

FIXED-ROOF ACCOMMODATION FACILITY AND SERVICES PROPOSAL MOUNT ROBSON PROVINCIAL PARK

A Summary of the Proposal By¹

THE ALPINE CLUB OF CANADA

¹ Note: This is not the entire proposal as submitted by The Alpine Club of Canada under the Request for Proposals issued by the Ministry of Environment on August 10, 2006. Subject to the provisions of the *Freedom of Information and Protection of Privacy Act*, the original proposal will be held in confidence to protect the proprietary interests of the proponent and to maintain the integrity of the public procurement process.

1. Summary of Key Features of the Proposal

The Proponent of this Proposal (The Alpine Club of Canada or the ACC or the Club) has the capability, capacity and conceptual approach necessary to complete the Project in accordance with the RFP dated August 10, 2006 and wishes to pursue this opportunity with BC Parks. The Club places particular significance on this proposal being initiated in its centennial year 2006, and considers the project a Centennial Project. The Club is excited about the prospect of enabling a broader range of visitors to enjoy this jewel of the Rockies. The Club sees the construction of an ecologically sound hut in this area as an opportunity to showcase the latest thinking in environmental stewardship with a made in BC solution.

A. Capability

The Alpine Club of Canada is Canada's national mountaineering organization. It is a substantial organization with a long history of success in its endeavours. It was founded in 1906 with a stated direction of "the promotion of scientific study and the exploration of Canadian alpine and glacial regions". The Club is a volunteer driven organization. The ACC and its qualified and experienced volunteers have developed considerable expertise in providing a wide variety of outdoor and alpine-related activities for those that appreciate the wilderness, while preserving the alpine environment for future generations. Many of these activities are facilitated by the Club's extensive network of backcountry huts. Since the Club's strategic focus is to provide services to its members and others who recreate in the mountains, it has a specific mission to operate backcountry mountain huts. The ACC has been successfully operating and maintaining mountain huts since 1927 when the original Fay Hut was built. Currently the Club operates an extensive network of 28 huts in BC, Alberta, Ontario, Quebec and in New York State's High Peaks area near Lake Placid. The Club operates a front country hostel in Canmore Alberta associated with Hostelling International. It is a founding owner of The Canadian Alpine Centre hostel in Lake Louise Alberta. The Club's experience in operating and maintaining huts following principles of sustainability and with ecological sensitivity is best exemplified by its operation of the Kokanee Glacier Cabin, but these principals guide the operation of all the Club's facilities. The Club has had a presence in British Columbia since 1912 when A. O. Wheeler, one of the Club's founders, founded a Section in Victoria. The Club has a high portion of its members in British Columbia. It currently has 1750 members resident there representing 23% of its total membership. The Club has five Sections in British Columbia. Sections are active in local outings, training and social activities. Two of these Sections own and operate backcountry huts. The Club's website www.alpineclubofcanada.ca gives an excellent picture of the Club and its offerings.

The Club has extensive experience in the design, construction and operation of backcountry huts dating back to 1927. The Club constructed a new backcountry hut (the Fay hut) in Kootenay National Park, British Columbia during the summer of 2005. The Club also constructed a hut at its Canmore front country site in the summer of 2006. The Club has also constructed the Kain hut, the Balfour hut, the Bow hut, the Scott Duncan hut, the Peyto hut and 7 other huts in the backcountry. Club staff and its skilled and qualified volunteers were used to plan, design and construct all these backcountry

accommodation facilities. The Club is at the leading edge of ecologically sound backcountry hut technology and design. It has successfully organized and sponsored seminars, conferences and publications on many backcountry topics. The Club has experience in performing impact assessments and in consulting with all interested bodies. The Club will need to engage third party independent experts in order to conduct some of the Level 2 assessments requested in the RFP. The approval and construction of the Club's new Fay hut was governed by applicable federal regulation and required a full impact assessment to be completed. Club staff and its qualified volunteers were used to conduct these assessments. As a national organization catering to the needs of over 7600 members, and providing over 37000 bed nights of accommodation per year the Club is familiar with and has the competencies to engage in a public dialogue such as a consultative process. The ACC has developed sound working relationships with its landlords in the Parks in which it operates. These partnerships have led the public Parks in all jurisdictions to seek out the Club for advice and assistance as needs arise. Since the Club is a non-profit organization it operates and maintains its huts on a non-profit basis, with the goal of supporting people recreating in alpine regions in a sustainable manner. Our qualified volunteers assist in operating and maintaining the huts. Professional staff members provide much of the routine maintenance activities and augment volunteer work parties.

