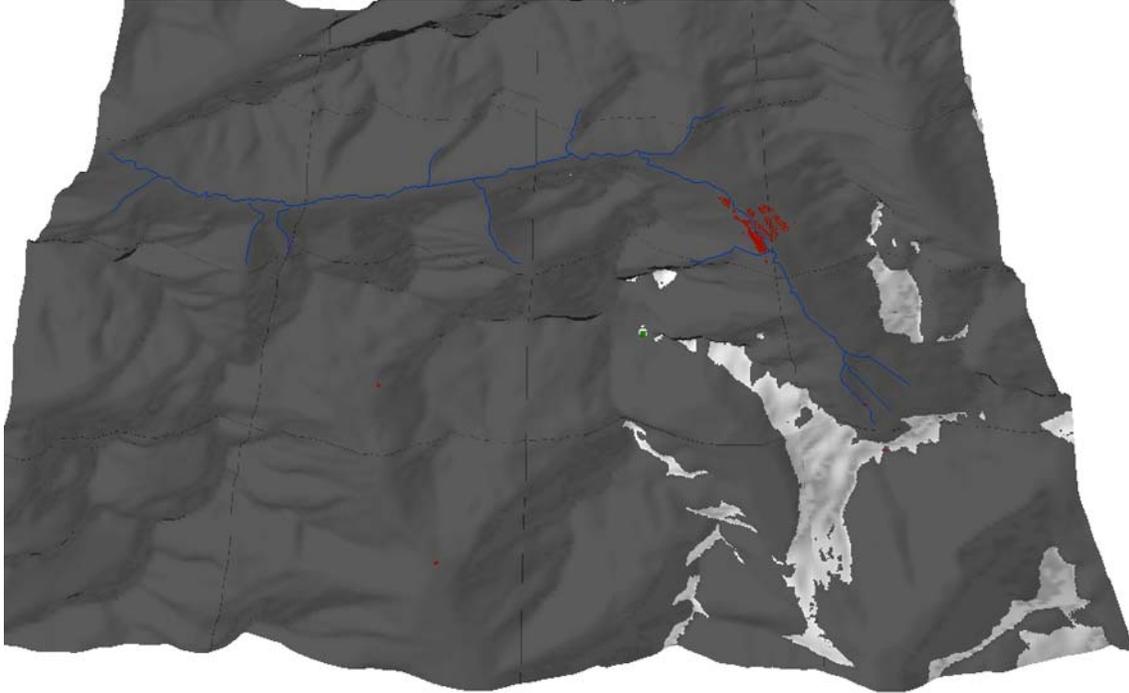
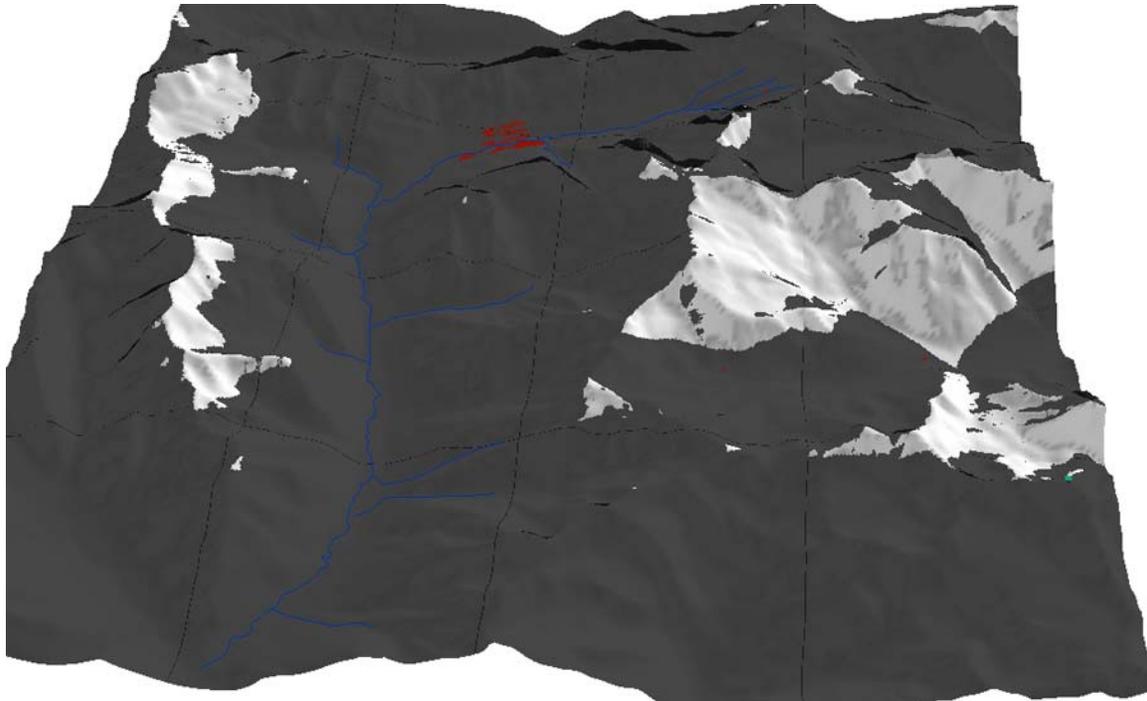


Table 1.3: Commander Mountain Visual Analysis

Resort Elements in Line of Sight	
None – see comments	
Distance From Viewpoint:	Visual Impact:
N/a	None – see comments
Visibility by “naked eye”:	
N/a	
Comments:	
Commander Mountain is located within the ski area and it would stand to reason that some resort elements would be visible from its summit. However, due to the nature of the mountain peak, computer models suggest that it is impossible for a viewer on its summit to see directly below. It is possible, depending on the route chosen, that a mountain climber ascending to the summit would be exposed to some of the ski lifts on Commander Glacier.	

1.4.4 Mount Delphine

Exhibit 1.35: Mount Delphine Viewscape



**Table 1.4: Mount Delphine Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Partial ski trails and lifts 3.5 and 4.1 on Commander Glacier	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort element: approx. 5.5 km	Negligible
<b>Visibility by “naked eye”:</b>	
Negligible. Distance, the reflective properties of glacier ice, viewing angle, and comparatively small size of man-made features obscures visibility. Lighting conditions can be extremely variable on Commander Glacier, providing a high visual absorption capability. ski runs marked on the glacier will not be visible over more than a few hundred meters.	
<b>Comments:</b>	
<u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, often obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances resulting in a high visual absorption possibility for man-made features.	

