TRAILS

master plan

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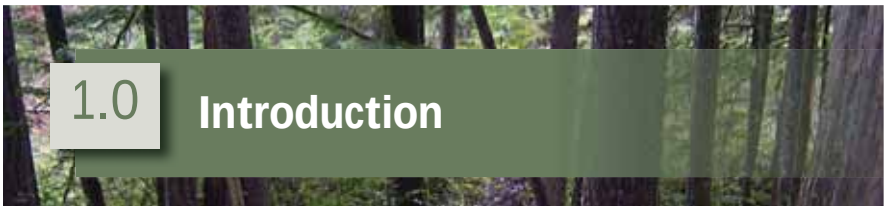
This document does not imply or consent that the trails discussed herein are established, legal, or authorised unless explicitly stated. All trails are presented in the greater context of a network for discussion purposes. This includes all attachments and appendices which are consolidated for convenience only. Trails fall within different governmental jurisdictions. Ownership may be private or public, and users should ensure that they are not in trespass while using, building or maintaining trails within the District of Squamish. To verify accuracy and currency of this information please contact the District of Squamish.



1.0 Introduction

The District of Squamish Trails Master Plan provides a long-term strategy for providing a community-wide trail network. The Plan provides background information and goals followed by an inventory and analysis of the trail system. Recommendations are presented that address existing and desired policy direction, trail development criteria, trail construction standards, and risk management. An implementation plan identifies recommendation priorities and resourcing.

Section 1 Introduction frames the context and direction of the Trails Master Plan by identifying the:

- Purpose of the Trails Master Plan**;**
- Benefits of trails**;**
- The process in which the Trails Master Plan was developed**;**
- Related District trails policy, and
- Goals that have been identified for the trail system.

PURPOSE

The District of Squamish recognizes the importance of trails to the community. The purpose of the Trails Master Plan is to provide a comprehensive strategy for the ongoing development of our community-wide trail network. As envisioned in the District's Official Community Plan – Parks and Recreation chapter, Squamish's trail system includes recreational and commuter trails that link areas within the community such as neighbourhoods, parks, schools, commercial areas, and open spaces, as well as adjacent communities.
The plan principles outlined below illustrate the fundamental directions for the Squamish Trails Master Plan:

- Acknowledge the already extensive recreational trail system in Squamish;
- Work collaboratively with landowners and trail users;
- Develop progressive policies for Council and the Approving Officer to secure the provision of trails in new developments during the development approval process;
- Identify best ways to secure land tenure for all trails in the Trail Master Plan;
- Establish a trail classification system;
- Develop a system of signage and gateway trail head areas throughout the community, with a hierarchy of amenities such as trailhead information kiosks, markers, garbage containers, doggie bag dispensers, parking, mapping, education and marketing;
- Recognize ways of managing trail uses (including walking, hiking, cycling, inline skating, horseback riding and motorized use, trials, dirt bike and ATVs) in appropriate designated areas;
- Identify trail development criteria that matches trail standards to intended users providing a range of various trail experiences, considering trails for transportation, recreation and tourism;
- Identify how to optimize existing trails and develop/ maintain links to provide a continuous network;
- Include barrier free access requirements for some trails in trail development criteria;
- Identify sustainable trail design and building practices;
- Reduce liability by providing a framework for maintenance and risk management, and
- Provide a planning and budgeting framework for trail upgrades, construction and maintenance.

The adoption of the Trails Master Plan and the commitment to its implementation and refinement provides a significant opportunity to:

- Improve the quality of life for Squamish residents and visitors;
- Broaden and strengthen the economic base in the District and the Sea to Sky Corridor through infrastructure improvements and increased tourist spending, and
- Protect the natural environment by discouraging creation of unauthorized trails that may not be built to best practices, resulting in erosion and disturbance to habitat.

Important considerations at the master planning stage are the nature and scope of trail development, the number of trail types or classes, and developing programs that address issues such as signage and maintenance.

VISION STATEMENT

"Squamish will have a comprehensive network of sustainable multi-use trails that will be valued as one of Squamish's primary assets. Accessible urban/ suburban trails will link downtown, all neighbourhoods, community facilities, shops, blueways and trailheads, creating a viable transportation alternative to the vehicle. The spectacular natural setting of Squamish's recreational trails will foster community health and a high quality of life. Trail development will be a collaborative process of partnerships and agreements between the community, private landowners, the Province, and the District of Squamish."

TRAILS BENEFITS

The benefits of trails relate directly to the District of Squamish Official Community Plan's Vision Statement, with social, economic and environmental benefits.

> "We are a spectacular seaside mountain community where people come to live, learn, work and play in harmony.
>
> We are multicultural, compassionate, vibrant and diverse.
>
> We are leaders in fostering social integrity, economic development, and environmental sustainability."
>
> District of Squamish Vision Statement (Official Community Plan, 2009)

Social Integrity

Health

Providing and maintaining a safe and efficient network of trails and alternative transportation routes reduces our reliance on traditional methods of transportation (automobiles) and increases our physical activity levels, lower our risk of obesity, anxiety and stress. Simply put, through even moderate levels of activity, we can reduce our visits to the doctor and reliance on the health care system all while enjoying the outdoors and connecting with our fellow citizens.
Based on data collected through the 2004/05 Canadian Community Health Survey*:

- 49% of Canadians (aged 20 and older) are at least moderately active during their leisure time. This amount of physical activity could be achieved through walking as little as half an hour a day;
- Roughly 25% of adults are classified as moderately active;

*Canadian Fitness and Lifestyle Research Institute http://www.cflri.ca/eng/levels/adult_levels.php

- 24% are classified as active;
- 51% of Canadians are inactive;
- Women are 52% inactive, 48% moderately active or more, and
- Men are 48% inactive, 52% moderately active or more.

The startling statistic related to the above information is that 51% of Canadians are inactive. However the reason many residents have chosen to live in Squamish is for the lifestyle and recreational opportunities that are available here. This is shown statistically as well when one looks at our local health region North Shore/Coast Garibaldi Health Service Delivery Area:

- 63.9% of adults are physically active compared to the national average of 49%;
- Squamish ranks 4th in the province for overall physical activity
- Our youth population in Squamish is ranked number one provincially for being physically active, and
- In a 2007 Ipsos Reid survey commissioned by the District of Squamish, 94% of respondents stated that access to paths, trails and green spaces was considered very important to their quality of life. Activities cited as particularly important include walking, cycling, running and hiking.

By actively engaging our community and advocating for ongoing investment in our trails, we save ourselves on health expenditures in the long run, create a lasting amenity in the community and foster connections that help build an active and engaged community.

