Re: CONCESSION APPLICATION: 69588-SKI: REQUEST FOR FURTHER INFORMATION

As per the letter dated the 28th September 2018 requesting more information on the following subjects please find below the responses from NZSki in reference to Point 2:

2. "A comprehensive summary of the project: This is to accompany the detailed site plan. This summary is to include the full list of activities and infrastructure involved in the project, and the extent of effects for each (e.g. amount of cut and fill and area of disturbance). This includes any infrastructure/facilities to be removed".

Further to the concession easement application which has been presented to the Department of Conservation on the 2nd August 2018 the following is a high level summary of works to be carried out for the Sugar Basin Project.

Title	Description	Summary of Effects
1. Relocate Medical Facility	Relocate the medical facility to the existing carpark area, as it is currently within the alignment of the proposed new Sugar Bowl chairlift.	• N/A This is subject to a separate process as this is within the NZSki lease area. • Reference to Leasor Approval Letter, 4th October 2018, Sean Dent to Geoff Owen • *Reference Additional Information Attachment [3] – Medical Facility Relocation Plan*

<table>
<tr>
<td>2. Construction of New Sugar Bowl Chairlift</td>
<td>New 6 seater express chairlift with 10 towers, bottom and top stations including operator rooms.</td>
<td>

Vegetation Clearance & Earthworks for Station & Tower concrete foundations and temporary access trails to tower sites.

Footprint of top and bottom station earthworks is approximately 25m x 20m.
For the 10 x tower foundations, each excavation is approximately 12m diameter.
Total excavation volume for towers and terminals :

<table>
<tr><th>Location</th><th>estimate Excavation m3</th></tr>
<tr><td>Bottom Station</td><td>113.5</td></tr>
<tr><td>Tower 1</td><td>30.34</td></tr>
<tr><td>Tower 2</td><td>42.3</td></tr>
<tr><td>Tower 3</td><td>35.2</td></tr>
<tr><td>Tower 4</td><td>35.64</td></tr>
<tr><td>Tower 5</td><td>31.96</td></tr>
<tr><td>Tower 6</td><td>57.6</td></tr>
<tr><td>Tower 7</td><td>52.2</td></tr>
<tr><td>Tower 8</td><td>38</td></tr>
<tr><td>Tower 9</td><td>25.38</td></tr>
<tr><td>Tower 10</td><td>26.66</td></tr>
<tr><td>Top Station</td><td>133.5</td></tr>
<tr><td>Total Excavation for Chairlift Construction</td><td>622m3</td></tr>
</table>

Temporary trenching to 1.6 below ground level for installation of power and data for lift operation, running under the lift line, to be combined with areas modified for trail development and snowmaking installation where possible, backfilled with bedding then excavated materials. Once burial of equipment is complete and as progress moves along the line revegetation protocols will be enacted.
Vegetation Rehabilitation of excavations in accordance with agreed protocol
Sediment Control for construction works in accordance with Sediment & Control Plan

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		• *Reference Additional Information Attachment [1] – Overall Site Plan (shows chairlift line and terminal & tower locations)* • *Reference Additional Information Attachment [2] – Site Sediment Control Plan* • *Reference Additional Information Attachment [4] – Chairlift Construction Method Statement* • *Reference original application Appendix [C] – Lift Line and Building Drawings* • *Reference original application Appendix [E] – Revegetation Protocols*

3. Construction of Gabion Wall to support New chairlift Base station	Construction of a gabion wall within the existing carpark (17.6m x 15.9m x 3.5m (max) high) to support the loading of skiers at the base station	• Earthworks and backfill in the existing carpark (no existing vegetation cover)
		  ○ Area of disturbance 280m^2
		  ○ Total fill volume 1,170m^3
		• Service Relocation for power to new chairlift and moved medical facility, temporary trench and backfill in carpark, no permanent effects
		• *Reference Additional Information Attachment [2] – Site Sediment Control Plan*
		• *Reference Additional Information Attachment [5] – Gabion Wall Drawings*

4. Construction of Ski Trails – Sugar and Sugar Stash	New ski trails to support increased skier visitation and skier experience.
	