1.4.5 Earl Grey Cabin, Trail and Pass

Exhibit 1.36: Earl Grey Cabin Viewscape

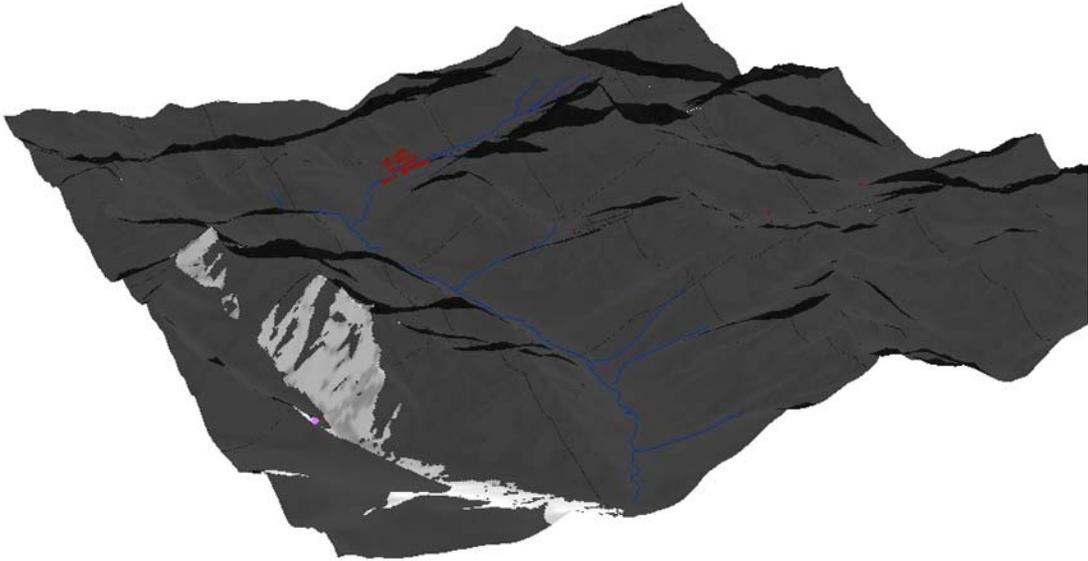


Exhibit 1.37: Earl Grey Cabin Viewscape 2

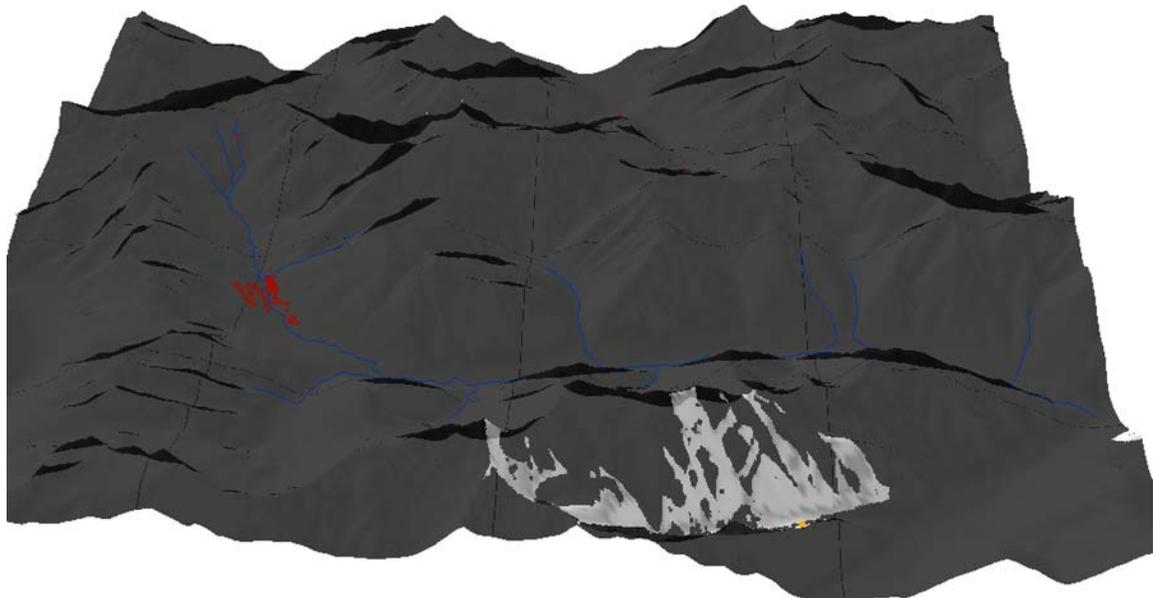


Exhibit 1.38: Earl Grey Pass Sections

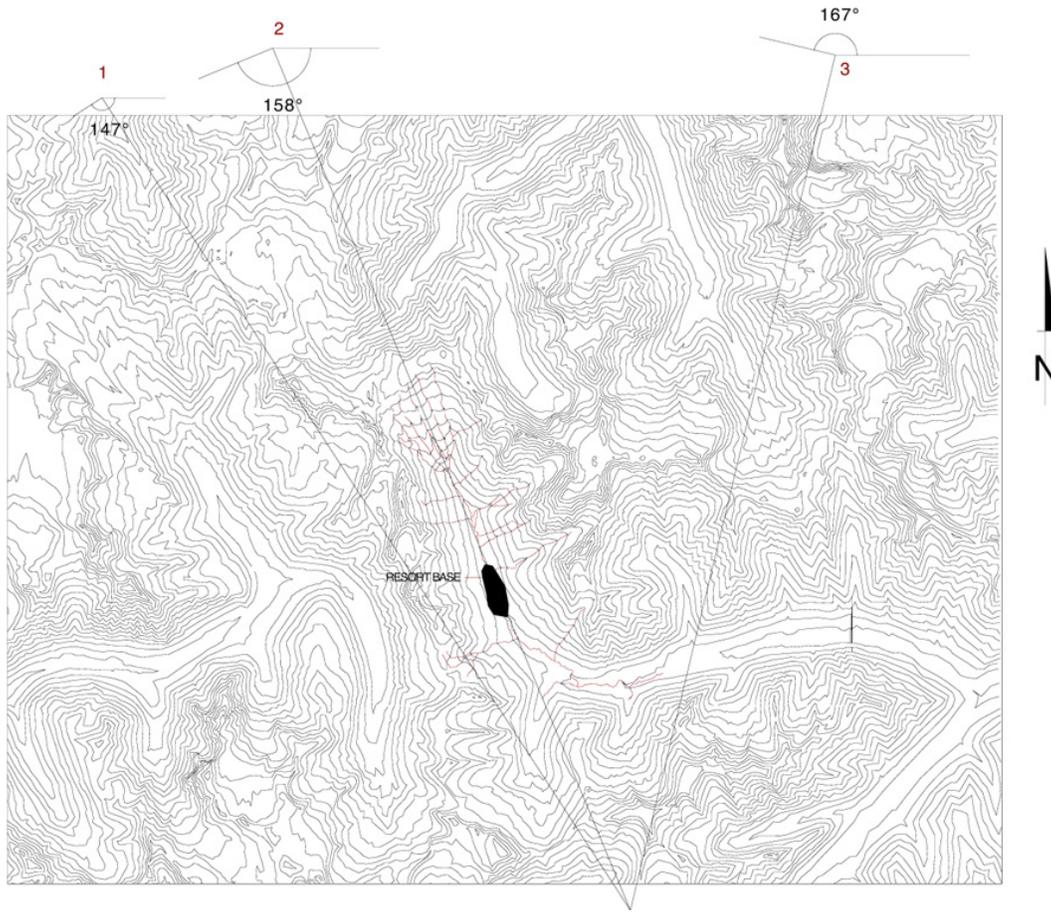
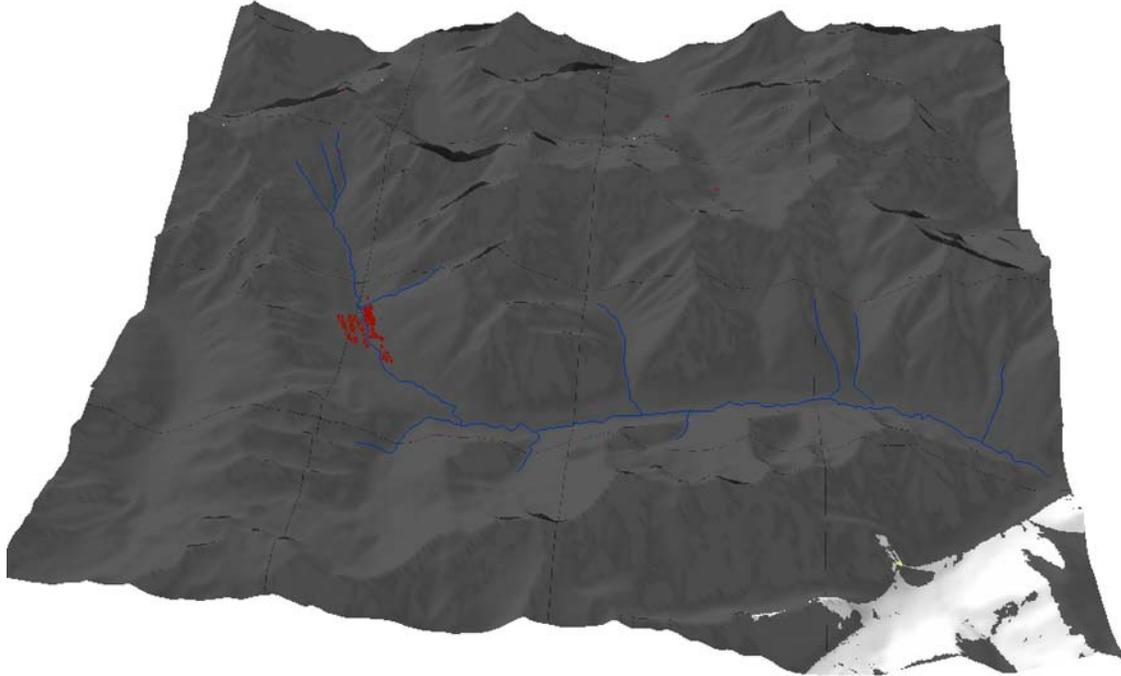


Exhibit 1.39: Earl Grey Pass Sections



**Exhibit 1.40: Earl Grey Trail Viewscape**

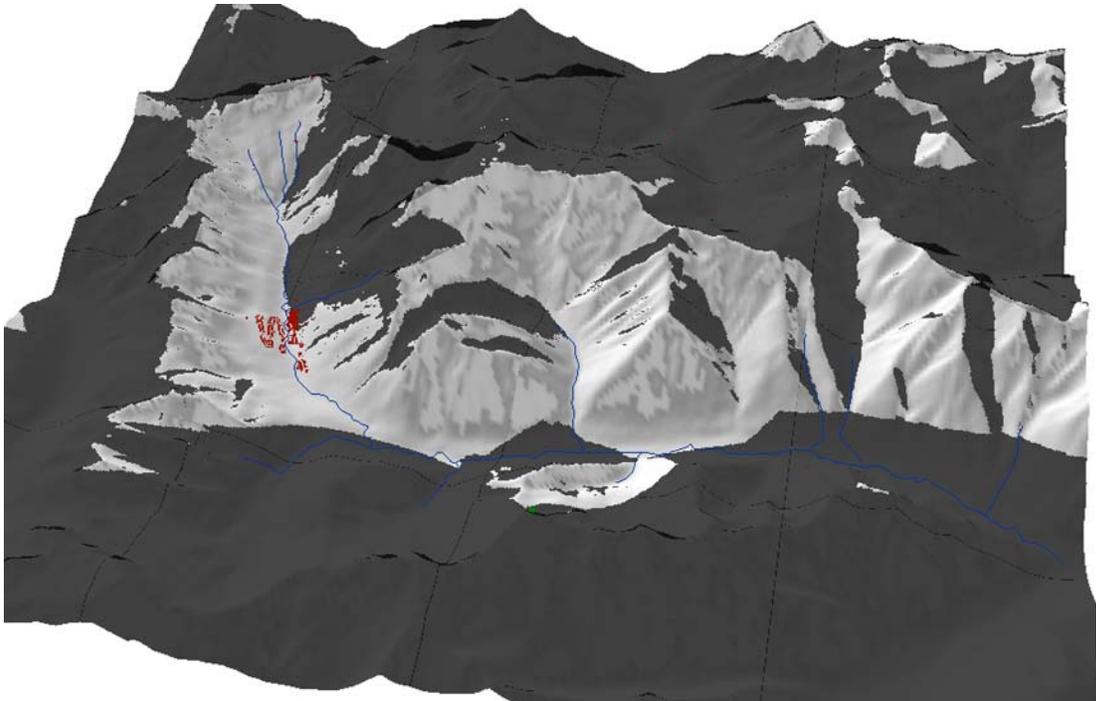


**Table 1.5: Earl Grey Cabin, Pass and Trail Visual Analysis**

Resort Elements in Line of Sight	
None	
Distance From Viewpoint:	Visual Impact:
N/a	None
Visibility by “naked eye”:	
N/a	
Comments:	
The Earl Grey Cabin, Pass and Trail are located in the adjacent Toby Creek drainage. There is no visual exposure to the Jumbo Creek drainage.	

1.4.6 Mount Earl Grey

Exhibit 1.41: Mount Earl Grey Viewscape



**Table 1.6: Mount Earl Grey Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Partial resort base and partial ski runs and lifts 2.5 and 2.1 on western side of resort base.	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort element: approx. 7.8 km	Limited /Comparable
<b>Visibility by "naked eye":</b>	
Limited. Distance, viewing angle, and comparatively small size of man-made features obscures visibility. Vegetative buffers will remove many of the potentially visible elements from line of sight. Exposed ski lifts and runs are located in a previously logged area which has already been visually disturbed. The net effect will be comparable to the existing viewpoints.	
<b>Comments:</b>	
Computer modelling does not take vegetation into account. Where existing vegetation is inadequate to obscure sightlines, a vegetative buffer can be placed in a manner which would obscure the resort base from view. This is particularly the case for the single family chalet area (the most exposed portion of the resort to this viewpoint), which is located in an area which has seen recent logging.	