Sense of Place and Community Heritage

The trail system emerging in Squamish is an amenity of significant social and cultural importance. Trails help define the sense of place by providing access to Squamish's unique places and a range of outdoor experiences that connect both residents and visitors to our unique landscape. Because of their linear design, the trails serve as a meeting places, fostering community involvement and corresponding pride. They provide an opportunity to interact with people of varying backgrounds and interests.
Many of our trails are of significant heritage interest. They often follow old travel or transportation routes or can remind us of past activities.

In our narrow coastal valley and challenging mountain landscape, it should not be surprising that many road and recreational trail routes (including the "water trail") of today have an earlier – even ancient – history of use. For example:

- Sections of our "Corridor Trail", as well as the suggested water trail following the former Squamish River East Branch (Wilson Crescent and Carson Place sloughs), were part of a coast-inland route long used by aboriginal peoples and later by 19th century explorers, surveyors and settlers;

- The "Discovery Trail" was earlier a wagon road to the homestead of the first European settler family to arrive in the valley – the Robertsons, in 1888;
- Particularly on the eastern slope of the valley, many trails were originally established for resource extraction purposes – trapping, mining, railway and truck logging, and
- Several well used trails in the lower estuary follow dyking constructed in the 1890s for farming purposes.

Much of our present trail system is the legacy of past transportation use and other activities/uses and this heritage offers opportunities for interpretative programming and enhanced recreational experiences for trail users.

Economic Development

There is evidence that trails benefit both adjacent landowners and the local business community. Proximity to trails can increase property values that in turn results in increased property taxes. One need look no further than the real estate marketing efforts today in Squamish; almost all speak to the wealth of outdoor recreational activities in Squamish and proximity to trails is often mentioned as a key selling feature of these various properties. Trail related activities also encourage spending at recreation-oriented businesses and secondarily in businesses such as restaurants, cafes, and accommodation providers. New business opportunities are created to satisfy the demands made by a robust trail network. Examples include bike and in-line skate rental shops that include guiding and tour services. Finally, a solid trail network can contribute to the image of a healthy, active and vibrant community – a place where people want to live or visit.

Properly managed, maintained and marketed trail networks can be a major tourist attraction and a key part of a destination marketing strategy. These can be multi-use trail networks (i.e. Sea to Sky Trail), or single purpose networks (i.e. Whistler Bike Park) or even individual trails (i.e. Seven Summits in Rossland or the West Coast Trail on Vancouver Island). What is common is that tourists seek out and travel to areas that create, maintain and promote their trails. This generates spending on lodging, food and other recreation services.

The high-tech, recreational technology ('rec-tec') and knowledge-based industries identify a town or city's lifestyle amenities as key determining factors when selecting a geographical location for their company. They want to locate their business where their product or industry is relevant (i.e.: climbing gear). The community of Squamish and the numerous lifestyle amenities that it offers provides an excellent opportunity to influence these businesses to locate here. The skilled workforce along with geographic location and expertise combined with the increased wages would provide economic benefits to the community if not to the entire Sea-to-Sky Corridor. This supports the District's goal of broadening the employment base and ensuring a vibrant and sustainable community.

Tourism

The trails system is integral to defining the culture of Squamish, not only for its residents, but for visitors as well. Visitors are drawn not only because of the experiences they have on our trails, but because of the cultural importance of the trail network in defining Squamish as the "Outdoor Recreation Capital of Canada".

Trails are a core component of visitor (hiking and mountain biking) experiences and are a travel motivator for many visitors from Canada and the US. According to research conducted by Tourism BC in April 2009, 25 - 30% of the 4.5 million travelers from Canada and the US who participated in hiking were motivated to select their travel destination specifically for hiking. Of the almost 2 million travelers from Canada and the US who participated in cycling, over 30% were motivated to select their travel destination specifically for cycling.

To date the most visited activity pages listed on the tourismsquamish.com website are:

- Hiking;
- Trails;
- Running, and
- Biking.

Hiking is the top activity visited on the website and 50% of the visitors who browse the activity section click on the trails page.

The economic health benefits of active transportation alone in Canada amount to $92 million (Canadian) per year. At Victoria's mode share of 15.2% this would be $179 million.[1] While these statistics are reflective of the national average, Squamish stands to benefit a great deal from the modal shift to more active forms of transportation that trails can help to facilitate.

Good quality trails and trail networks attract high profile events that bring visitors and participants. Local examples of this include the Test of Metal (TOM), STORMY, Loop the Lakes Trail Run, the Squamish Dirt Bike Association Cat Scratch Fever, Hare Scrambles and Family Fun Poker Runs.

The trail systems of the North Shore, Squamish and Whistler, are estimated to have collectively generated $10.3 million in spending from mountain bike riders who live outside of the host community over the period of June 4 through September 17, 2006. Mountain biking resulted in a total expenditure of nearly $1.7 million to local businesses in Squamish** of which one third arose as result of hosting the Test of Metal Race. These expenditures resulted in an estimated total of $582,000 in wages and salaries being supported in the community through mountain biking. A total of $1.3 million was spent in Squamish by non-TOM out of town riders over the survey period, resulting in new economic activity (GDP) of just over $1.0 million in the province as a whole, supporting $424,000 in wages and salaries in Squamish.

Cost Effectiveness

The cost effectiveness of trails relative to other recreational amenities supported by the District has long been debated. Definitive data in the case of Squamish has not been available until this year. For example, the District of Squamish has just recently collected the number of trail users for the Half Nelson trail. A trail counter was installed in the spring of this year (2010) to record the number of riders and was removed this fall. For this time period of 196 days there was a total of 12,103 riders or an average of 61 riders per day. The amount of attention and media exposure that the District of Squamish has had from this trail has been substantial. One article in the November 2010 "*Mountain Bike Magazine*" featured Half Nelson in a two page photo spread with a brief description. *"Mountain Bike Magazine"* has a circulation of 155,000 with the average age of 46 and annual income of $110,928 (US $). If the District of Squamish wanted to place the same photo in the magazine it would have cost $31,000 (US$). The Half Nelson Trail was built with a Government grant of $60,000 and the support of the community user groups. The District of Squamish does not presently have data on the numbers and types of users of the other trails within the District.

Active transportation (anything involving moving by way of physical activity) provides a total economic benefit of $3.6 billion per year in Canada. Walking (6.6%) and bicycling (1.2%) represent a total mode share of 7.8%). If the mode share of walking and bicycling rose to that of Victoria (the highest in Canada at 15.2%) the economic benefit would increase to $7 billion per year.[2]

1 The Business Case for Active Transportation: The Economic Benefits of Walking and Cycling," Richard Campbell and Margaret Wittgens for Better Environmentally Sound Transportation, 2004.

[2] The Business Case for Active Transportation: The Economic Benefits of Walking and Cycling," Richard Campbell and Margaret Wittgens for Better Environmentally Sound Transportation, 2004.