The Club has extensive experience marketing itself, its activities and its hut system to its members and other backcountry outdoor recreational users dating as far back as 1906. The earliest Club activities were often tent based, but on some occasions were based out of structures operated by others. The Canadian Pacific Railway was one organization that partnered with the Club and from the outset promoted the Club and its services to mountain travellers. Joint marketing efforts with the CPR date from 1906. The ACC has been marketing its own mountain huts since 1927. The Club operates a phone in hut booking system with customer service representatives available up to 10 hours per day. It also operates a web site with all pertinent information on all the facilities it operates. www.alpinehuts.com This website will soon allow on line bookings for all Club operated huts.

B. Capacity

The Club has been a central focus of the mountaineering community in Canada for over 100 years. It has a proud history of success in its endeavours, and has been and continues to be run conservatively on a sound financial basis. It currently has a sound balance sheet and successfully finances its annual operations through the funds it generates from activities, facility rentals and membership fees. The Club has raised capital funds in the past to fund its major capital expenditures from donations and grants. The Bow hut was constructed with donated money and effort from its dedicated qualified volunteers. It would expect to do the same with a hut to be built at Mt. Robson. Based on this established record we believe that the Club will be able to raise the volunteer effort and all the funds necessary to undertake and complete the Project. It will raise the money through a fund raising appeal. It is likely this appeal will result in many people with a love of the mountains giving to the Project. It is also expected that a significant donor or donors will make major contributions. The Club is well aware of sources of significant

potential donations for a suitable hut. As in our past experience it is likely a few donors will provide the bulk of the funds necessary to complete the Project.

C. Concept

The overall concept is that the Club will build and operate fixed roof accommodation designed to increase the range and diversity of visitors experience in Mt. Robson Park. It will be consistent with the Park Plan and all other policies and regulations of BC Parks. The accommodation will provide a variety of opportunities for healthy, nature-based recreation, and ensure ecologically sensitive operations minimizing visitor impacts on the environment. The Club will provide a quality of service that attracts visitors while maintaining the natural and cultural values of the Park. The Club will protect the reputation of the Park, and market it with superior customer service and operations. The Club will consult with all interested parties. The sleeping capacity of the hut will be dependant on many factors including provisions of the Park Plan, use of the hut by BC Parks Rangers, location, hydro electricity availability, and any alterations to the existing camping areas. The hut would consist of a main floor and a full loft area for sleeping. The main floor would feature a vestibule entrance on one of the walls leading to the kitchen area and leading to the stairway to the second floor loft. The kitchen area would consist of stoves, sinks and counter space sufficient for meal preparation of occupants. Next to the kitchen, separated by a counter, would be tables with benches suitable for eating and other activities. Next to the tables would be a sitting area. The loft would contain platform-sleeping arrangements, and a small separated private space for Club staff. Loft arrangements could include sufficient separate space for BC Parks Rangers if BC Parks viewed that as desirable. Separate closed secure space will be used to house all equipment necessary to operate the hut. The sewage system will be underground close to (or under) the hut. A convenient helipad will be required for emergencies. All food, bedding and personal clothing and gear are brought to the shelter and removed by the visitors together with the garbage they generate during their visit. The Club will provide platform or individual beds, heat, lighting, a fully equipped kitchen, tables, seating, and water.