1.4.7 Farnham Creek Forestry Road

Exhibit 1.42: Farnham Creek Forestry Road Viewscape 1

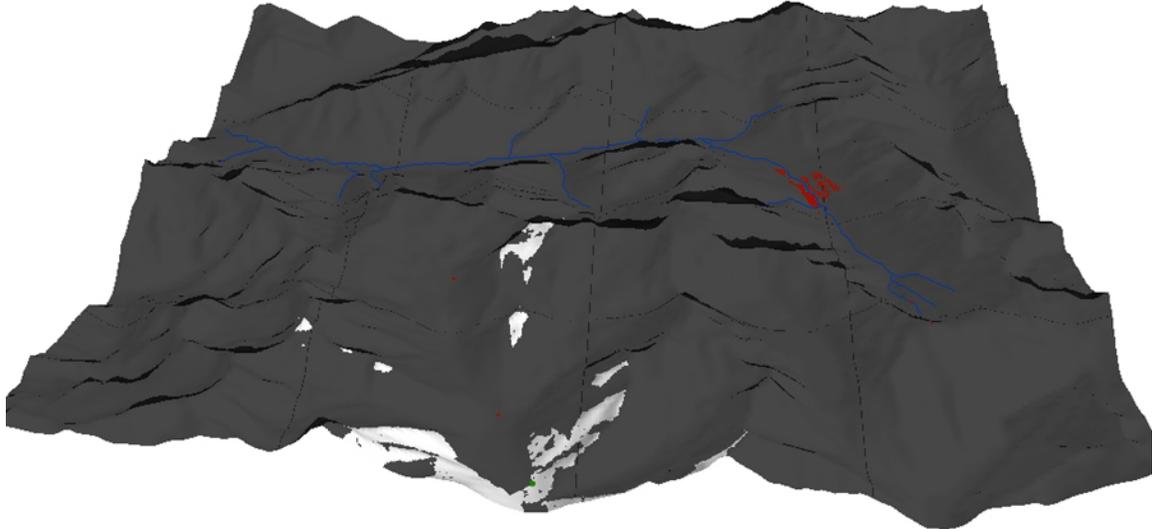
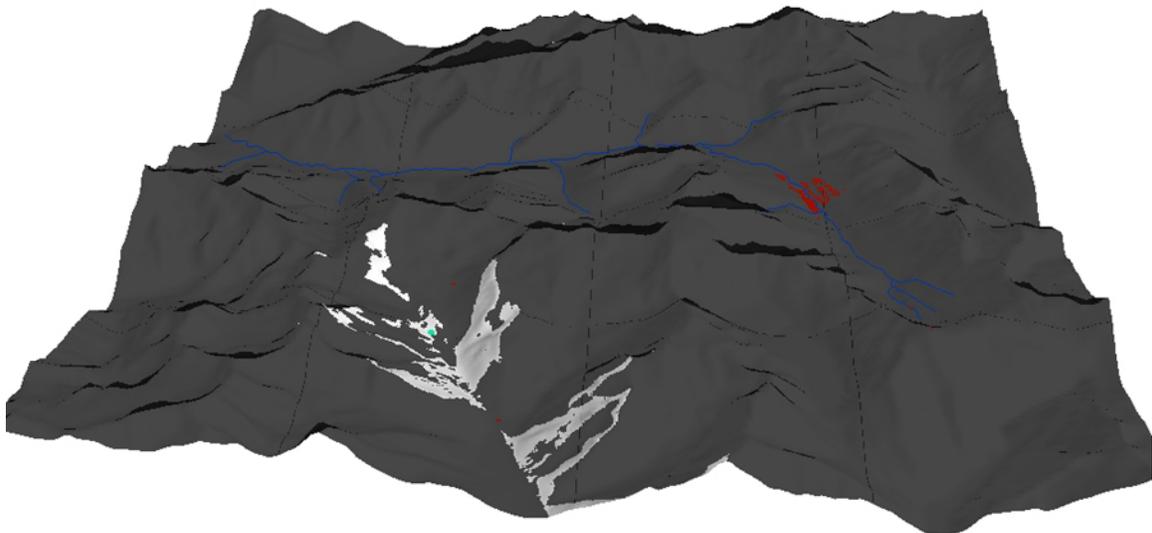
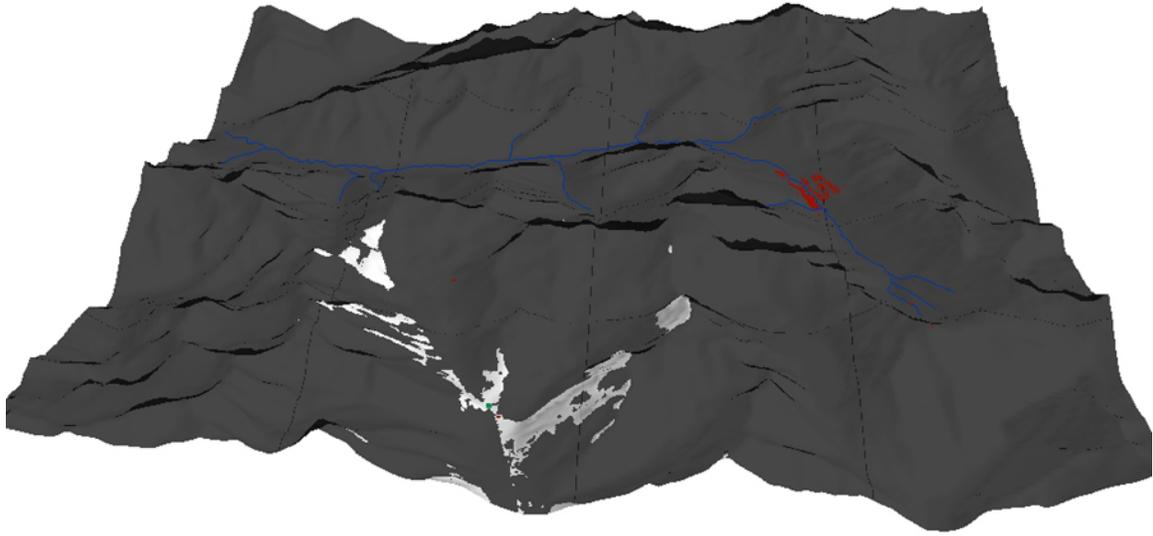


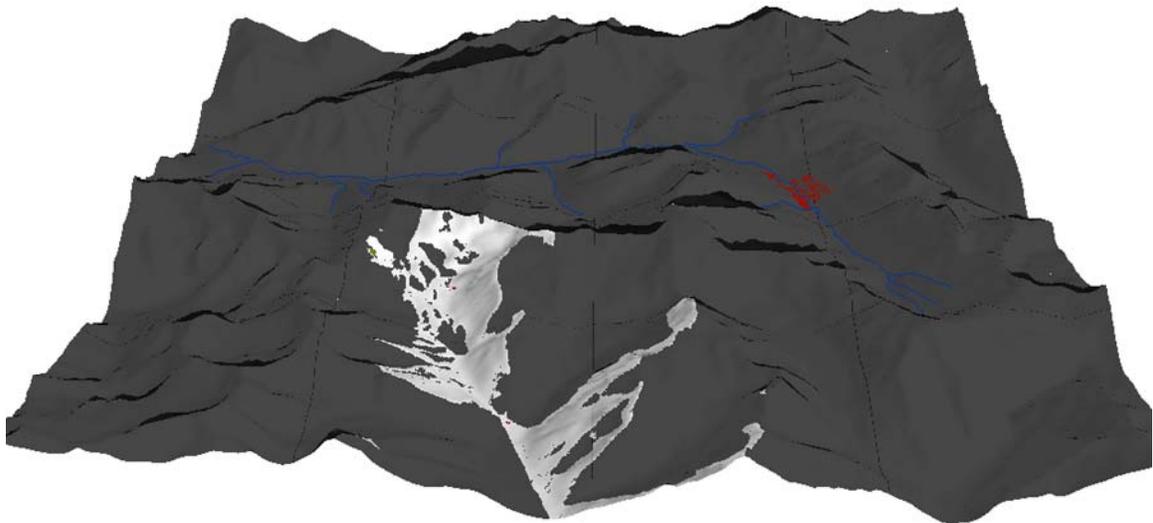
Exhibit 1.43: Farnham Creek Forestry Road Viewscape 2



**Exhibit 1.44: Farnham Creek Forestry Road Viewscape 3**



**Exhibit 1.45: Farnham Creek Forestry Road Viewscape 4**



**Table 1.7: Farnham Creek Forestry Road Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Partial ski trails and lifts at toe of Farnham Glacier viewed only from the terminus of the Farnham Creek Forestry Road	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort element: approx. 400 meters from forestry road terminus	Limited to final 100 meters of forestry road
<b>Visibility by "naked eye":</b>	
Moderate at the terminus of the forestry road. Terminus of forestry road marks Controlled Recreation Area boundary. Bottom station of lift 3.7 and possible Daylodge will be located within approx. 400 meters of forestry road terminus.	
<b>Comments:</b>	
Visual impact can be mitigated through use of buffers including vegetation and boulders working in conjunction with elevation change.	

1.4.8 Farnham Towers

Exhibit 1.46: Farnham Towers Sections

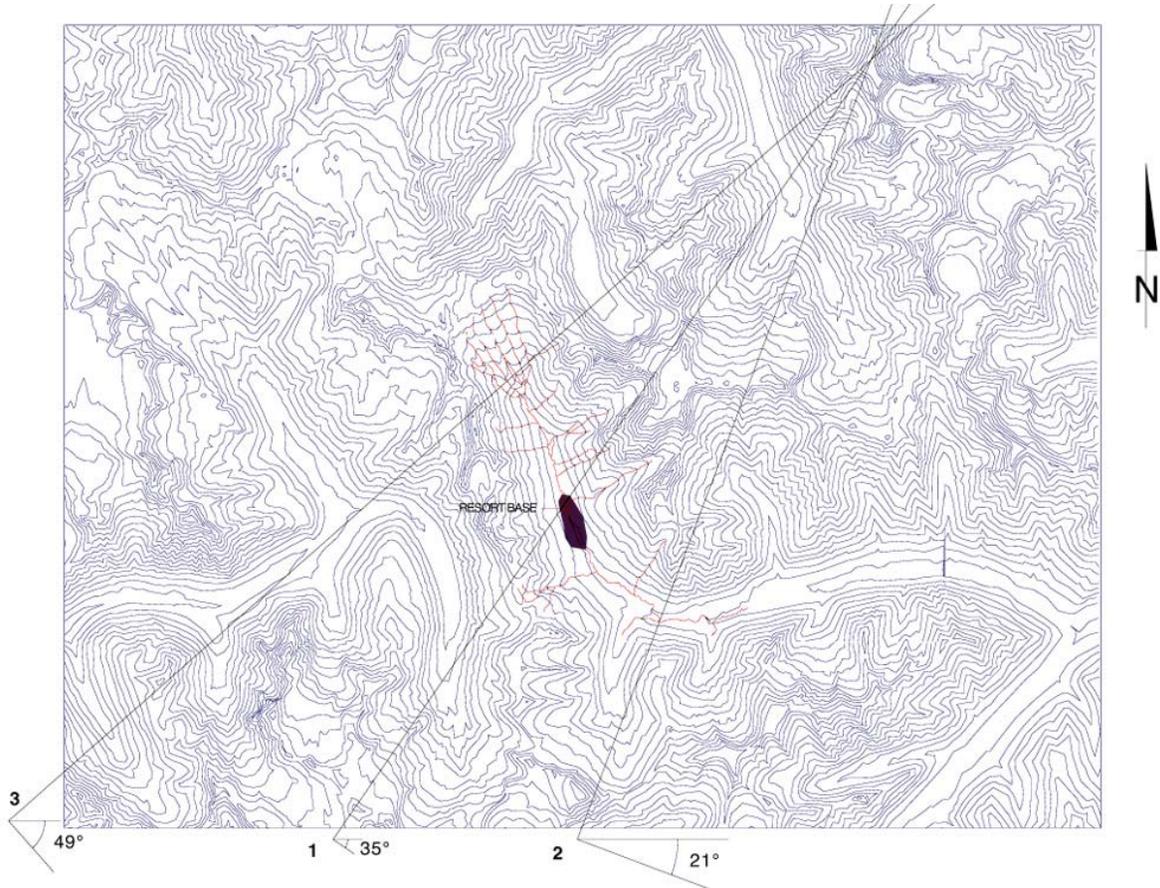
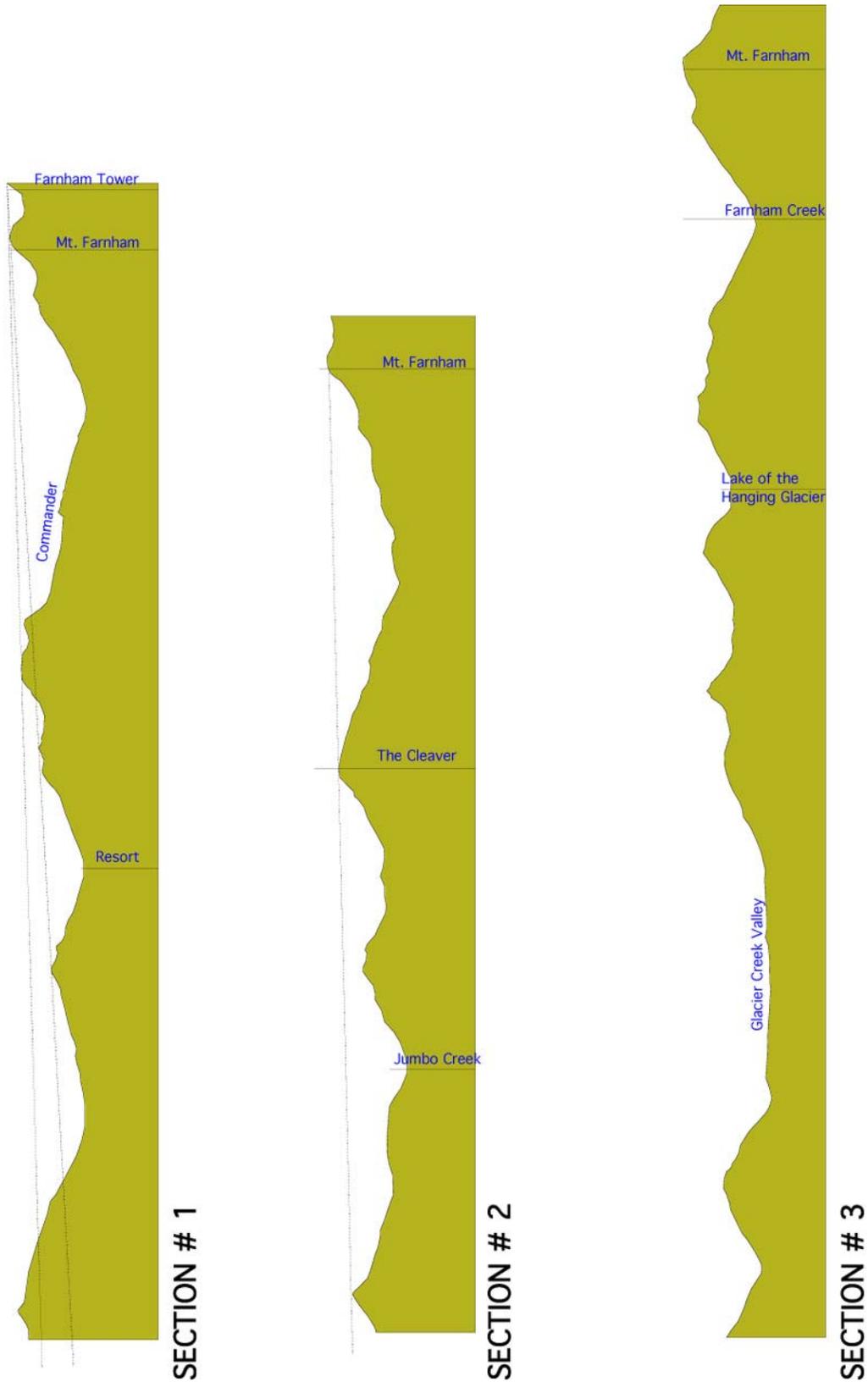