** Defined as non-Squamish residents interviewed after the race, as well as non-residents who indicated that they were not in Squamish to train for the TOM if they were surveyed prior to the race.
Mountain bike Tourism Study by MTB Association, 2006

Economic benefits of active transportation occur from:

- Reduction in road construction, repair and maintenance costs;
- Reduction in costs due to greenhouse gas emissions;
- Reduction in health care costs due to increased physical activity and reduced respiratory and cardiac disease;
- Reduction in fuel, repair and maintenance costs to users;
- Reduction of costs due to increased road safety (savings on policing, emergency services);
- Reduction in external costs of traffic congestion (idling, increased gas consumption);
- Reduction in parking costs (provisions and maintenance);
- Reduction of costs of air pollution;
- Reduction of costs of water pollution;
- Positive impact on bicycle tourism;
- Positive impact on bicycle sales and manufacturing;
- Increase of property value along trails; and,
- Increase of productivity and a reduction of sick days and injuries at the workplace.

To be fair, consistent and ultimately successful, the trail network must be viewed in the same light as any other recreational amenity including arenas, pools, baseball and soccer fields. These other facilities receive taxpayer investment and generate various levels of direct and indirect revenues. As noted earlier in this document, in just three months, one race (Test of Metal) generates $1.7 million to local businesses. The fact that these are indirect revenues does not diminish their importance. What is clear is that this number grows substantially as other events, that use the trails over the course of an entire year, come to our community. For this reason alone the community needs to protect, preserve, promote, maintain and invest in this amenity as it does with so many others.

Environmental Sustainability

Trail development is an important part of environmental sustainability. When built to best standards and practices, trails can provide many benefits to the environment.

Trails lead users through varied landscapes with diverse plant and animal habitats, and will often cross lands which are environmentally sensitive. Trails protect habitat by providing corridors for people and wildlife, and in doing so, keep trail users on pathways built to withstand traffic and minimize erosion, and away from sensitive ecosystem features. Trails can also provide environmental buffers such as boardwalks and bridges. Some trails in Squamish provide access to remote wilderness areas, which is a major appeal of tourism in the Squamish area. The preservation of these wilderness areas is thus beneficial to the Squamish tourism industry.

Trails and greenways also help improve air and water quality by providing safe through-ways for a variety of transportation options such as bicycling and walking, the two major non-fuel-consuming, non-polluting forms of transportation. Riparian greenways and trails also play a functional role in storm water management and water quality by filtering pollution from road runoff and serving as natural floodplains.

Trails and greenways have been described as "hands-on environmental classrooms" and as such are invaluable to environmental education. Trail guides and interpretive signage can enhance the educational value trails provide by identifying special features of our natural and cultural heritage.

Trails provide meaningful and satisfying outdoor experiences for users of all ages. These experiences reaffirm a sense of connection with the natural environment and provide opportunities for an appreciation of our natural heritage.

PROCESS

The Squamish Trails Master Plan was developed as a District-led initiative with input and feedback from the Trails Master Plan Stakeholder Committee and the public. Process included:

- Background research – other documents, existing policy and existing plans;
- Input and feedback from Trails Master Plan stakeholder committee, and
- Input and feedback from Public Consultation.

Background Research

The Trails Master Plan was developed within the context of existing policy documents and trail development work. Staff reviewed the following documents and incorporated relevant information into the Trails Master Plan:

- OCP and OCP sub-area plans – these are summarized on the following page under "Policy Framework";
- Subdivision and Development Control bylaw;
- Pemberton and Area C Trails Service Master Plan (Sept. 2009);
- Existing trails maps;
- Sea to Sky Corridor Recreational Trail Management Plan (Sept. 2008);
- Sea to Sky Corridor Recreational Trail Strategy (April 2008) from the Provincial Government;
- Whistler Trail Standards: Environmental and Technical Trail Features;
- Trail Solutions book: IMBA's Guide to Building Sweet Singletrack, and
- Draft Trail Strategy Provincial Government (Nov. 2008).

As part of the background research, Staff assisted with an inventory of existing trails in the fall of 2009 for the Master Plan process. This resulted in the creation of a new Squamish Recreational Trail Map produced by Tourism Squamish with input from a variety of sources such as Terra Pro GPS, Cascade Environmental, and Taiko Publishing.

In addition to a review of documents, the committee consulted with their respective representatives and other experts were brought in as needed to consult with the plan.

The District's solicitor was contacted and provided input to the Risk Management and Liability and recommendations sections.

Stakeholder Committee

The District of Squamish Trails Master Plan Stakeholder Committee was formed by inviting representatives from a broad base of community user groups, landowners, the Squamish First Nation and government agencies to participate in creating the document for the community.

Several meetings were held with the stakeholder committee between August and November 2009. The meetings involved brainstorming sessions, review of relevant literature, mapping exercises, trail route options, multiple trail uses, interpretive features and implementation priorities.

In addition to staff's knowledge of existing trail locations, input from the Trails Master Plan Stakeholder Committee were integrated into the plan. Committee members provided invaluable input throughout the Master Plan development process, including: mapping sources, the public consultation process and results, and feedback on Draft Master Plan goals, trails inventory, liability and land tenure issues, and recommendations. The Committee ensured that the Plan that was drafted followed the original plan framework and principles that were envisioned.

A list of the Trails Master Plan Stakeholder Committee members is attached to this report as Appendix A.

Public Consultation

Public consultation consisted of consultation with local environmental groups, private land owners, the general public/ residents, and other governmental bodies.

A Public Open House was held on December 9th, 2010 to review and discuss the Draft Trails Master Plan and trail network information with the community. Thirty people attended. Feedback was focused on the Trail Standards, formatting, maintainance and user groups. A staff presentation was given and the trails mapping was displayed and discussed at the Public Open House.

RELATED TRAILS POLICY

Trails in the District of Squamish should fit within and contribute to the overall context of the trail network as well as broader District planning goals. When planning the trail system, consideration of existing and potential land uses will reduce conflicts between uses and ensure the best use of limited trail development and maintenance resources.

Squamish's trail system is addressed in existing policy documents, including the:

- Squamish Official Community Plan (OCP); (Local)
- OCP Sub-Area Plans; (Local)
- Sea to Sky Corridor Recreation Strategy; (Regional)
- Corridor Recreational Trail Management Plan; (Regional)
- Trails Strategy for British Columbia (Provincial)

Official Community Plan

The Official Community Plan (OCP) includes an inventory of existing trails. Chapter 15 – Parks and Recreation - outlines the community's guiding principles for Parks and Recreation including Trails. These include community liveability, community leadership and the cultivation of partnerships. The OCP strives to maintain connectivity between community nodes and recreational destinations.