	Finished new section of Sugar trail: 780m long x 50m wide
	
	Finished Sugar Stash trail: 1220m long x 30m wide, 2 trail loop exit at top station
		• Earthworks:
		  ○ Area of disturbance 120,000 m^2
		  ○ Total solid cut volume of 162,000m^3
		  ○ Total fill volume of 172,000m^3.
		• Vegetation Rehabilitation in accordance with agreed protocol
		• Sediment Control in accordance with Sediment & Control Plan
		• *Reference Additional Information Attachment [3] – Site Sediment Control Plan*
		• *Reference Additional Information Attachment [6] - Optional Revised Appendix [D] - Proposed CFMA Earthworks Plans RevA (avoids small seepage area) OR Appendix D of the original application*
		• *Reference original application Appendix [E] – Revegetation Protocols*

5. Snowmaking Installation	Total distance of the extension to the snow making system is 2.3 km over 2 main lines and connections to support 14 fan snow	• All works will be completed on recently modified ground (for ski trail development) and a corridor will be maintained unvegetated to carry out works. Once burial of equipment is complete and as progress moves along the line revegetation protocols will be enacted.

	making guns and 18 lances (stick type) snow making guns. Trenching and burying ductile water pipe (80- 250mm dia), Polyethylene pipe for air supply (63mm - 140mm dia), copper communication cable and fibre optic cable, 38 concrete inground pits (1.6m long x 1.2m wide x 1.6m high), 2 new transformers. Connection to the existing system will be made in the Learners area up hill and south of the base lodge	• Vegetation Rehabilitation in accordance with agreed protocol • Sediment Control in accordance with Sediment & Control Plan • *Reference Additional Information Attachment [1] Overall Site Plan with Snowmaking* • *Reference Additional Information Attachment [2] – Site Sediment Control Plan* • *Reference original application Appendix [E] – Revegetation Protocols*
6. Existing Sugar Bowl chair lift decommissioning	Remove existing Sugar bowl chairlift infrastructure. Towers and sheave assemblies removed by helicopter. Drive stations and bullwheels removed by transporter using existing summer road access. Tower foundations removed using 20ton digger with rock breaker fitted to it to break out the concrete from the reinforcing steel within it and removed from site. Where possible truck access will be to tower foundation sites to transport broken concrete from site.	The aim is to remove the existing infrastructure and rehabilitate the ground in the area of the drive stations and tower foundations. Bare ground will be exposed where the old chairlift end terminals/stations and towers are removed. It is proposed to divide tussock plants to spread stock to cover in areas with tussock surrounds, and mitigate the visual effects by using rock to laying schist seams amongst areas surrounded by cushion fields. Towers 1, 2, 4, 10, 11, 12, top and bottom stations can be accessed from existing trails. Towers 6, 7, 8 and 9 will be accessed with mats laid across the existing ground to spread the loading and minimise impact to vegetation. Towers 3and 5 on the slope face will require temporary access tracks to be cut, followed by reinstatement as per the revegetation protocols. • *Reference Additional Information Attachment [8] – Existing Sugar Chair* • *Reference Additional Information Attachment [2] – Site Sediment Control Plan* • *Reference original application Appendix [E] – Revegetation Protocols*

Construction Further Information

The anticipated programme commencement date is scheduled for mid October 2018 with the uplifting of the **medical facility** and relocation to a new location (approximately 30m from it's existing location). This is a requirement to satisfy safe operation of the proposed Sugar Bowl chair including proposed trail development associated with access to Sugar Bowl chair loading area. To facilitate this house removal contractors will be carrying out the works.

1. Medical Facility – uplifting of the **medical facility** and relocation to a new location (approximately 30m from it's existing location). This is a requirement to satisfy safe operation of the proposed Sugar Bowl chair including proposed trail development associated with access to Sugar Bowl chair loading area. To facilitate this house removal contractors will be carrying out the works.