Exhibit 1.47: Farnham Towers Sections



**Table 1.8: Farnham Towers Visual Analysis**

Resort Elements in Line of Sight	
Partial ski trails on Commander Glacier	
Distance From Viewpoint:	Visual Impact:
Nearest resort elements: approx. 7.5 km	Negligible
Visibility by "naked eye":	
Negligible. Distance, viewing angle, and the visual absorption capabilities of glacier ice mitigate impact of visible ski runs on Commander Glacier.	
Comments:	
<u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.	

1.4.9 Mount Farnham

Exhibit 1.48: Mount Farnham Sections

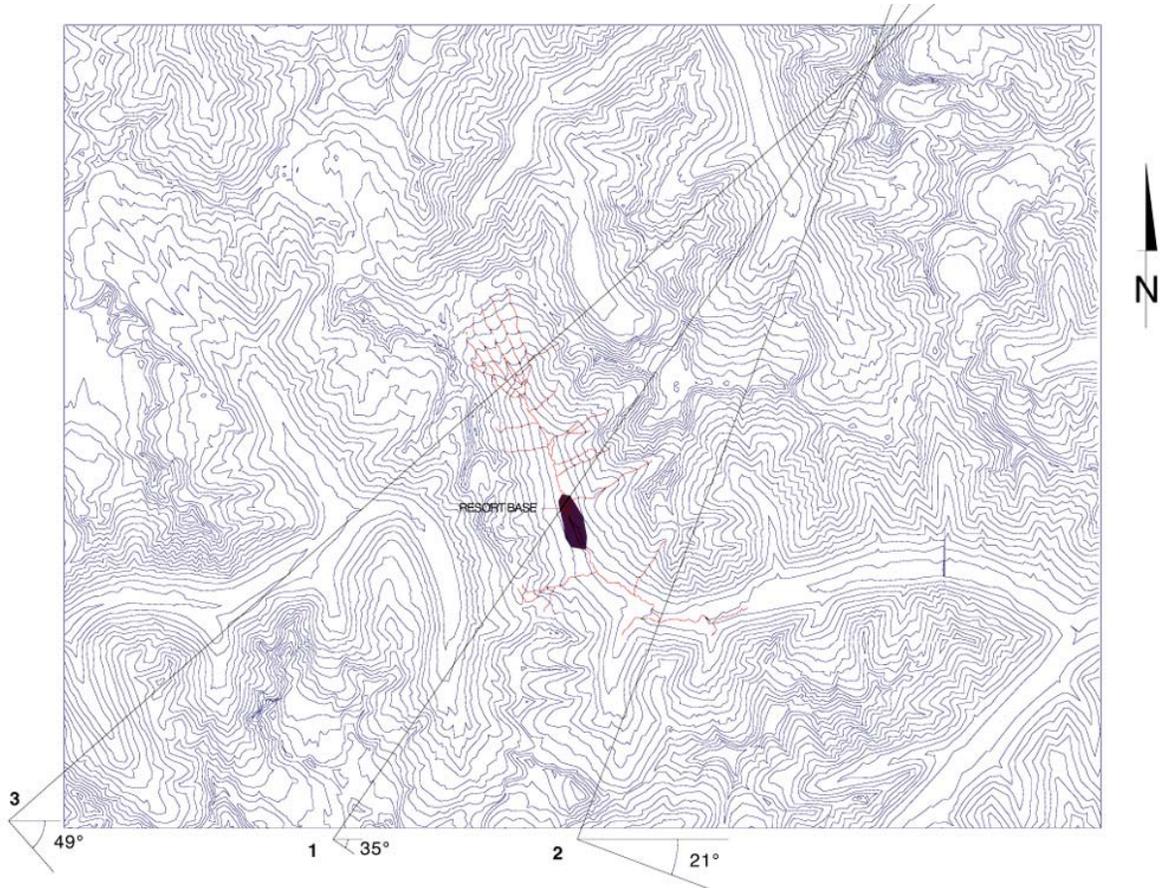
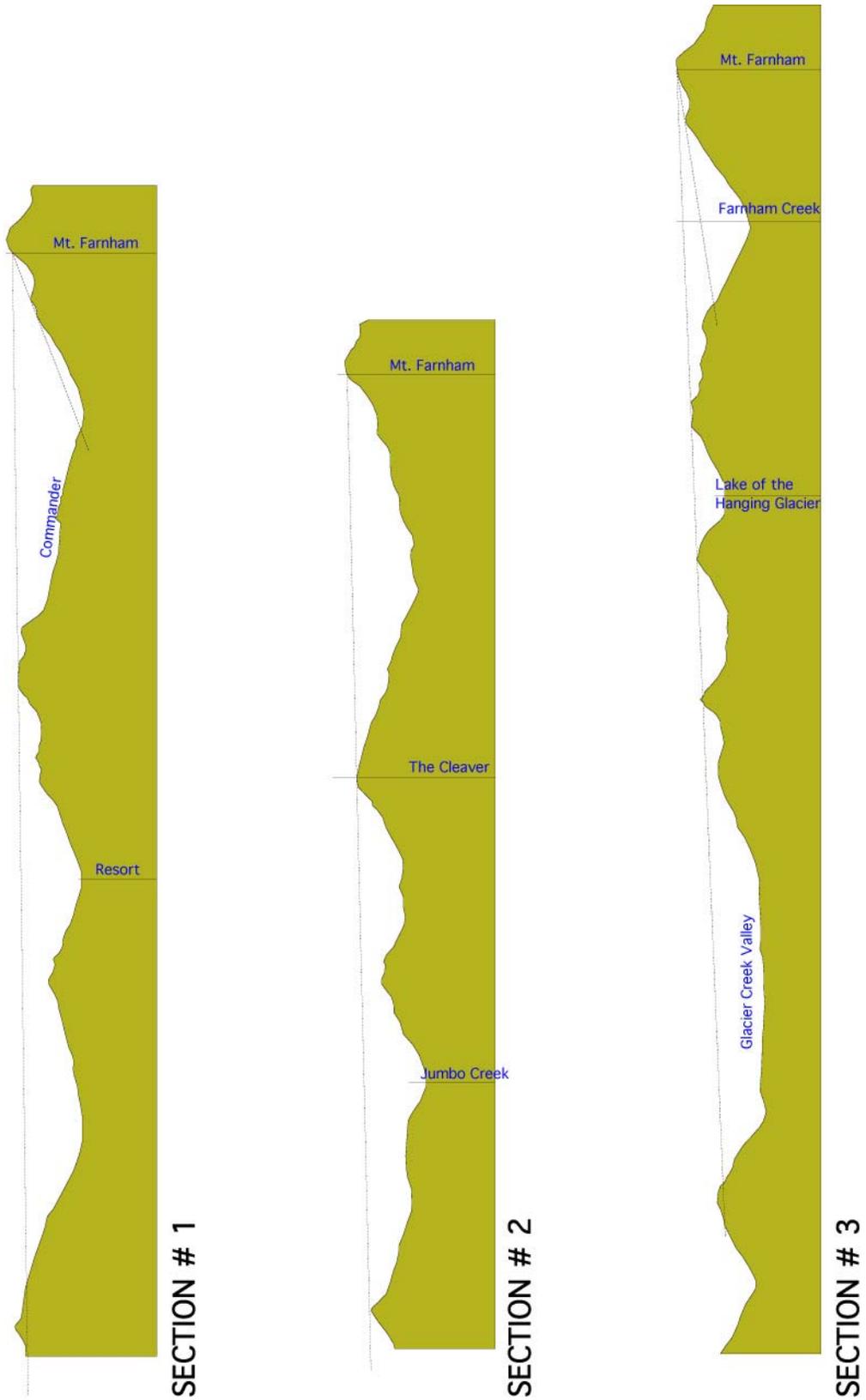


Exhibit 1.49: Mount Farnham Sections



**Table 1.9: Mount Farnham Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Partial ski trails on Commander Glacier	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort elements: approx. 7 km	Negligible
<b>Visibility by “naked eye”:</b>	
Negligible. Distance, viewing angle, and the visual absorption capabilities of glacier ice mitigate impact of visible ski runs on Commander Glacier.	
<b>Comments:</b>	
<p><u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.</p>	