With respect to trails, the OCP identifies trail network recommendations including:

- Provide a Corridor Trail network connecting one end of Squamish with the other – preferably on each side of Highway 99;
- Connect the designated neighbourhood centres with one another and with Downtown Squamish;
- Identify on-street commuter cycling routes and connections;
- Connect with commercial centres, schools and other significant locations;
- Provide waterfront access and riverfront access, including access along the dyke system;
- Integrate with the Brennan Park Recreation Centre;
- Integrate with the Smoke Bluffs Municipal Park;
- Integrate with the proposed Sea to Sky Trail/Trans Canada Trail;
- Provide Access to backcountry recreation opportunities, and
- Provide safe routes to schools.

The OCP includes a trail system map (see Appendix D) to guide the creation and preservation of trails as opportunities arise, while accommodating a variety of user groups and trail experiences.

Section 15-20 through 15-25 of the Official Community Plan discusses the importance of access to waterways within Squamish to provide low environmental impact, water-based recreational opportunities.

A number of directions are included to achieve this. These include:

- Incorporating lands along water courses into the parks and greenways to protect the natural environment and provide public access where appropriate;
- Securing public access to key aquatic locations for recreational purposes, and
- Promoting marine based recreation, including new and/ or expanded facilities where appropriate.

OCP Sub-Area Plans

Chapter 11 of the OCP requires that Sub-Area Plans be prepared for specified areas within the District of Squamish. In addition to the minimum submission requirements for a Sub-Area Plan, a formal Trail Plan must also be included as part of the Sub-Area Plan submission. The Trail Plan must include a trail inventory with information such as trail type, trail status, land tenure, trail length, approximate location, existing and potential network linkages (for both trail and commuter networks).

Sea to Sky Corridor Recreational Trail Strategy

The following is a synopsis of this plan found on page ii in the Executive Summary of the Sea to Sky Corridor Recreation Trail Strategy that explains how this plan fits within our Trails Master Plan:

> "The dramatic increase in demand for challenging trails by mountain bikers, dirt bikers, trials riders and other users brings liability and risk management concerns to the forefront. Responsible trail authorities are increasingly faced with balancing the demand for challenging trail experiences with the need to minimize exposure to liability. This document provides strategic direction for the realization of this vision through a corridor-wide coordinated approach in which regions, municipalities and stakeholders all benefit from each others experiences and challenges. This document outlines strategic directions for the realization of long-term goals for an authorized, sustainable and environmentally sound trail network... It also offers management direction to support trail managers and stakeholders in addressing the most critical and immediate challenges of the network….. Draft January 2007 prepared by Cascade Environmental Resource Group ltd."

Corridor Recreational Trail Management Plan

The following is a summary of the Corridor Recreational Trail Management Plan taken from the Executive Summary to highlight the background and other regional plans and collaboration that have assisted in the development of the Trails Master Plan.

> "The Corridor Recreational Trail Management Plan (Management Plan) is a partnership between the Ministry of Tourism, Culture and the Arts (formerly the Ministry of Tourism, Sport and the Arts) and the Squamish-Lillooet Regional District (SLRD) that balances trails situated on Crown land with provincial interests such as new development or traditional resource activities. More specifically, the Management Plan is intended to implement the directions contained within the Sea to Sky Corridor Recreation Trail Strategy (Trail Strategy) and the SLRD/Ministry of Tourism, Culture and the Arts (MTCA) Partnership Agreement. The Management Plan primarily focuses on the legal authorization, establishment, management and maintenance of non-winter trails situated on Crown land within the Sea to Sky region. Prepared by Catalyst Community and Resort Planning September 2008."

Trails Strategy for British Columbia

The Trails Strategy is still in Draft form at the writing of the Trails Master Plan however it also provided a framework and understanding on what the Province is trying to achieve

> "British Columbia has undertaken a multi-phase approach to developing a trails strategy for the province. The first phase involved extensive research into successful models from other jurisdictions as well as analysis of the results of a widely-distributed survey of trail users and managers…This Trails Strategy is intended to serve as the hub of a wheel connecting the broad range of organizations and initiatives that have historically worked independently, drawing them together in a shared vision to effectively and consistently develop and manage a world class B.C. trails network. Draft Trails Strategy Province of BC."

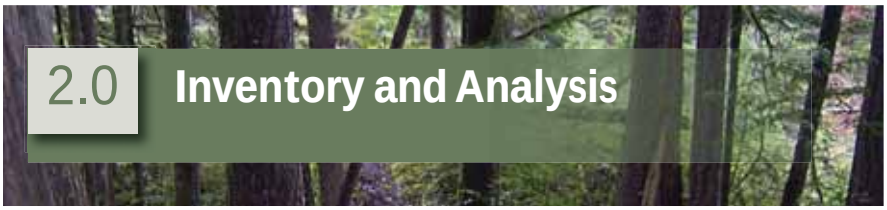
The policy documents outlined above provide overarching goals and a system of processes to ensure that trails in the District are considered a priority in development and policy projects. The Trails Master Plan's analysis and recommendations are set in the context of the District's existing policy, but at a greater level of detail.

GOALS

The goals for the Squamish trail system as developed by District of Squamish staff and stakeholder committee are:

- Provide recreational opportunities in a spectacular natural setting;
- Encourage physical activity and provide access to the wide variety of outdoor recreational opportunities throughout the community;
- Establish a mutually acceptable understanding of trail land use on private lands, between private landowners, the District and community stakeholder groups;
- Develop, maintain, and enhance an integrated and connected trail network for all users, accounting for the impact of different user groups;
- Connect major activity nodes (ie: trail heads, destinations of interest, unique trail features) and trip generators (ie: neighbourhoods, parks, schools, commercial areas, and open spaces);
- Identify and promote trail connections to neighbouring communities via the Sea to Sky / Trans Canada Trail;
- Provide oceanfront access where possible;
- Provide a trail network that is both a recreational and an alternative transportation amenity;
- Ensure public safety;
- Foster tourism and economic development that capitalizes on the trails and related infrastructure within the District and the Sea to Sky Corridor;
- Enhance the trail experience for both residents and visitors alike through trail improvements;
- Promote community support for a trail network that is resilient and sustainable;
- Encourage community partnerships for building and maintaining trails;
- Strive (where possible) to meet current accessibility standards related to width, surfacing and grade of trails, and
- Accommodate the full spectrum of users on trails and minimize user conflicts.

The Trails Master Plan provides guidance for achieving these goals by identifying existing and desired policy direction, a proposed trail classification system, trail construction standards, risk management tools, trail system recommendations and an implementation plan.



2.0 Inventory and Analysis

Trail development is a collaboration between private landowners, government organizations, the community and the Municipality. Prior to developing recommendations, a sound understanding of the existing trails system inventory and trail development processes is required.

Inventory and Analysis consists of:

1. Land Tenure;
2. Trail Users;
3. Trails Inventory;
4. Liability and Risk Management;
5. Trail Network Management, and
6. Trails Maintenance.

Inventory and analysis key findings and an analysis map completes Section 2.