The location of the hut will be determined by many factors. It is the Club's belief that in order to maintain healthy ecosystems and minimize adverse effects on the natural surroundings it is critical to design a hut having on site hydro electricity available. The availability of this power enables the Club to provide ecologically sound solutions to waste, water, heating and lighting systems. By supporting sewage treatment systems hydro electricity would reduce helicopter impact by avoiding the need to fly barrels. By providing hydro electricity for heating it would avoid the use of a helicopter to fly firewood into the hut. It would also provide opportunities for low impact lighting, and to supply fresh water for visitor consumption. In addition the suitability of any site for winter backcountry skiing will need to be assessed. The Club's proposed strategy is focused on an initial search for hydropower capable sites that are suitable for skiing. This proposal contemplates two-season hydro powered operation.

The Club sees the construction of an ecologically sound hut in the Robson area as an opportunity to showcase the latest thinking in environmental stewardship with a made in BC solution.

2. The Proposal

Phase 1 requires the successful proponent to conduct a Level 2 Detailed Screen Impact Assessment focusing on the determinations of the report entitled Lodge Candidate Preliminary Assessment Report dated Mar 15 2005.

The Mar 15 report lists two possible sites to be considered for a new hut. There are two important conceptual factors that will influence site selection in addition to those listed on page 8 of the Lodge Candidate Preliminary Assessment Report dated Mar 15 2005. The first of these is the availability of hydropower, the second winter skiing opportunities.

With respect to the hydropower factor The Lodge Candidate Preliminary Assessment Report dated Mar 15 2005 has suggested two sites, and each has a stream, one reported as “vigorous”. The Report suggests sewage could be dealt with by a barrel system, an in ground system or a hydro system and stating that “this is a very important issue to resolve”. Based on the Club’s experience in operating huts, in operating the Kokanee Glacier hut in particular, and in consultations with experts in high altitude remote hut systems it is agreed that this is a very important issue to resolve. It is the Club’s belief that in order to maintain healthy ecosystems and minimize adverse effects on the natural surroundings it is critical to design a hut having on site hydro electricity available with low marginal operating costs. The availability of this power would enable the Club to provide ecologically sound solutions to waste, water, heating and lighting systems. By supporting sewage treatment system hydro electricity would reduce helicopter impact by avoiding the need to fly barrels. By providing hydro electricity for heating it would avoid the use of a helicopter to fly firewood into the hut. It would also provide opportunities for low impact lighting, and to supply fresh water for visitor consumption.

With respect to the suitability of the site for winter backcountry skiing it may be that given the high pass nature of the terrain the area will be wind swept, and iced with little accumulation of powder. If this were true it would call into question the proposed sites if BC Parks saw winter skiing as a priority. It would also alter the conceptual design of the hut by not having to design it for winter operating conditions.

Thus the Club’s proposed strategy is focused on an initial search for hydropower capable sites that are suitable for skiing. The two sites suggested in the RFP will be considered first. Once a candidate site(s) has been determined the areas of focus for the Level 2 Detailed Screen Impact Assessment referred to on page 8 of the Lodge Candidate Preliminary Assessment Report can be amended if necessary and the Level 2 Assessment commenced.

It is anticipated that the gathering of data on skiing conditions and winter water flows in streams in the area will take at a minimum one winter season, and will require the cooperation of BC Parks in determining site candidates. It will also be prudent to determine the outcomes of the ongoing Park Plan process and its conclusions on skier attractiveness. The Park Plan may also influence factors such as helicopter access.

This proposal contemplates two-season hydro powered operation.