2. New Chairlift Construction - The construction of **Sugar Bowl chair** commences with surveyors pegging out the entire lift line profile locating either end terminals and independent tower bases along its path. Doppelmayr (the construction company and contractors for the lift installation) then commence the base station terminal construction, located in the east corner of the Drop Zone, founding the terminal foundations on solid material west of the Rastus Burn stream, then moving to each tower foundation locations, of which there are 10, to work within a designated area at each site unearthing material, placing form work in the holes followed by reinforcing steel and pouring concrete to form the foundation pads for towers. At the same time another crew will be working on the same process at the top terminal to complete concrete works by early February 2019.

   All works to access tower sites are managed by NZSki RE staff and Base Contracting (our preferred supplier) are the machine operators where any earthworks are required to facilitate access.

   Doppelmayr have a designated staging area in car park 1 and the Drop zone for the devanning, pre-installation and erection of lift components and will be moving parts into installed placement once all foundation concrete is cured. 90% of the componentry will be managed with vehicle and machinery movements. A helicopter will be used to locate tower assemblies programmed for mid February 2019.

   At the same time a small building (titled 'lift hut') at each end of the lift is being constructed to house electrical equipment, lift function componentry and storage for operational equipment. These huts are located right at the load/unload points of the lift and used by operational staff on site.

   Once all towers are erected and the top and bottom terminal construction near complete the haul rope (steel cable 42mm diameter) is run around the line across tower assemblies and spliced to join it. All chairs are located on the line and finally commissioned for service, scheduled for end of April 2018.

All earthworks associated with chair lift installation are scheduled to be complete by end of February at which time any remedial works and re-vegetation of the tower foundations will be competed aligning with the established re-vegetation protocols in place (enclosed in the full application presented on the 2nd August 2018 titled "Protocol For The Rehabilitation Of Natural Alpine Environments Following Ski Area Development").

- *Reference Additional Information Attachment [2] – Site Sediment Control Plan*
- *Reference Additional Information Attachment [4] – Chairlift Construction Method Statement*
- *Reference Original Application Appendix [E] – Revegetation Protocols*

3. Construction of Gabion Wall – To support the base terminal skier loading and lift operator support a gabion wall will be constructed around the base terminal, and backfilled to the level of Curvey basin loading. The construction of this will follow the successful construction of the base terminal foundation.

4. Trail Development - Aligning with the chair lift installation and operations **new trails** for guest growth and appreciation are signalled to be constructed. The total area of development encompasses 120,000m2 and covers a distance of 2.5 kilometres (drawings enclosed in application presented on the 2nd August 2018)

   All areas are outlined in the enclosed drawing job no. 12650 Drawing number. 18-10 and dated 11.06.18

   Within the drawings provided earth total solid cut measures of 162,000m3 and total fill measures of 172,000m3. This has been broken down into 5 individual areas and signalled as follows:

   - Area A Cut – 33,000m3 Fill 22,000m3, covering an area of 17,000m2
   - Area B Cut – 39,000m3 Fill 45,000m3, covering an area of 32,000m2
   - Area C Cut – 33,000m3 Fill 42,000m3, covering an area of 28,000m2
   - Area D Cut – 45,000m3 Fill 38,000m3, covering an area of 25,000m2
   - Area E Cut – 12,000m3 Fill 25,000m3, covering an area of 18,000m2

   All quantities are as per the drawings designed. With on site management these figures are purely a guideline and often an over assessment of works required. Every effort is made to be efficient and through constant monitoring of trail development slight modifications are made to minimise environmental impacts and mitigate unnecessary sediment movement.

Detail of the proposed earthworks programme is outlined in the "Site Sediment and Control Plan For The Remarkables Sugar Bowl Project" enclosed and issued to Base Contracting Ltd who are the contractor engaged to carry out all earthworks associated with the trail development.

- *Reference Additional Information Attachment [2] – Site Sediment Control Plan*

The other guide lines for all works associated with trail development to be followed are the Protocol For The Rehabilitation Of Natural Alpine Environments Following Ski Area Development as established between NZSki Ltd and the Department of Conservation in 2015.