LAND TENURE

An understanding of land tenure issues in Squamish is an important starting point prior to reviewing the trail users and existing inventory. The vast majority of the existing trails in Squamish are located on Crown Land and are managed by the Province; however, some existing trails are located on privately owned lands. Only a very small percentage of trails are located on District owned lands. Due to the limited number of trails on District owned lands (parks and greenways), the District must work with other landowners in a collaborative management process.

The land tenure of trails in Squamish can be summarized as follows:

1. Crown or publicly owned lands that already have a trail system in place with some form of recreation use agreement in place or pending. Included in this category are: Bob McIntosh Trail, The Powerhouse Plunge, Ray Peters Trail, The Ring Creek Rip, Rob's and Cliff's Corners, and Wonderland. These trails are established and authorized under Section 56, 57 and/or 58 of the Forest and Range Practices Act administered by the Ministry of Tourism Culture and the Arts. Also included are recreation areas established under the same Act (i.e. Cat Lake).

2. Informal trails on Crown Land with no use agreements in place. Many of the trails are old resource roads (i.e. mining or forestry). Some of these trails do appear on the trail inventory due to their frequent use and potential improvement. A commitment to maintain these trails in conjunction with approval for public recreational use from the Crown will be necessary for these trails to be included in trailhead signage, or otherwise advertised.

3. Trails on privately owned lands. Trails that have the owner's commitment to a Right-of-Way agreement, or License of Occupation have been included in the inventory.

4. Bicycle routes on existing roads through the District. These routes have been included on the urban trail map.

Crown Lands

This section addresses how Crown Lands are secured for trails, and which regulations apply to trails on Crown Land

Process on Securing Crown Lands for Municipal Government Trails

The provincial government has historically provided Crown Land to municipal governments and community organizations to support public purposes through:

- Free Crown Grants (FCG), and
- Nominal Rent Tenures (NRT) (LWBC, 2004).

Applications for Free Crown Grants or Nominal Rate Tenures are considered where the land will be used for a broad public purpose, where a clear public benefit to the community-at-large is identified, where there are no reasonable alternatives to a FCG/ NRT, or where the applicant meets the goals of a sponsor ministry under the categories of:

- Health;
- Education;
- Public Safety;
- New community infrastructure;
- Transportation (i.e. bicycle paths), and
- Facilities oriented to recreation.

Each sponsor ministry uses six standard selection criteria to determine whether or not they will sponsor an application and to prioritize applications against the ministry's available budget. These are in order of priority Trail:

- Proposal meets regional, local or First Nations community priorities;
- Generates local or regional economic benefits;
- Contributes to community health, safety or education;
- Supports sustainable infrastructure development;
- Contributes to environmental quality, and
- Development includes other support such as funding or in-kind contributions (contingent on access to Crown Land).

The establishment of a sustainable trail network for both resident recreation use and tourism potential clearly meets the objectives of the selection criteria, and therefore securing land for trail development in Squamish is applicable for Free Crown Grants and/or Nominal Rate tenures.

Only the municipality is eligible for a Free Crown Grant, while either the municipality or a community organization (i.e. SORCA, SDBA, STS, etc.) is eligible for Nominal Rent Tenure. Since April 2004, all new Free Crown Grant and Nominal Rent Tenure applications (where the land value is greater than $100,000, or the NRT is for greater than 30 years) must be sponsored by a provincial ministry (such as the Ministry of Tourism, Culture and the Arts).

The Provincial government is currently working on legislation that will enable agreements similar to those existing for securing private trails to be negotiated on Crown Lands that will formalize and protect

the community trails that cross over these public lands. When this Crown process is finalized, the trails identified in the OCP, this master plan and on Crown Lands will become the basis for discussions regarding formal approval from the Province. It should be noted that "trail establishment" does not mean that trails cannot be re-routed or altered in the future as conditions require. The process will involve cooperation and consultation between the stakeholders and landowners.

Process for Establishing Trails on Crown Lands for Individuals or Private Groups

Section 56 of the Forest and Range Practice Act (FRPA) allows the Minister to order the establishment of a recreation trail on Crown Land. These 'established trails' are legal trails that must be given consideration during land-use planning decisions. Infrastructure development, maintenance, and resources will be invested on these trails. A higher level of preservation applies to these trails; however, establishment of a trail does not guarantee conservation in the same sense as a Provincial Park or Protected Area. Section 56 also allows the Minister to order the dis-establishment of a recreation trail on Crown Land.

If a land-use decision may impact an 'established trail', local communities, trail clubs, and users will be consulted. A wide-spectrum of trail impact mitigations (TIMs) may be used, dependent upon the significance of the trail and its amount of use. An example of TIM's may be a forested buffer along the trail or the trail may be relocated or re-established after harvesting or other industrial activity.

Section 57 Forest and Range Practice Act states no recreational trails may be constructed on Crown Land unless authorized by the Minister. The Minister may authorize the construction, rehabilitation, or maintenance of a recreation trail on Crown Land and may impose conditions that must be met. These trails are not established as in section 56 and are therefore not protected. The minister may revoke authorization.

Section 58 of the FRPA stipulates, "If the Minister determines that it is necessary to protect a recreation or range resource or to manage public recreation use on Crown land, he or she by order may restrict or prohibit a non-recreational use of any of the following":

- A resource management zone;
- A landscape unit;
- A sensitive area, or
- A recreation site or recreation trail.

In January of 2010 the Assistant Deputy Minister of the Ministry of Tourism, Culture and the Arts gave notice that pursuant to Section 56(1) of the Forest and range Practices Act Established the following 12 Trails in the Squamish area:

1. Wonderland
2. Upper Powersmart
3. The Corners (Rob's and Cliff's)
4. The Ring Creek Rip
5. The Ray Peters Trail
6. The Powerhouse Plunge
7. The Mashiter Trail
8. Made in the Shade
9. Half Nelson
10. Flat Alley
11. Deadend Loop
12. Bob McIntosh Trail

Private Lands

Agreements for public trails have been and will continue to be secured over private lands as development in the community continues. Trails can be secured during the subdivision application process, or at any time, with appropriate agreements with the landowners.

Trails that are on private lands can be established under the following mechanisms:

- Establish a Trail Right of Way (see template in Appendix I);
- Create a Trail Easement/ License Agreement (see template in Appendix J);
- Contribute the trail as part of an amenity contribution such as park dedication, and
- Use Development Cost Charge funds collected at time of development for trail relocation.

In determining trail alignment, the District can require prospective developers to prepare a "Trail Plan". This plan is vetted through the District and community stakeholders. The trail network within the proposed development site is then preserved via park dedication, easement or other suitable mechanism. Existing trails that are lost to development and relocated elsewhere are identified in the "Trail Plan". Funding for the relocation of trails is allocated from Development Cost Charges (DCC's).