A. Conceptual Design of the Facility and Proposed Services

The overall concept is that the Club will build and operate fixed roof accommodation designed to increase the range and diversity of visitors experience in Mt. Robson Park. It will be consistent with the Park Plan and all other policies and regulations of BC Parks. The accommodation will provide a variety of opportunities for healthy, nature-based recreation, and ensure ecologically sensitive operations minimizing visitor impacts on the environment. The Club will provide a quality of service that attracts visitors while maintaining the natural and cultural values of the Park. The Club will protect the reputation of the Park, and market it with superior customer service and operations. The Lodge Candidate Preliminary Assessment Report dated Mar 15 2005 refers to an Ecolodge but does not define the term specifically. The Club uses the word “hut” to describe their backcountry fixed roof accommodation as a hut is more commonly thought of as providing the level of amenities associated with backcountry accommodation, while the term lodge often calls to mind a higher level of amenities and services (e.g. Mt. Assiniboine Lodge is a full service backcountry fixed roof accommodation but has a significantly different service offering than is proposed here). It is anticipated the hut will accommodate up to 30 visitors staying overnight for various lengths of time, typically three days. The final capacity of the hut will be dependant on many factors including provisions of the Park Plan, use of the hut by BC Parks Rangers, location, hydro electricity availability, and any alterations to the existing camping areas. Conceptually a 30 person hut would be approximately 25’X50’. The hut would consist of a main floor and a full loft area for sleeping. The main floor would feature a vestibule entrance on one of the 25’ walls leading to the kitchen area and leading to the stairway to the second floor loft. The kitchen area would consist of stoves, sinks and counter space sufficient for meal preparation of occupants. Next to the kitchen, separated by a counter, would be tables with benches suitable for eating and other activities. Next to the tables would be a sitting area. The loft would contain platform-sleeping arrangements, and a small separated private space for Club staff. Loft arrangements could include sufficient separate space for BC Parks Rangers if BC Parks viewed that as desirable. Separate closed secure space will be used to house all equipment necessary to operate the hut. The sewage system will be underground close to (or under) the hut. A convenient helipad will be required.

All food, bedding and personal clothing and gear are brought to the shelter and removed by the visitors together with the garbage they generate during their visit. The Club will provide platform or individual beds, heat, lighting, a fully equipped kitchen, tables, seating, and water.

Interdisciplinary Design Team

The hut will be designed by an interdisciplinary team of architects, building scientists and engineers who are knowledgeable and experienced with building in sensitive remote alpine locations. LEED (Leadership in Energy and Environmental Design) professionals will be consulted in the design of Robson Hut.

Site Selection

If a suitable location can be found, the hut will be located to provide hydro generated electricity sufficient to operate the entire key building systems. The hut will be located to minimize ecological (site geology, hydrology, vegetation and wildlife) disturbances. One strategy that will be considered, depending on the specific site chosen, is to raise the hut on columns allowing rainwater runoff, snow, etc. to continue flowing under the building.

Construction Process

Transportation of construction materials to this remote site is a challenge. The construction of the hut on site generates noise, waste and fumes and requires energy. One strategy that will be considered is to pre-manufacture components such as wall panels away from the site and then transports them intact to the site where they can be assembled with fewer tools and less energy.

Building Materials

The project will support the use of local building materials as recommended by LEED, but will of course need to recognize that this is a Park setting. This will reduce environmental impacts resulting from transportation and support local economy. The building will be designed and constructed to ensure that the expected service life exceeds the design service life established in *CSA S478-95 R2001 – Guideline on Durability in Buildings*. This minimizes replacement and maintenance and thus reduces material waste, resource extraction and pollution. Exposed surfaces such as wall cladding, interior finishes will be selected for enhanced durability. The project will support the use of low-emitting building materials and products that do not contribute to air pollution inside buildings. This will enhance occupant health, better indoor air quality and reduce impact on the Earth's atmosphere. The hut will avoid the use of volatile organic compounds such as formaldehyde, benzene, and vinyl chloride that currently is often found in paints, varnishes, stains, carpeting, sealants & caulking, adhesives and composite wood products.

Energy Efficiency

The hut will be designed with enhanced energy efficiency to minimize use of energy. The shape and orientation of the building and a well-insulated, airtight enclosure will help to reduce heat loss. See also “Space and Water Heating” and “Power” below.