1.4.10 Glacier Creek

Exhibit 1.50: Glacier Creek Sections



Exhibit 1.51: Glacier Creek Sections

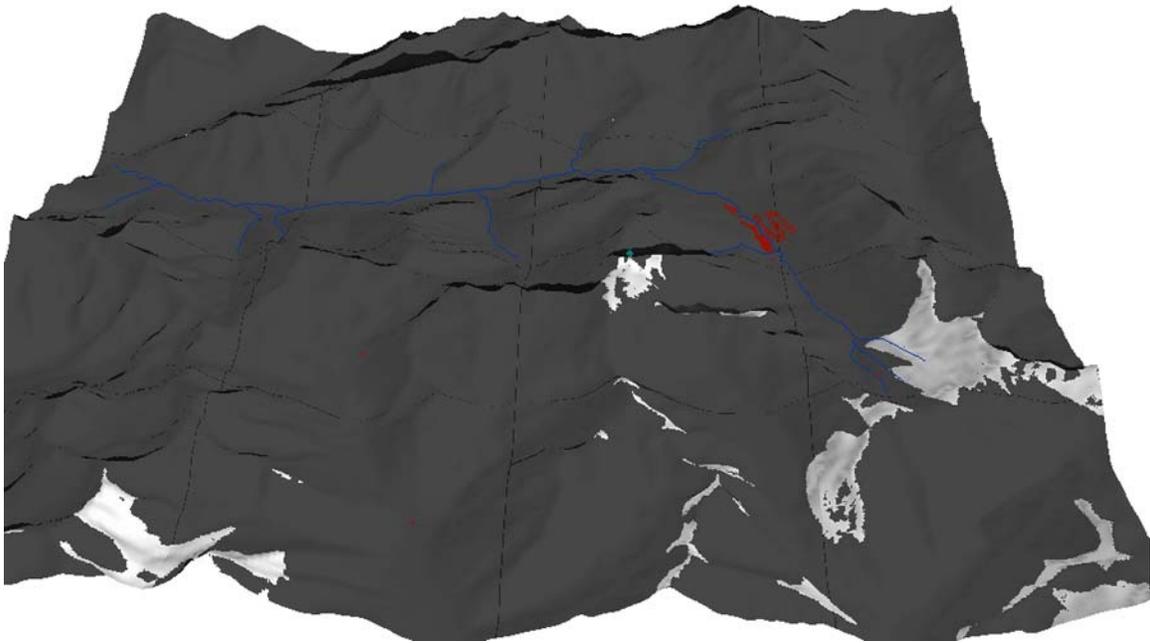


**Table 1.10: Glacier Creek Visual Analysis**

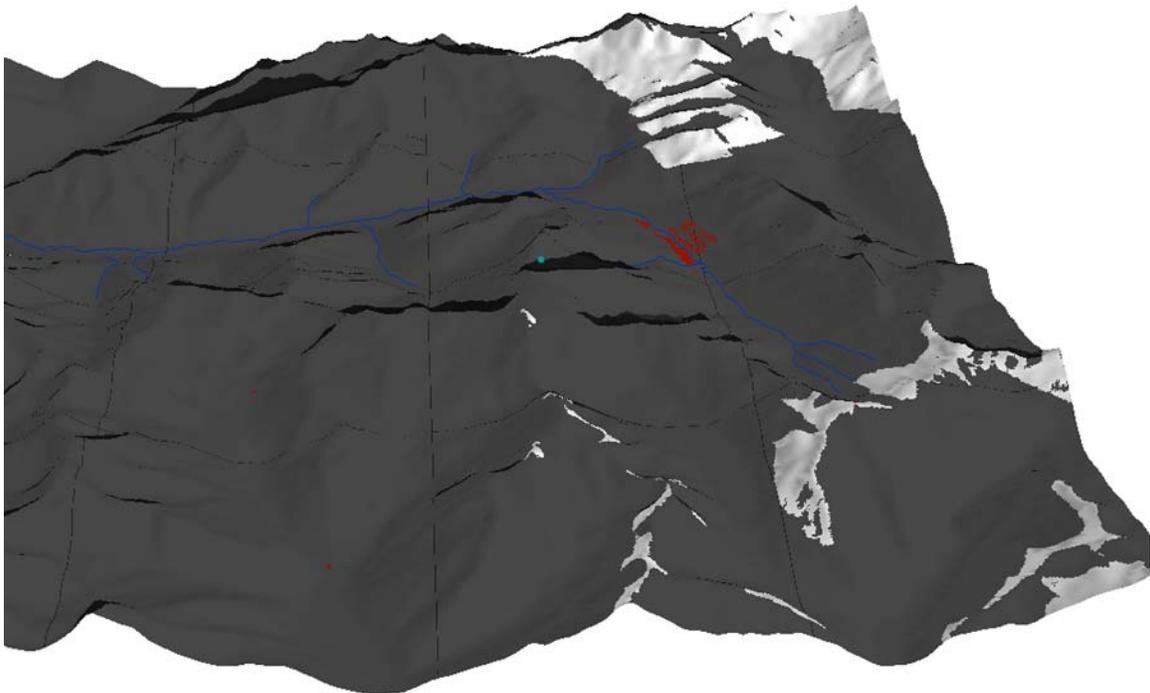
Resort Elements in Line of Sight	
None	
Distance From Viewpoint:	Visual Impact:
N/a	None
Visibility by "naked eye":	
N/a	
Comments:	

**1.4.11 Jumbo Mountain**

**Exhibit 1.52: Jumbo Mountain Viewscape 1**



**Exhibit 1.53: Jumbo Mountain Viewscape 2**

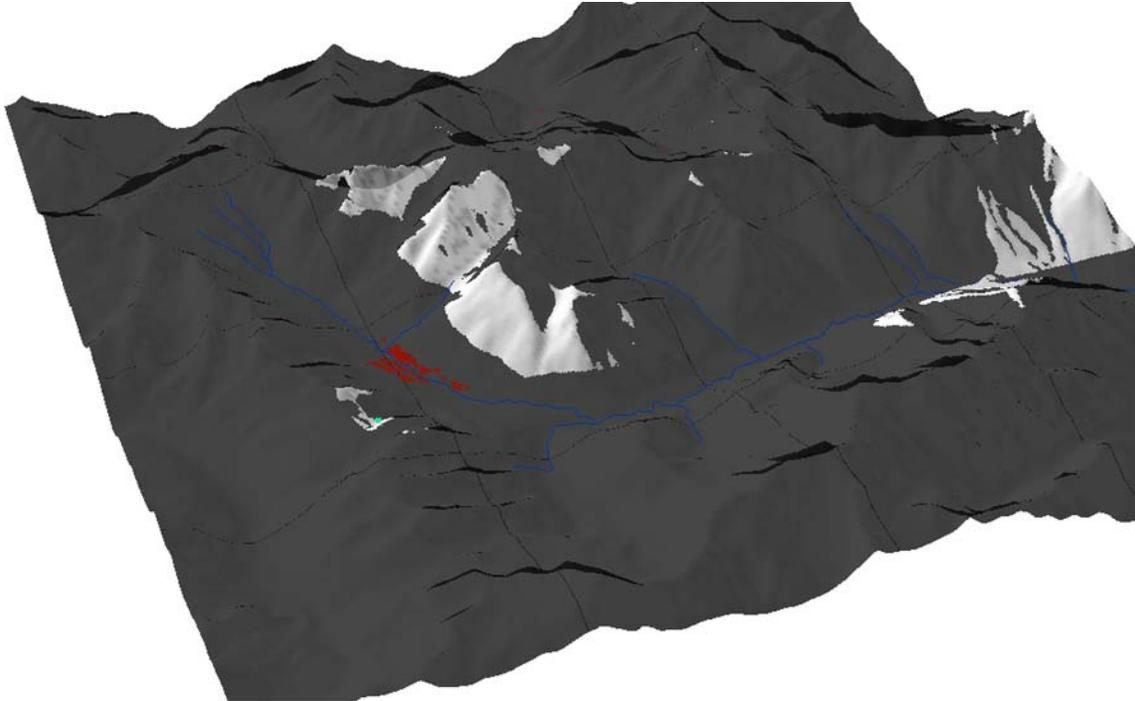


**Table 1.11: Jumbo Mountain Visual Analysis**

Resort Elements in Line of Sight	
Partial ski runs on Glacier Dome	
Distance From Viewpoint:	Visual Impact:
6.5 km	Negligible – see comments
Visibility by “naked eye”:	
Negligible. Distance, and the visual absorption capabilities of the landscape would make ski runs on northwestern portion of Glacier Dome invisible to the unaided eye.	
Comments:	
Jumbo Mountain is located within the ski area and it would stand to reason that some resort elements would be visible from its summit. However, due to the nature of the mountain peak, computer models suggest that it is impossible for a viewer on its summit to see directly below. It is possible, depending on the route chosen, that a mountain climber ascending to the summit would be visually exposed to lifts 3.2 and 2.4.	

1.4.12 Jumbo Pass

Exhibit 1.54: Jumbo Pass Viewscape

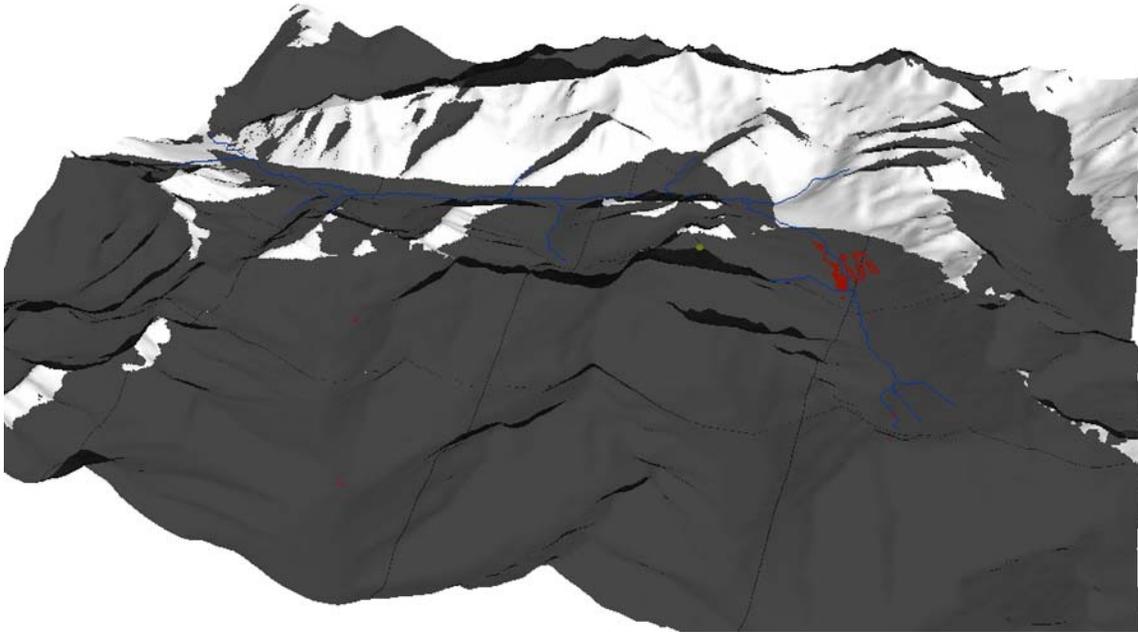


**Table 1.12: Jumbo Pass Visual Analysis**

Resort Elements in Line of Sight	
Upper portion of ski runs below The Lieutenants.	
Distance From Viewpoint:	Visual Impact:
4.2 km	None – Negligible (see comments)
Visibility by “naked eye”:	
Negligible. Distance, and the visual absorption capabilities of the landscape would make ski runs indistinguishable to the unaided eye.	
Comments:	
Upper portion of ski runs on eastern slope above the resort base (below The Lieutenants) may be visible. These slopes have already been clearcut for the creation of heli-ski runs. There will be no net visual impact.	

1.4.13 Karnak Mountain

Exhibit 1.55: Karnak Mountain Viewscape



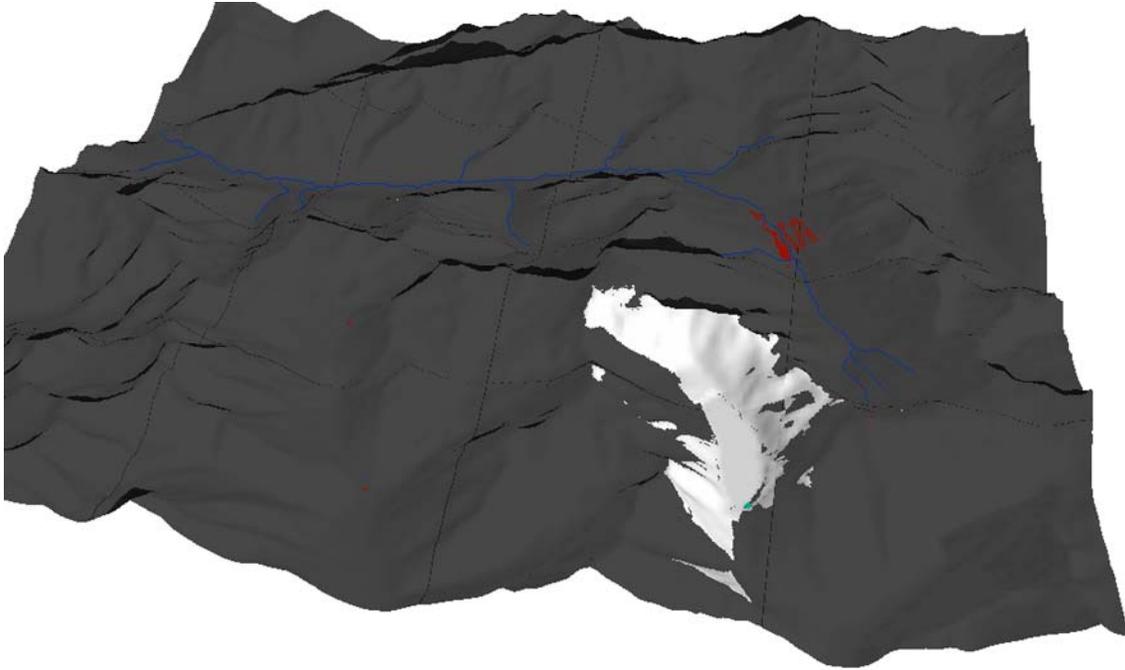
**Table 1.13: Karnak Mountain Visual Analysis**

Resort Elements in Line of Sight	
None – see comments	
Distance From Viewpoint:	Visual Impact:
N/a	None – see comments
Visibility by “naked eye”:	
N/a	
Comments:	

Karnak Mountain is located within the ski area and it would stand to reason that some resort elements would be visible from its summit. However, due to the nature of the mountain peak, computer models suggest that it is impossible for a viewer on its summit to see directly below. It is possible, depending on the route chosen, that a mountain climber ascending to the summit would be exposed to some parts of the resort base and ski lifts below.