When there is a trail on property subject to a development application and it cannot be practically accommodated within the development scheme proposed, arrangements will be made to build a trail of similar length and character/standard in the same approximate area.

An alternative to referring the "Trail Plan" to various agencies and societies would be to establish a Squamish Trail Coordinating Committee. The committee would consist of representatives from various governments and non-profit societies who would coordinate the activities of their membership/ department so that the objective of sustaining an overall trail network in Squamish is achieved.

Land Use and Development Servicing Agreements

The District includes trails and trail-related issues in land use and development processes to ensure the provision of trail infrastructure (as outlined in the Trails Standards - Appendix E). Issues addressed include:

- The location of trails within future developments;
- Connections to other pedestrian oriented infrastructure (ie: sidewalks, on road commuter routes, transit routes, parks, community facilities, etc.);
- Trailhead facilities;
- Trail construction;
- Signage, and
- Mapping.

District Owned Lands

The inclusion of trails within Municipal Parks is a logical use, providing that the trails meet the park's specific mandate, and the trails are built and maintained to an appropriate standard. The Following list is trails that are within District of Squamish property:

1. Amble Path
2. Brackendale Walking Park
3. Coho Park Connector
4. Coho Park
5. Corridor Trail
6. Discovery Trail
7. Father Son and Holy Cow
8. Golf Course Loop / Riverside
9. Judd Beach
10. Judd Road Path
11. Little Stawamus / Magnolia
12. Loggers Creek Trail
13. The Nature Trail
14. Nexen Beach trail
15. Ray Peters Trail
16. Rose Park Connector
17. The Rotary Trail
18. Smoke Bluff East
19. Smoke Bluff Loop Trail

TRAIL USERS

A well-developed trail network is ideal for people with a variety of skill levels and interests who share a common love of being active in the outdoors. The District's Trails Master Plan focuses on both non-motorized and motorized trail uses. This is not common to many trails master plans.

The rapid growth of Squamish as a community and as an outdoor recreation destination has resulted in increased use of trails. Routes originally used for hiking, horseback riding and hunting are now shared with new modes of recreation including motocross, trials bikes, mountain biking (cross country, downhill and free-ride) and runners. The trail system is also used by commercial recreation operators and for trails-related events.

The construction of paved trails is expected to broaden the user group to wheelchairs (motorized and non-motorized) and in-line skaters. Coming years will no doubt bring new activities (created through innovation and technology) while demographic changes in society will change participation rates in different trail pursuits

See appendix E - Trail Standards Manual - for more information on specific user groups

TRAILS INVENTORY

As explained in Land Tenure above, most of the trails in Squamish are on privately owned or Crown Lands. Proposed and existing trails on public or private lands are included in the inventory where there is approval in principle by the landowner. As the trail network expands and trail planning and construction progresses, additional proposed trails are expected to be added to the trail inventory. The District of Squamish Trail Network is attached as Appendix C and the Urban Trail System is attached as Appendix D.

Squamish's inventory of trails is broad and consists of easily accessible trails in urban environments to remote backcountry trails. The District of Squamish is a diverse municipality covering 11,730 hectares (20,000 acres), approximately 26 km long and 12.5 km wide. The Municipality contains five Provincial Parks and an Ecological Reserve that enhance access to the Frontcountry. Within such a vast and diverse community, distinguishing between Urban/ Suburban Trails and Frontcountry Trails can be challenging.

Squamish's trails inventory consists of seven broad categories of trails. Each of these broad categories can have trails that follow the Trails Classification System, which is shown following this section. The trails inventory consists of:

1. **Urban/ Suburban Trail Network**

   There is both a need and desire to protect and plan for the Urban/Suburban Trail network as it interfaces with the growing community. The network faces pressures from development, but there are increasing numbers of different users, and a strong desire from the community to ensure that there are connections between parks and the neighbourhoods of Squamish.

2. **Frontcountry Trails**

   Although the District may not have jurisdiction over the land, the Frontcountry Trail network aims to use a similar sub-classification system to that seen in the Urban Trails sub-classifications above. The Frontcountry Trails classification also includes specified trails/ areas to facilitate or enable specified use trails or areas for designated recreational activities (such as mountain biking, rock climbing access, trials riding, and horseback riding).

3. Backcountry Trails

Hikers, equestrians and mountain bikers share many of the District's Backcountry Trails. Although this area falls outside of the Municipal jurisdiction, the municipality works together with partnering governmental agencies, representatives, and group organizations, in order to resolve conflicts such as increasing pressures from development and user conflict. Many of the backcountry trails in the District of Squamish are used throughout the year however the uses vary from season to season.

4. Roads

Roads are a vital part of the trail network in Squamish, providing access to various trailheads. Roads include municipal roadways, provincial highways, Forest Service Roads (FSR), and deactivated FSRs. Designated On-Street Cycling routes provide cycling routes throughout the District that link roads and 'shared' trail routes to enable safer commuter cycling movements. Cycling routes are linked to the Corridor Trail at key connections in each neighbourhood.

5. Rail Lines

Historic logging rail lines form a sizeable component of some of the signature trails in Squamish. These are important heritage features and include Loggers Lane, Jack's Trail, Bob McIntosh Trail, Tracks from Hell, and sections of other important trails including Four Lakes, Trestle Trail, Mashiter and others.

The linear nature and grade of rails-to-trails offer excellent opportunities for people of almost any age to pursue physical activity from an urban to rural setting. Rails-to-trails may offer opportunities for increased barrier free access to trails. At this time there are active rail lines that run throughout the community and in the future, if the circumstances change, it is worth pursuing the conversion of rails-to-trails.

6. Historic Trails

The Old Pemberton Trail is distinctly historical with its origins and start/terminus in Squamish.

7. Blueways

Blueways includes the ocean, lakes, rivers and other waterways. The Trails Master Plan recognizes the importance of Blueways as part of the overall master plan for trails and encourages the integration and development of these features and routes wherever possible and within the means available. Access is the key to providing a meaningful and useable 'blueway system'.

A Zone-Sensitive Trail Needs Analysis inventories existing trails, surveys the users, and develops trails to meet the needs of the trail users that frequent a particular zone. For example, an area with a demographic of young families or seniors may wish to use easy trails, but only expert trails may exist in the area. Through this approach, the trails or future trails development in a certain area can be better tailored to those who use them and to the terrain that they are being built on.

Trail Classification

The District of Squamish does not currently have a trails classification system. In the recommendations section of this document, it is recommended that Squamish adopt a trail classification system that is based closely on that of the other local and regional government jurisdictions in the Sea to Sky Corridor. The trail classification charts contained in the Trail Standards document divide the trail system into five classifications of trails.

The function of each of the trails classifications is as follows:

1. **Primary/ Corridor**
   - To provide a paved corridor/ connector trail linking up local communities within urban Squamish.
   - To provide a linear commuter route that is accessible to all trail users.
   - To provide a north and south link to the proposed Sea-To-Sky Trail.