Building Enclosure

The building enclosure (walls, roofs, windows, doors, etc.) will be highly insulated throughout and designed to minimize thermal bridging caused by the structure. Insulation within the walls will maintain rigidity and air-tightness. Connections between components such as windows to wall will be well sealed to prevent air leakage. Insulating window shutters will be considered to keep the inside warmer and protect against vandalism, animals and weather. An air-lock entry vestibule will be incorporated in the design to reduce air leakage and provide the interstitial space for storage of boots, coats and gear. A humidistat automatically ventilates the hut to control humidity level.

Space and Water Heating

With a tight highly insulated building enclosure heating requirements can be minimized. While body heat can help with heating while the hut is occupied supplementary heating must be supplied. A suitably sized hydro plant will be able to maintain a comfortable

temperature level. Sleeping quarters would be in a loft on the second level and would be ventilated but unheated. In addition passive solar design concepts will be employed which will provide a wide range of strategies and options to reduce energy consumption and increase occupant comfort. The basic intent of a passive design is to allow daylight, heat and airflow into a building whenever beneficial, store and distribute the heat and cool by natural means.

The roof and wall of the building also functions as a solar collector. With the aid of a low volume fan hot air is extracted from the dark-colored external cladding and brought either directly into the building or stored in a rock bed. The system will emit heat for several hours after sundown due to the energy retained in the thermal mass. Water can also be preheated by passing the solar hot air around a metal storage tank within an insulated container. The solar wall and heat sink will reduce the amount of heat energy required to heat the building during the summer. During the winter the sun is as low as 13 degrees, and Mt Rearguard is at 24 degrees blocking direct sunlight.

Lighting

The use of day lighting (windows and tubular skylights) will be maximized to reduce the need for powered lighting. Tubular skylights, or sun tunnels, have a roof-mounted light collector that directs sunlight into the building. Its small (13" diameter) minimizes heat loss in the winter.

Communication

The hut will be equipped with a powered system that will allow broadband communication through satellite connections. This system will enable remote monitoring and control of all hut systems and will allow communications using email and VOIP.

Rodents

Rodents are a problem, especially the concern for Hantavirus. Placing the building on posts allows the design to incorporate anti-rodent and insect migration into the building. The exterior cladding is also rodent resistant. When the building is not occupied, the stairs can be raised to prevent access from the ground and snow.

Mould

Moulds release mycotoxins that are known to elicit allergenic responses and can be toxigenic. Mould growth is prevalent in alpine huts due to humidity generated by occupants and their activities. Humidity condenses onto cooler surfaces when it reaches its dew point temperature. The highly insulated building enclosure will help to discourage condensation. Airtight enclosures will prevent interstitial condensation, i.e. inside walls. Wood, paper, carpets are potential food sources and thus its use is minimized. Uses of durable rubber flooring (similar to swimming pools and ice arenas) are used for its ability to protect the sub floor from heavy boot traffic common in Alpine huts. Ventilation will be required in both levels of the hut.

B. Utility Infrastructure

Power

The concept of an eco hut as proposed in the RFP is best achieved with an abundant low cost maintenance free supply of energy. Hydroelectric power generated near the hut is clearly the most environmentally unobtrusive solution to provide energy to the hut, and is the Club's preferred solution to meet all the huts energy needs and to reduce operating and maintenance costs. Consequently if the concept of the eco hut proposed in the RFP is to be respected the hut will need to be sited to use hydro electricity in order to reduce the environmental impacts, particularly those associated with fossil fuel energy use and associated transportation use.

The Club will need to work with BC Parks to determine the appropriateness of the two sites mentioned in the RFP. Location will depend on minimum winter water flows. No data has been presented by BC Parks, and none is believed to exist. Time will need to be taken to gather water flow and other environmental information from a candidate sites before a final decision can be made. If suitable hydropower sites were not to be available other renewable options will be assessed including solar and wind. Solar or wind power will not provide sufficient energy to fully operate the hut. In this case other sources of energy for the project will need to include propane, wood, augmented by renewable energy (solar, wind, smaller micro-hydro, or thermoelectric). In this case wood will be the primary source of heat for the building. Propane will be the primary source of energy for cooking. If suitable hydroelectric based sites are not available then helicopters will need to be used to service the hut with wood and propane. Barrels would be removed on the return flights.