1.4.14 Lake of the Hanging Glacier

Exhibit 1.56: Lake of the Hanging Glacier Viewscape

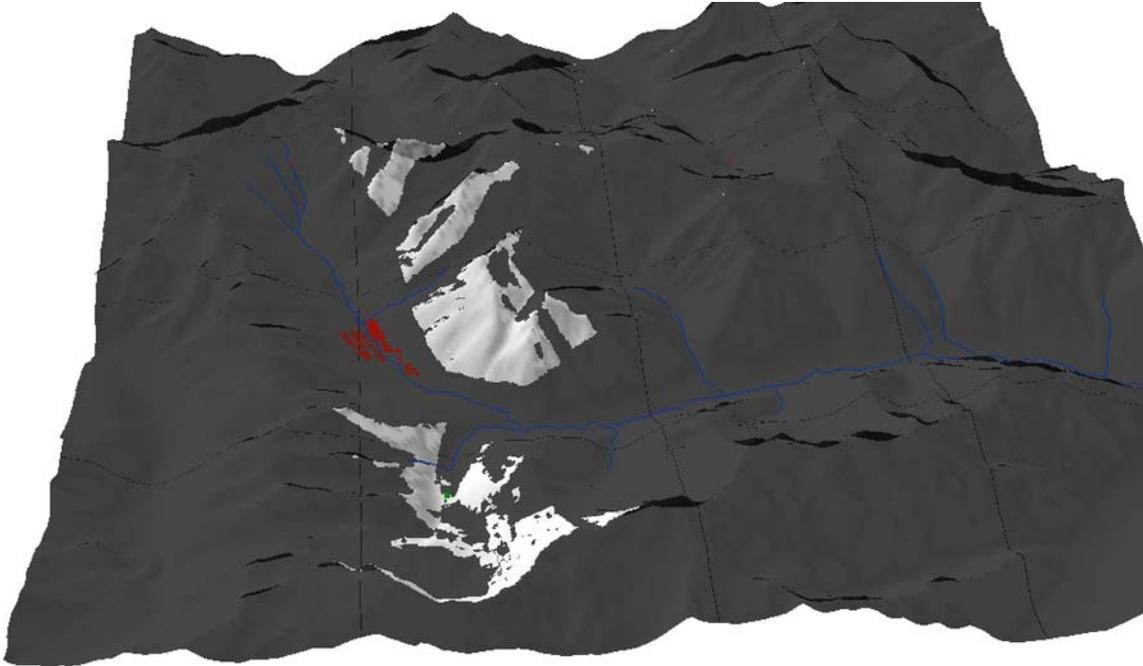


**Table 1.14: Lake of the Hanging Glacier Visual Analysis**

Resort Elements in Line of Sight	
None	
Distance From Viewpoint:	Visual Impact:
N/a	None
Visibility by "naked eye":	
N/a	
Comments:	

1.4.15 Leona Creek

Exhibit 1.57: Leona Creek Viewscape



**Table 1.15: Leona Creek Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Upper portion of ski runs below The Lieutenants.	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
5.2 km	None – Negligible (see comments)
<b>Visibility by “naked eye”:</b>	
Negligible. Distance, and the visual absorption capabilities of the landscape would make ski runs indistinguishable to the unaided eye.	
<b>Comments:</b>	
Upper portion of ski runs on eastern slope above the resort base (below The Lieutenants) may be visible. These slopes have already been clearcut for the creation of heli-ski runs. There will be no net visual impact.	

1.4.16 Mount Macbeth

Exhibit 1.58: Mount Macbeth Sections

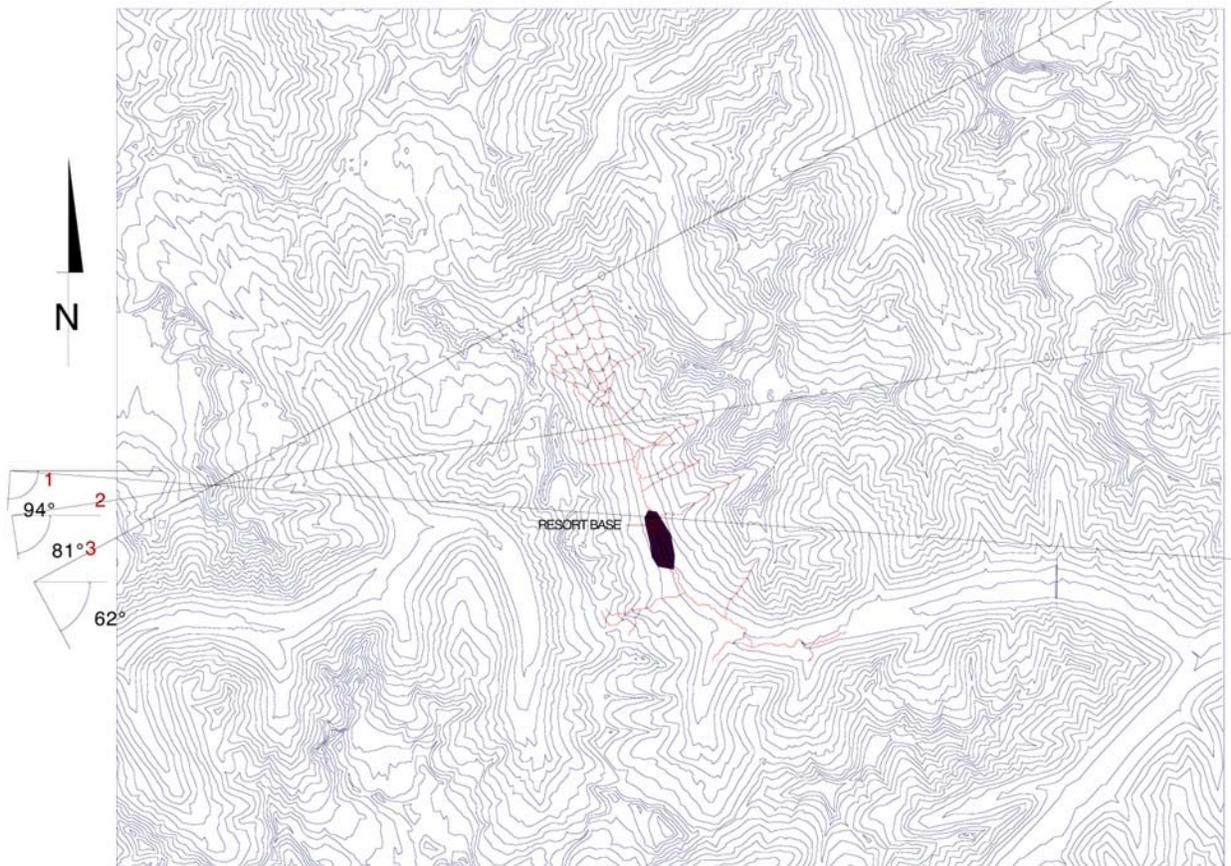
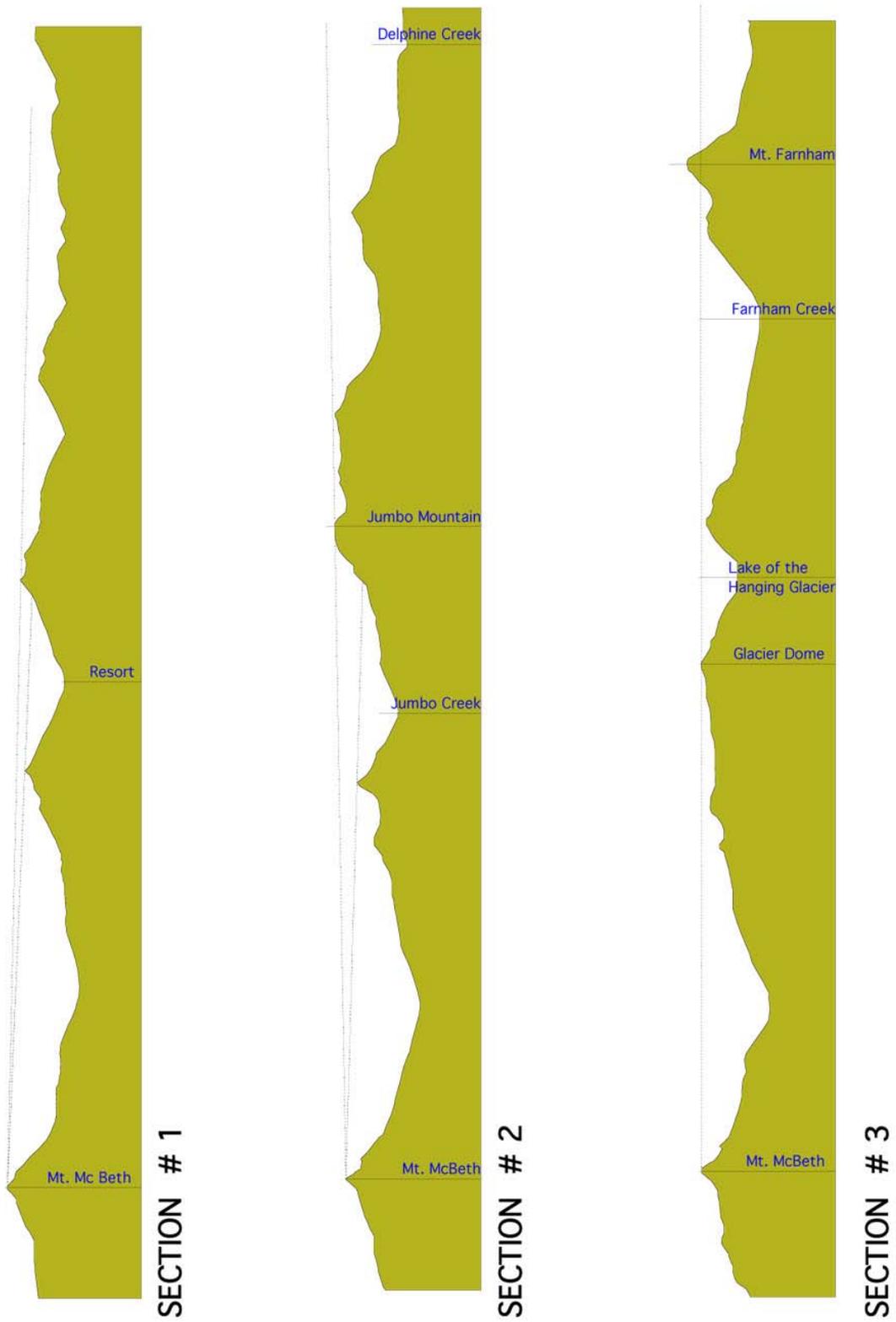


Exhibit 1.59: Mount Macbeth Sections



**Table 1.16: Mount Macbeth Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Peak of Glacier Dome	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
8.5 km	None
<b>Visibility by "naked eye":</b>	
None. Distance, and the visual absorption capabilities of the landscape would make any resort elements indistinguishable to the unaided eye.	
<b>Comments:</b>	
The Teahouse at Glacier Dome will be located below the ridgeline and will be designed to blend in with the landscape. Preliminary designs would place it just below the sightlines of someone standing at the summit of Mount Macbeth.	