2. **Area/Collector**
   - To provide a collector trail(s) that links the local neighbourhood trails to the Corridor Trail or other major artery.

3. **Neighbourhood**
   - To provide connecting trails within a community area that enables ease of movement for local residents, walkers, hikers, joggers, and cyclists.

4. **Specified Use Trail/ Area**
   - To facilitate, or enable, specified use trails or areas for designated recreational activities (such as mountain biking, rock climbing access, trials riding, and horseback riding). Refer to Specified Use Trails and Mountain Bike sections in the Trails Standards, Appendix E

5. **Designated On-Street Cycling**
   - To provide designated cycling routes throughout the District that link street routes and 'shared' trail routes to enable safer commuter cycling movement. To link the cycling routes to the Corridor Trail at key connectors in each local community.

Further to the Squamish Trails Classification system shown above and in the Squamish Trail Standards (Appendix E), the Sea to Sky Corridor Recreational Trail Strategy (April 2008) from the Provincial Government breaks downs the Trail Classification into Roman Numerals I-V. This system corresponds closely to the proposed Squamish Trail Standards above (i.e. #1 is also a Type I, #2 & #3 could be a Type I or II whereas #4 ranges from II-V). To view the entire classification system, refer to the District of Squamish Trail Standards in Appendix E.

Designated Trail Use

The majority of the trails within Squamish are available for hiking and biking use, with a limited number available for equestrian and motorized use. Motorized recreational vehicle and equestrian trails that provide access to the 'backcountry' from within the District boundaries do not exist.

It is important to ensure that each user type has a good inventory of trails to avoid:

- Unnecessary impacts and maintenance costs from concentrated use if there is not sufficient inventory, and
- Potential increase in conflicts between users if the number of permitted trails declines (For example, dirt bikers assuming use of trails designated as restricted to motorized use.

Further information related to motorized use of trails and conflict management is found in a section below titled "Trail Network Management".

Trail Difficulty

Above and beyond the Trails Classification system, the trail network in Squamish contains a variety of difficulty levels. These range from easy paved trails to moderate hiking trails to very technical bike and motorized use trails. As with most trail systems, a trail difficulty rating standard has been developed, is detailed for Squamish and is located in the Trails Standards document attached as Appendix E. Generally, trail difficulty ratings are based on the most difficult portion of the trail. Difficulty levels also consider seasonal conditions and trail length.

RISK MANAGEMENT AND LIABILITY

The dual issues of liability and risk management are a critical part of any trails master plan and ongoing network maintenance program. Given the increasingly litigious nature of society, this is of major concern to local governments, landowners and commercial recreation businesses alike. As these issues are poorly understood, this leads to misguided efforts, overly conservative decisions by local authorities and missed opportunities. Still, despite the perceived transfer of personal responsibility, the recreating public continues to demand and support the development of new trails (and other public facilities) for an ever-increasing diversity of users. And while no legislation has emerged to reform this aspect of the legal system, trails (and other amenities such as skate parks, BMX tracks, skills parks, etc.) continue to be built and continue to be managed effectively with very few lawsuits. There are thousands of kilometres of trail in Canada, providing an extensive recreation opportunity with very low rates of injuries, litigation and risk.

It stands to reason that creating and managing trails will increase the degree of public liability than leaving natural areas unaltered. In particular, man-made features such as bridges, technical trail features, boardwalks, lookouts, and similar structures are likely to attract more public use and therefore more liability. The trail design and construction standards outlined in the District of Squamish Trails Standards Manual (please see Appendix E) recognizes the responsibility for public safety and ensures that care is taken to incorporate best practices regarding liability and risk management.

In BC, the Occupiers Liability Act (the 'Act') established a duty to not create a danger or act with willing disregard for the safety of a person or the integrity of a person's property. The Occupiers Liability Act also establishes that a person who enters "recreational trails reasonably marked as such" shall be deemed to have willingly assumed all risks. It is important to ensure that the risks associated with trail use are properly managed and exposure to accidents is mitigated.

Risk Management is the process used to minimize the adverse effects of accidents. Loss prevention measures are steps taken by municipalities to reduce the likelihood of injuries. The following five steps are required in an effective Risk Management Program:

1. Identify Exposures – inspections, maintenance practices, education and training of workers and volunteers, signage, equipment, structures and facilities, incident reports, claims, and public input;
2. Review current policies, procedures, priorities, standards and forms;
3. Refine or develop new policies or procedures to deal with identified potential or existing risks;
4. Implement changes, and
5. Monitor results and review annually.

Risk Management cannot prevent all accidents from occurring, however, good risk management can control exposure to loss. Technology, Mother Nature, users, uses, and standards will change over time, so it is important to monitor risk management plans and activities to ensure that guidelines and operating policies remain relevant.

District staff are responsible for managing, monitoring and evaluating the risk management process. Staff are also responsible for recommending policy updates and new policies affecting planning and operations.

Liability

To prevent accidents, injuries and potential claims, local governments need policies, standards, inspection and maintenance programs and signage that supports a safe environment for trail users based on the financial abilities, resources and service level provided by the municipality. This applies to all lands on which the District maintains and manages trails, including private lands where a formal agreement is in place (i.e. private lands with an easement agreement or right of way in place).

With limited resources, funds, staff time and resources are prioritized and allocated on a needs basis. It is therefore critical to maintain documentation, standards of service, and enforce policies that provide evidence that the municipality has taken reasonable actions to prevent accidental loss. Recent court decisions have reaffirmed policy as a reasonable defence for local governments in this regard. The Trails Standards Manual developed by the District is a major step in formalizing the risk management program in order to reduce liability for the trail system in the District of Squamish.

It is important that trails are built to best practices – trail construction standards are provided in Trails Standards, Appendix E, of this document. Designing trails with the following guidelines ensures that trails accommodate a variety of user types and abilities while minimizing risks:

- Determine shared use or single use;
- Provide trails, features and facilities for skills development;
- Place technical features appropriately;
- Use trail filters as a gateway or qualifier;
- Provide optional lines;
- Provide adequate falls zones, and
- Follow construction guidelines, and best environmental practices.

Local volunteer based trail groups have taken on the responsibility for the development and maintenance of trail systems on some level, and have made significant progress in trail development within Squamish. All persons working on trails must be properly oriented and trained, volunteers included. The training may vary depending on the complexity of the task. WCB working standards must be maintained for all workers and volunteers. Volunteers working under the supervision of District staff are covered for insurance purposes and are required to register as volunteers and sign-in on a daily basis.