Drinking water

It is anticipated drinking water will be available from the adjacent stream.

Grey Water

Grey water is washing water containing food particles, grease and cleaning chemicals. Grey water can attract wildlife if it is not disposed of carefully. A grey water filtration system to remove the particles and grease will be used for this project. The remaining clarified grey water is dispersed on site. Grey water system will include the following design criteria:

- Operation and maintenance tasks that users are required to perform should be clear and simple, even for first time users.
- Solid waste particles should be filtered from grey water prior to disposal.
- Grey water should be disposed in a manner that does not attract wildlife.
- Grey water disposal should not adversely affect adjacent water bodies.
- Grey water treatment and disposal system will require minimal or no energy.
- System should be capable of functioning properly in freezing conditions.

Black Water

Black water consists of faecal waste and anything that is allowed to mix with it including urine, toilet paper, sanitary products and any garbage or grey water that is thrown in the

toilet. Most Club huts remove black water in barrels by helicopter and take it to an appropriate municipal waste site for treatment.

Urine separation will be considered for this project as it substantially reduces the volume of material to be treated. The practice of on-site urine disposal is acceptable to Environment Canada provided the waste liquid is free of faecal coli form bacteria, the soil mantle conditions (including slope etc.) being such that neither surface water nor ground water quality is adversely affected and the soil absorption is adequate to prevent odour and other nuisance conditions from developing.

A powered sewage treatment system will be considered for black water management. Modular unit systems are available that decompose human waste in a conventional manner, but are designed to be compact and self contained. In a typical installation (see www.microseptec.com) wastewater influent is gravity fed into the first compartment (Primary Clarifier). In the first chamber, settling of the sludge and solids occurs. The primary clarified wastewater overflows into the second compartment (First Aeration Compartment). In the second compartment the wastewater is aerated using a high-efficiency low-pressure air compressor and a membrane air diffuser assembly. The diffuser assembly is custom designed to ensure maximum oxygen transfer and optimum mixing of dissolved substrates and oxygen. Furthermore, the mixing ensures that the solids remain suspended within the reactor and that the biomedica does not clog. The aeration promotes growth of aerobic microorganisms, which convert and remove biodegradable organic matter. (The organics removed by the aerobic process are the constituents that are measured in the CBOD₅ test.)

The treated wastewater, which is now low in carbon but high in ammonia, overflows into the third compartment (Second Aeration Compartment). This chamber is aerated in the same way as the First Aerated Compartment. The oxygen rich atmosphere in this chamber promotes the growth of nitrifying microorganisms (Nitrosomonas and Nitrobacter), since it is low in carbon and high in ammonia. The nitrifying microorganisms convert ammonia to nitrates utilizing the oxygen in the wastewater.

To optimize the contact time and the mean cell residence time, the EnviroServer utilizes a biomedica in the aerated sections. This plastic media is used to supply a support structure for the establishment of a resident biofilm and is specifically developed for optimized biological growth without clogging. The main advantage is that the biomass is attached to the biomedica and will not get flushed out at high input flow rates. This will favor the nitrification process, which is significantly slower than the organic removal. The biomedica also work as an agitator, which together with the airflow creates optimum mixing of bacteria and wastewater.

The two-stage aerobically treated wastewater, which is now high in nitrates but low in carbon (low in CBOD₅) underflows into the fourth compartment (Secondary Clarifier), where final clarification and settling of the suspended solids take place.

To promote denitrification, and to remove the accumulated biomass, the wastewater is recirculated by a recirculation pump from the fourth compartment back to the first anaerobic compartment (Primary Clarifier). The recirculation pump is operated by an

airlift action, and does not have any moving parts. A volume equal to eight percent of the systems rated capacity is recirculated each hour. Denitrification is facilitated by this recirculation because the bacteria in the first anaerobic compartment use the oxygen from the nitrate molecule in their metabolic process, with nitrogen being released as gas in the reaction. Without recirculation, the small amount of carbon available in the fourth compartment would limit the denitrification. The system provides increased residence time in the Primary Clarifier for improved denitrification, which is important in colder climates.