- *Reference Original Application Appendix [E] – Revegetation Protocols*

As discussed in the response to the further information request, Question 5, there is optionally a proposal for DOC consideration which restricts earthworks in the lower Sugar trail to avoid an area of seepage. Reference Additional Information Attachment [6] - Optional Revised Appendix [D] - Proposed CFMA Earthworks Plans RevA.

5. Snowmaking - Installation of **additional snow making facilities** associated with this project include extension to the existing system. Total distance of the extension to the snow making system is 2.3 kilometres involving trenching and burying 250mm – 80mm ductile water pipe, 140mm – 63mm Polyethylene airline pipe, copper communication cable and fibre optic cable, 38 concrete inground pits measuring 1.6m long x 1.2m wide x 1.6m high, 14 fan snow making guns and 18 lances (stick type) snow making guns, and 2 new transformers.

   Connection to the existing system will be made in the Learners area up hill and south of the base lodge and will run across the Learners area north, under Curvey basin lift and buried across the Rastus Burn stream approximately 30m above the Drop Zone at which point it will divide into two lines and follow each of the developed trails to their top termination points. The south branch will connect onto an existing line where Casterway trail meets Crossfall trail (at chainage 760m of the southern trail development).

   All works will be completed on recently modified ground (trail development) and a corridor will be maintained unvegetated to carry out works. Once burial of equipment is complete and as progress moves along the line revegetation protocols will be enacted. The installation of the additional equipment is scheduled to commence the middle of January and will continue until the end of April 2019.

- *Reference Additional Information Attachment [3] – Medical Facility Relocation Plan*
- *Reference Additional Information Attachment [2] – Site Sediment Control Plan*
- *Reference Original Application Appendix [E] – Revegetation Protocols*

6. Decommissioning - The existing **Sugar Bowl chair lift** will be decommissioned during the summer period as it is no longer required. The process of decommissioning is as follows:
   - All chairs are remove from the overhead cable and transported off site
   - Disconnecting all services to the lift, power and communications being the only two items.
   - Location of 3m diameter spools on frames at the base of the lift to warp the haul cable onto as it is removed from the line.
   - The drive station which sits up on rollers on the portal frame at the base of the lift will have the bull wheel removed from underneath the body of the building before the building housing is lifted off the frame and located onto a transporter to be removed from site.
   - All tower cross arms, craning arms and sheave assemblies (the equipment at the top of the tower masts) will be lifted by helicopter off the tower mast and located in car park 2 for disassembly and removed from site.
   - The tower masts are then removed by the same process – helicopter lifting off foundations and located in the car park for further transportation from site.
   - The top return terminal has the bull wheel removed and any over head sheave assembles and cross arms before the mast is cut into pieces (gas cutting) to expose the concrete block within it. That is then broken down with a 20 ton digger powered rock breaker. This process works right down into the concrete ground foundation. All concrete is picked up and trucked off site.
   - The independent tower foundations are then exposed by use of a 20ton digger that also has a rock breaker fitted to it to break out the concrete from the reinforcing steel within it and removed from site. Where possible truck access will be to tower foundation sites to transport broken concrete from site.
   - Towers 1, 2, 4, 10, 11, 12, top and bottom stations can be accessed from existing trails.
   - Department of Conservation will have to provide approval to gain vehicle access to the other sites prior to decommissioning. Towers 6, 7, 8 and 9 can be accessed with purpose designed mats temporarily laid across the existing ground to spread the loading and prevent the tyres/tracks damaging vegetation. Towers 3and 5 on the slope face will require also temporary access tracks to be cut due to the slope gradient, followed by reinstatement as per the revegetation protocols. Any tracks to the site that had to be created for access will be reinstated with the foliage cover that was present prior to development. A digger will relocate the vegetation clumps, before manual labour follows to ensure that plants are properly bedded and roots underground.
   - A communications cable is buried for full length of the line approx. 30cm below the ground surface. This will be the final item to be removed once all other equipment has been removed. Revegetation of the trench will occur at the same time the cable is removed.
   - *Reference Additional Information Attachment [8] – Existing Sugar Chair*
   - *Reference Additional Information Attachment [2] – Site Sediment Control Plan*
   - *Reference original application Appendix [E] – Revegetation Protocols*