1.4.17 Monica Meadows

Exhibit 1.60: Monica Meadows Sections

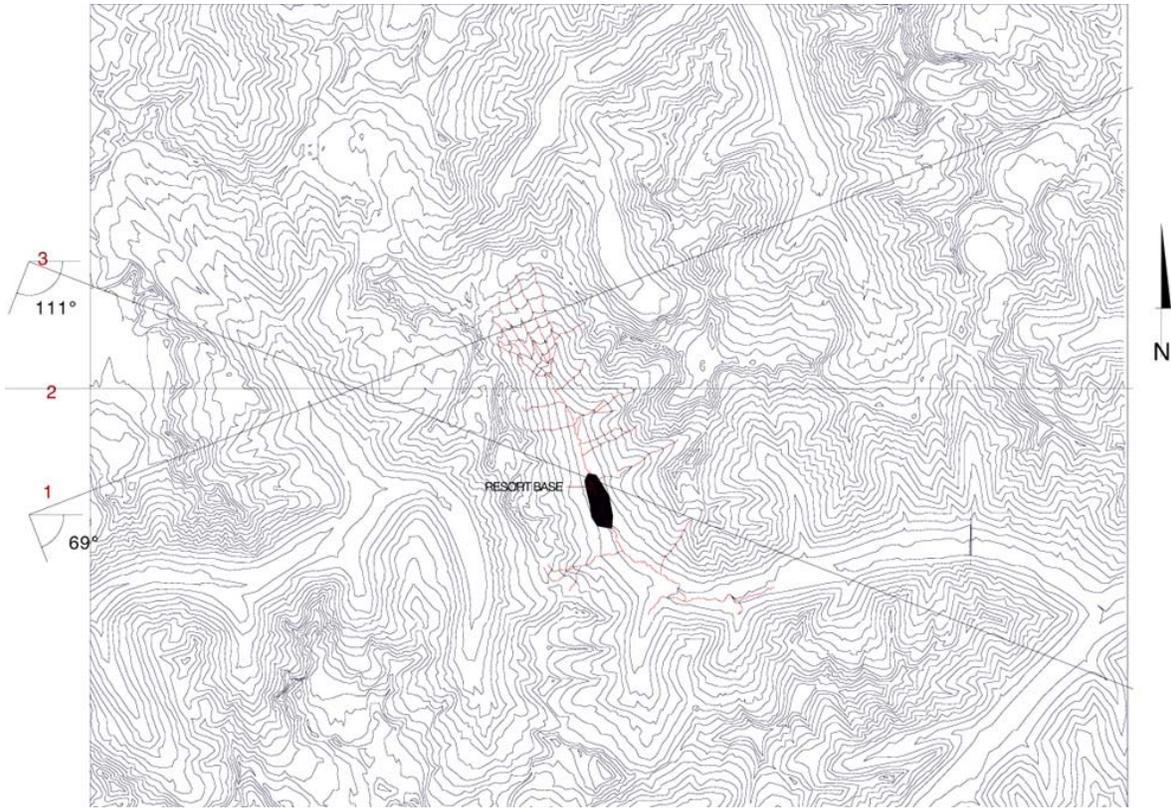
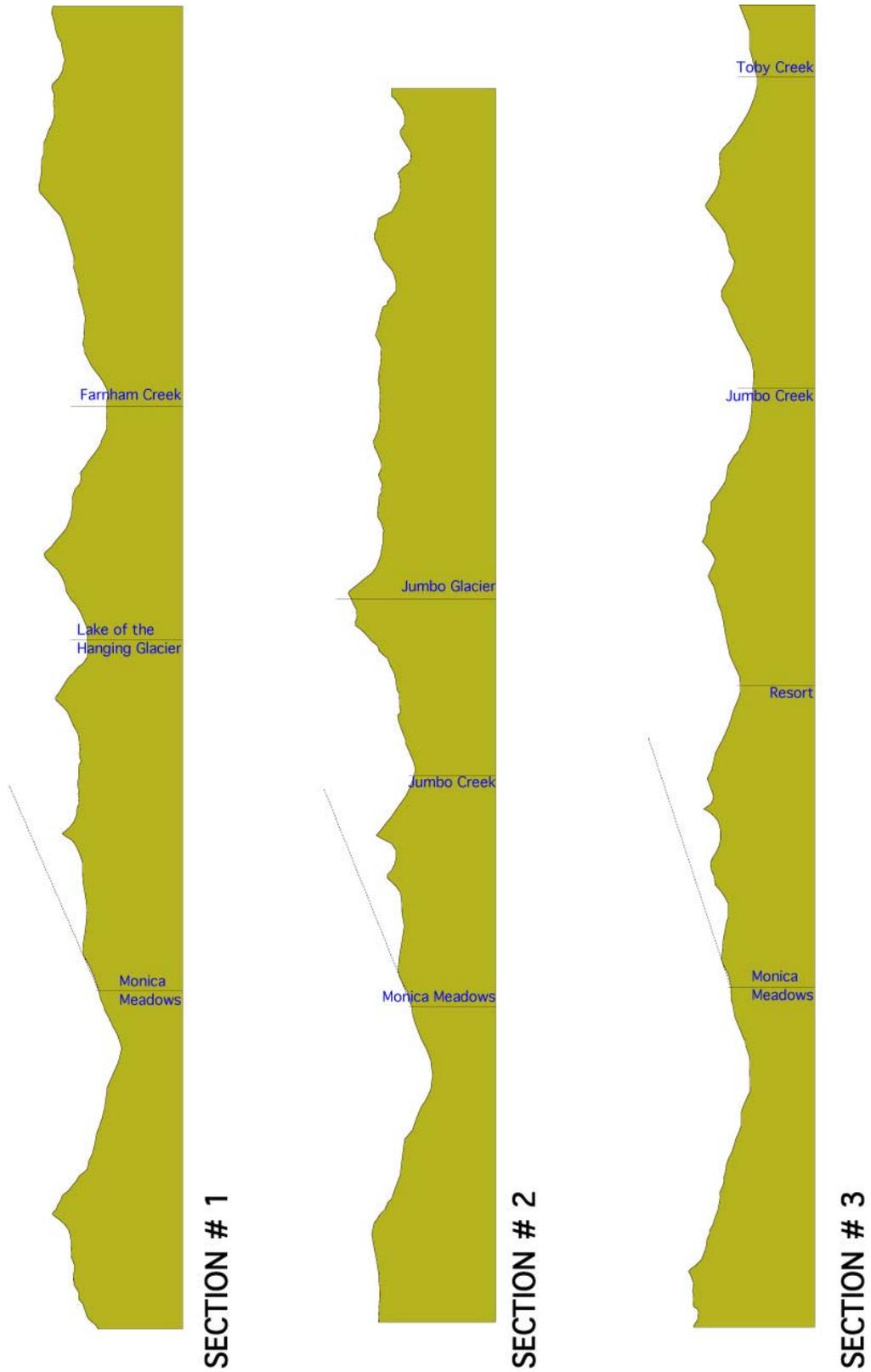


Exhibit 1.61: Monica Meadows Sections

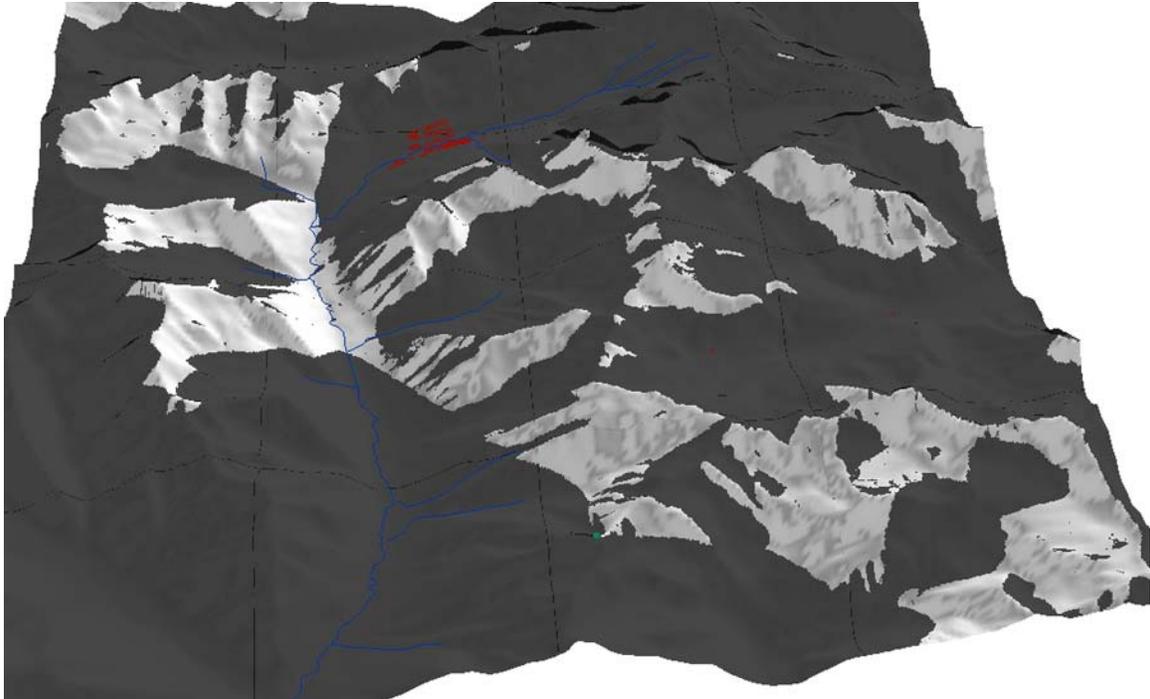


**Table 1.17: Monica Meadows Visual Analysis**

Resort Elements in Line of Sight	
None	
Distance From Viewpoint:	Visual Impact:
N/a	None
Visibility by "naked eye":	
N/a	
Comments:	

1.4.18 Monument Peaks

Exhibit 1.62: Monument Peaks Viewscape



**Table 1.18: Monument Peaks Visual Analysis**

Resort Elements in Line of Sight	
Small segment of Lift 4.1	
Distance From Viewpoint:	Visual Impact:
Nearest resort elements: approx. 3 km	Negligible
Visibility by “naked eye”:	
Negligible. Distance, viewing angle, the small size of the visible elements, and the visual absorption capabilities of the landscape mitigate impact.	
Comments:	
<p><u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.</p>	