Furthermore, the recirculation of the biomass prevents accumulation of the biomass in the final Clarifier, eliminating the need for periodic removal. Removing the accumulated biomass also helps to ensure optimum clarifier performance resulting in an effluent with low suspended solids. The transfer of the biomass to the first compartment ensures a large vital population of microorganisms for the organic and nitrogen removal processes.

The recirculation process also benefits the system in times of low loading such as vacation periods. When the water is recirculated, it carries nutrients from the first compartment into the second compartment. Thus the available nutrients are utilized to sustain the population as long as possible. In normal operation this keeps sludge build up to a minimum by helping to break up and dissolve the solids, making the nutrients available for the microorganisms.

The clarified water leaves the treatment system through an effluent filter into the final Effluent Storage compartment. The effluent filter protects the effluent storage and finally the dispersal field from solids carry-over during upset conditions. It is designed to remove all particles larger than 1/16". The effluent is now ready for surface or sub-surface discharge.

The Primary Clarifier is sized to hold sludge for one to three years depending on the usage of the system, i.e. needs to be pumped every one to three years. The first baffle is enforced to be able to withstand the hydraulic pressure of the first compartment being empty and the second full.

The system is equipped with an alarm & control panel. The panel has local audible and visual alarms for detecting high water level, air compressor malfunction, and other failures of electrical and mechanical components critical to the treatment processes. In addition, it can control the effluent pump and one set of solenoid valves for an automatic back-flush system, if applicable. The panel is offered with an optional custom telemetry board. The telemetry is capable of delivering alarm signals remotely.

C. Operational and Recreation Services and Activities

Proposed Length of Season

The hut will operate through the summer season. As part of the site selection process the Club will partner with BC Parks to conduct surveys of snow conditions and adjacent slopes in order to determine opportunities for backcountry skiing in the immediate area. The availability of suitable skiing areas will be, together with the availability of

hydropower, key determinates in final hut location. It is anticipated the hut will not be popular in the shoulder seasons.

Proposed Type and Range of Visitor Services

Visitors are drawn to the upper Robson Pass area by its natural beauty and remote wilderness setting. It is expected the addition of a hut to the area will attract a new type of visitor, i.e. those who would find the current offering of overnight camping accommodation unattractive. It is expected that the current offering of visitor services in the upper Robson Pass area will continue. The addition of a hut will allow hut-based groups to explore the mountains in the area summer and winter. The Club will offer as an additional service hut based guided trips in the area during both the summer and winter seasons.

D. Construction Schedule

The construction of the hut will take place during the summer months. Helicopters will be used to carry all materials and personnel for the hut construction. Construction will begin as weather permits in the early summer. Construction will be completed in one summer season. Construction can only commence once the site has been selected, all appropriate assessments and public hearings contemplated in the Level 2 Detailed Screen Impact Assessment have been completed as required and an Interim Park Use Permit is issued, a detailed Project Design and possible Level 3 Full Impact Assessment reports prepared and accepted by the Minister, and a Park Use Permit negotiated and approved by the Minister. Given that there is little recorded information on the area, and given the nature of the studies and approvals required throughout the process, it will take more than one season to complete all required studies leading to the Interim Park Use Permit.

E. Transportation and Access

Helicopters will be used to carry all the heavy materials and personnel for the hut construction. Visitors will either hike in on the existing trail or use a helicopter service.

F. Impacts on other Park Users

The impacts of hut visitors on other park users can only be determined once final hut site has been determined. This issue will be addressed in the Level 2 Detailed Screen Impact Assessment for the candidate site(s).

G. Maps and Plans

Location Map, Site and Facility Design Plans

As indicated in this proposal, further investigative studies are required to determine a suitable building site. Once these investigations are complete, a location map, site and facility design plans will be available.