1.4.19 Mount Peter

Exhibit 1.63: Mount Peter Viewscape

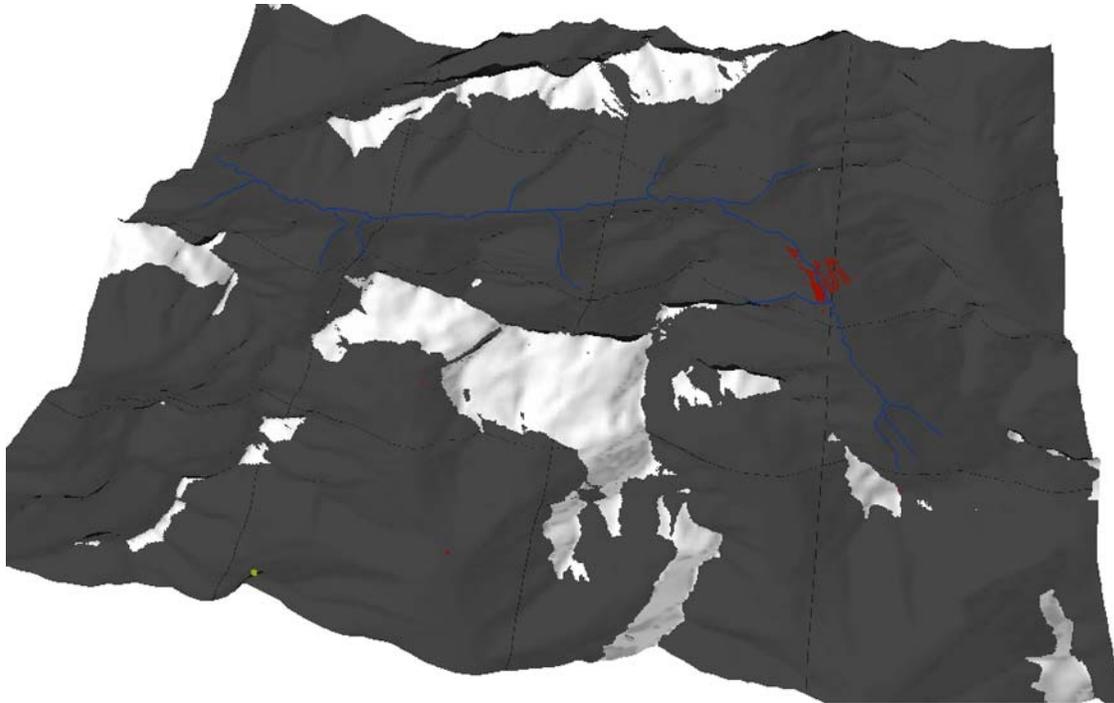
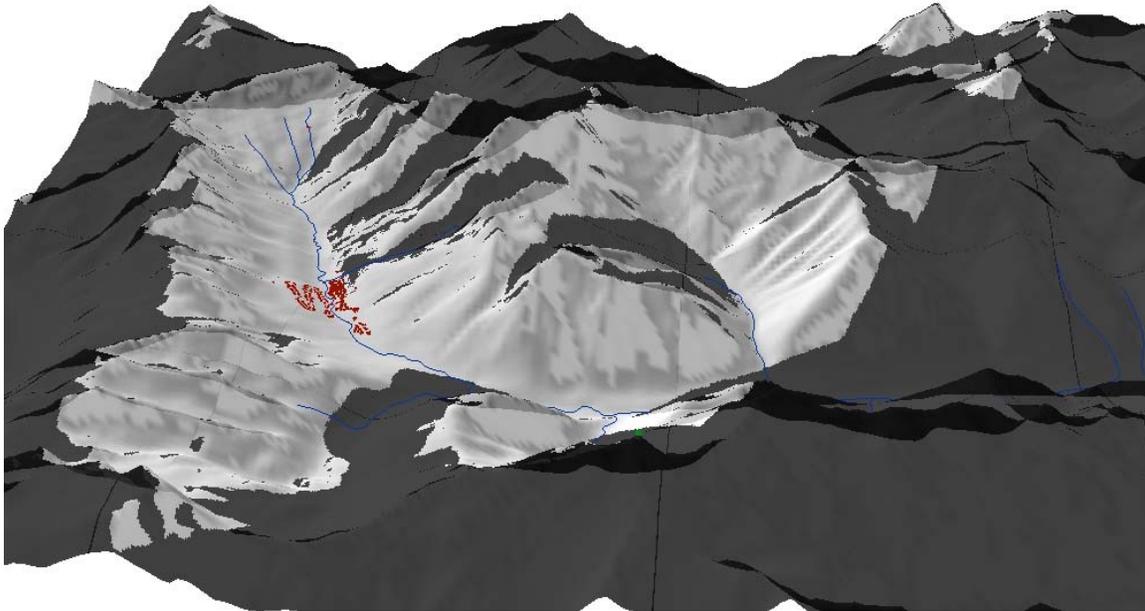


Table 1.19: Mount Peter Visual Analysis

Resort Elements in Line of Sight	
Upper portions of ski runs and T-Bar lifts on Commander and Farnham Glaciers	
Distance From Viewpoint:	Visual Impact:
Nearest resort elements: approx. 7.5 km	Negligible
Visibility by “naked eye”:	
Negligible. Distance, viewing angle, the small size of the visible elements, and the visual absorption capabilities of the glacier ice mitigate impact.	
Comments:	
<p><u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.</p>	

1.4.20 Redtop Mountain

Exhibit 1.64: Redtop Mountain Viewscape



**Table 1.20: Redtop Mountain Visual Analysis**

<b>Resort Elements in Line of Sight</b>	
Resort base, ski runs and lifts on western slopes above resort base, partial ski runs on Glacier Dome.	
<b>Distance From Viewpoint:</b>	<b>Visual Impact:</b>
Nearest resort element: approx. 7.4 km	Fair
<b>Visibility by “naked eye”:</b>	
Fair. Distance, angle, and the visual absorption capabilities of the landscape help obscure the visible resort elements. Resort base would be partly shielded by vegetative buffer, but elevation of viewpoint would make complete shielding unlikely. Most of the visible ski runs are located in previously logged areas and the net visual impact will be small.	
<b>Comments:</b>	
<u>Visual Analysis:</u> Landscape texture features strong contrast between forested valley bottoms and massive alpine peaks and glaciers; the landform is of rugged, broken shapes; lighting is highly variable and contrasting, sometimes obscuring visible features due to high reflectivity of glacier ice; lines and planes are scattered and broken; size of visual landscape is massive over large distances. By Ministry of Forests guidelines, large variability of landscape and diversity of texture contribute to a high visual absorption possibility for man-made features.	

## **1.5 VISUAL MITIGATION AND SCENIC ENHANCEMENT MEASURES**

### **1.5.1 General**

Visual quality at Jumbo Glacier Resort has been carefully considered. The resort layout, ski lifts, lift terminals, daylodge buildings and ski runs are designed as to present the smallest possible footprint and to be a minimal intrusion on the visual landscape. The resort base is situated in a low-visibility portion of the upper Jumbo Creek valley, the resort's roads have been designed to follow some of the less intrusive existing road alignments. Building design guidelines stipulating the use of local, natural materials have been outlined. Lighting and landscaping restrictions favouring natural, forested growth, have also been stipulated.

The ski runs are located predominantly above the treeline, where the visual absorption capacity of the landscape is at a maximum. The few runs below treeline are largely concentrated in areas which have been already logged and subjected to past visual disturbances. The number, type and location of permanent ski lifts have also been carefully studied and restricted in order to serve a maximum amount of terrain with a minimum number of lifts. In visually exposed locations, care has been taken to select lift types such as aerial trams that have a low visual intrusion in high-alpine environments.

The resort designers have taken great care to consider the visual appeal and impact of the resort, both from an aesthetic point of view, and from the point of view of intrusion on the landscape. The designers have had the opportunity to carefully review precedents in mountain resort design including many locations in both North America and the European Alps.

### **1.5.2 Resort Base**

Buildings and other structures can have a significant visual encroachment on the landscape in both summer and winter. This encroachment may be experienced within and to a limited extent outside the resort and, where lighting is involved, at night as well as during the daytime.

Building impacts can be addressed by sensitive siting of the buildings and through aspects of their design including the type and colour of materials used and the angle of glass, metal and other reflective surfaces.

A vegetative buffer will be maintained around the resort base, and in particular around the single family chalets in order to further mitigate any visual exposure. Landscape design guidelines are discussed in Volume 4, Section 4.3.11.11 of the Master Plan.

Night-light pollution has been considered and it is intended that outdoor lighting be kept to a minimum, within the limits of safety. Night Lighting design guidelines are discussed in Volume 4, Section 4.3.11.6 of the Master Plan.

### 1.5.3 Skiing Infrastructure

The majority of ski runs will be located above the treeline in an open, high elevation alpine environment, which will significantly reduce their visual impact in both winter and summer.

The design and position of lift stations and daylodges will be carefully examined to achieve blending into the landscape and such minimal visual intrusion that the view would be obscured at a distance of more than a couple of kilometres.

Ski lifts can be visually managed through the use of earth-toned paint on lift towers, the use of dull grey galvanized metal for chair assembly components, the use of non-reflective materials for items such as seating surfaces, and conservative spacing of bulkier components such as gondola cabins. Examples of ski lifts of the type planned for Jumbo Glacier Resort with low visual impacts have been outlined in Exhibits 1.13 – 1.17 above.

Where possible, lifts will be sited so that the towers and particularly the top stations are not prominent in views from sensitive areas. There are sometimes operation constraints which preclude this, however. It then becomes necessary to look to sensitive design as a means of minimising visual impacts. This can include measures such as:

- avoiding skylining of towers and the top station;
- minimising the bulk of the top station by locating the lift drive and chair parking (if relevant) at the bottom station;
- constructing the exterior of the station from suitably coloured and non-reflective materials which do not stand out against the natural backdrop in the view; or
- where there is a risk of reflection (e.g. from essential windows), mounting these at an angle which does not reflect a the level of sensitive viewing sites, or concentrating windows on the side of the building away from the sun.

Other on-mountain structures can also be visually managed through the use of appropriate siting, colour use and design. The Glacier Dome arrival station and Teahouse and terrace will be positioned below the summit in such a way that they will blend into the rock material of the mountain top and will not break the ridgeline. Consequently it will be obscured to the viewer on the opposite sides of the valley and will be completely outside the line of sight for a viewer within the drainage of the Lake of the Hanging Glacier.

### 1.5.4 Changes to the Master Plan

Partly in deference to visual impact concerns, alterations to the Jumbo Glacier Resort Master Plan have been made. Some of the significant design changes introduced between the 1990 - 1995 Master Plan and the current Master Plan include:

1. Removal of the lift into the Horsethief Creek drainage and of any physical access into that drainage thereby eliminating any visibility of resort components from the Lake of the Hanging Glacier drainage;
2. Removal of two lifts and ski runs at the south end of the project, in order to remove

the notion of a visual or physical potential conflict with recreational use of the Jumbo Pass area;

3. Dedicating the lift providing access from lower Jumbo Creek to the top of Farnham Glacier to the Canadian athletes training program planned by CODA, and removal of day skier parking area connected with this lift;

4. Simplification and reduction of lift system and of design carrying capacity. Comfortable Carrying Capacity reduced to approximately half, with a low utilization rate and design for expected skiers per day ranging between 1200 and 2800;

5. Removal of the parking area and bus access facilities at the Mineral King Mine site;

6. Making the resort area even tighter than before, with all future parking and access to the lifts starting at the entry of the resort in upper Jumbo Creek. The resort area will be contained in approximately 100 hectares and is designed so that the entire resort can be fenced, including by a vegetative buffer, if necessary;

7. Deleting the Glacier Dome Lodge at the base of Glacier Dome, and constraining the resort area to the sawmill site, and

8. Design of road improvements following existing road alignments on one side of the valley, less exposed to avalanches, abandoning existing bridges connecting forestry roads from one side to the other of the valley, and design to minimize environmental impacts, cost and traffic speed. Management of the ski area is to encourage the use of shuttle buses, which are planned to be provided free of charge to lift and resort facilities clients from the first day of operation of the Jumbo Glacier tram.

### **1.5.5 Rehabilitation of Past Visual Disturbances**

The Proponent has stated its intent to restore the valley to as natural a configuration as possible. This includes cleanup and removal of forestry operations debris where practical, creation and restoration of a riparian buffer zone around Jumbo Creek and its tributaries, and where ski runs are located in forested areas, alteration of existing cut blocks to better follow the natural contours of the landscape.

**Visual Impact Assessment**

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