Signage

Squamish's extensive trail network is used by a wide variety of users including hikers, runners, mountain bikers, motorized bike riders, equestrian riders and climbers. Many trails are 'shared use' and conflict can arise between users. Signs that identify a trail as multi-use (ex. mountain biking and motorized biking) inform users to expect to encounter each other, identify the primary use of the trail and indicate who has the 'right of way'. These signs help reduce the likelihood of conflict.

Proper informational signage on trails (as outlined in the Trails Standards Appendix E document) is critical to an effective Risk Management Program. Users need to know where they are, where they are going, distances and direction. They may also need to know the degree of difficulty, type of trail and potential hazards. Users need to be reminded that use of trails is at their own risk. There are many climbing trails and areas off of main trails in Squamish that are dead-end trails or lead to difficult terrain and narrow paths. Unsafe trails can be properly signed with appropriate warnings posted to ensure safety of trail users.

Trail mapping and informational signs on kiosks will help visitors find their way through unfamiliar territory. The sign template shown as Figure 2-6 has been developed to provide trail routing, technical

The following signage guidelines alert trail users of the potential risks associated with using trails:

- Post clear signs at appropriate locations indicating that the trail is a "recreational trail" and that a person is entering for recreational purposes and use it at their own risk;
- Consider the kinds of accidents that might be "reasonably foreseeable" under a variety of conditions that may occur;
- Post clear warnings if an unusual, hidden, or unexpected danger arises as a result of human activity, weather or earth conditions. These warnings will be placed at appropriate locations in a way that can be easily seen and understood by all persons. Some hazards exist only at night so postings should indicate sufficient time for the people to avoid the hazard;
- Post signage if dangerous conditions exist to prevent persons from entering the area
- Post signs where public access is prohibited (ie. "Do Not Enter", "Trail Closed to the Public", Private – No Trespassing"), and
- Install physical precautions such as adequate guardrails, fences or obstructions to prevent entry if children or youth are likely to use the trails.

Figure 2-6: Sign Template

Inspections

Inspections are a critical element in any risk management program. Inspection reports and subsequent maintenance to rectify trail issues is a preventative measure designed to identify potential or real hazards before there is an incident. Issues will arise from time to time on specific trails and they are addressed through the trail maintenance processes, identified trail development priorities, and the resources available. It is important that inspections are made at the same regularity as was laid out in an insurance plan in order to receive insurance coverage.

TRAIL NETWORK MANAGEMENT

Squamish provides an extensive trail network accessible to many different users whether they are walking, biking or using motorized transportation. It is important that all trail users have quality experiences. Currently the District of Squamish accommodates motorized and non-motorized users, and with the increasing pressures on the existing trail infrastructure, it is important to understand the potential concerns among trail users and make efforts to minimize any conflicts. Changes in the traditional use of trails over time can lead to conflict, particularly if the rules of trail use responsibility are not respected.

Most of the recent research concerning trail conflicts has been done as a result of mountain biking. The International Mountain Bicycling Association has published a guidebook, Managing Mountain Biking 2007. Much of this section was informed by the book's section entitled "Managing User Conflict." In Squamish, there are three recognized concerns relating to trail conflicts, as follows:

1. Environment: Growing public awareness of the value of preserving local ecosystems is resulting in an increased interest in mitigating the negative impacts of recreational activities on the natural environment. In Squamish it is understood that to be a responsible outdoor recreation destination, trail infrastructure should not significantly impact the environment.

2. Wildlife: Trails users should not only respect each other but also the area's natural inhabitants. Squamish is prime black bear habitat and cougars and coyotes are often seen on the trail network. At times the District of Squamish addresses the closure and/or installation of signage in response to dangerous wildlife encounters or hazardous wildlife situations . Consultation with the District of Squamish Bear Aware Coordinator and the Conservation Officer Service and the RCMP can establish criteria that will assist in the mitigation of human-wildlife conflict.

3. Safety/ Risk Management: The existence of many different trail users may result in inherent conflicts related to a user's comfort with personal safety, particularly where users share trails and use different modes of transportation (motocross, mountain bikes, equestrian).

The Safety Code contained in Figure 2-7 has been developed for Primary/ Corridor Trails.

Figure 2-7: BC Trail Safety Code

``Corridor Recreation Trail Management", prepared for SLRD by Catalyst Community and Resort Planning. May 2009

Motorized Trails Users

The Sea-to-Sky Corridor Recreational Trail Management Plan (CRTMP) indicates the importance of establishing or approving trails for both motorized and non-motorized activities. Section 2 of the CRTMP identifies key staging areas, while Section 3 and Appendix "D" identify shared use of the trails (from mechanized, equestrian, or motorized users). As mentioned in Section 1.3.4 of the CRTMP, trials bikes (i.e. no seat and speeds similar to mountain bikes) are considered to fall in the same category as mountain bikes rather than motorized users.

Primary considerations in the design of motorized trails include:

- Locate motorized trails away from sensitive environmental areas and/or provincial parks;
- Provide informational signs indicating approved trail use type, obstacles, wildlife and safety concerns;
- Provide ease of access to motorized users;
- Allocate resource roads (decommissioned logging roads) for motorized activity use wherever possible;
- Ensure that trail construction provides a durable and stable surface;
- Keep trails away from watercourses and other riparian areas;
- Create designated off-road vehicle (ORV) parking areas at destinations (lakes, view points);
- Attempt to provide sufficient soundscape buffer zones to other land uses and recreational users by using the natural terrain and vegetation;
- Design trails to discourage travel at higher speeds for both user and wildlife safety;
- Select trails with adequate sightlines;
- Encourage the construction of one way looped trails to reduce collisions and reduce maintenance costs;
- Provide parking, trailer turnaround and drop-off areas at trailhead staging areas;
- Ensure that soils/surfacing, bridging and any other trail features are durable for the anticipated motorized use;
- Discourage road crossings and ensure the necessary safety precautions (signage, speed bumps, gates) are installed, and
- Discourage intersections where non-motorized trail users would cross paths.

A Conflict Management Plan has been prepared (see text box on opposite page) that outlines best practices to minimize the potential for environmental impacts, risk management concerns and user conflicts with motorized trail users.

Dogs on Trails

On main hiking trails dogs must be on a leash, even for cyclists. On designated backcountry mountain bike trails, while it is not safe or practical to expect mountain bikers to have dogs on leash, it is expected that dog owners will have their dogs under control. Under the jurisdiction of the District bylaw, complaints about dogs may result in the owner's dog being barred from mountain bike trail access.

Equestrian Trail Users

All users should be aware that horses can be shy and easily frightened. Extra care should be exercised when encountering an equestrian user. Please see equestrian section in the Trails Standards Manual for more details.

The Communications Strategy provided in Section 2.1.1.3 of the Corridor Recreation Trail Management Plan (CRTMP) identifies opportunities for ongoing trail user and user group involvement.

``Corridor Recreation Trail Management", prepared for SLRD by Catalyst Community and Resort Planning. May 2009

Trail Etiquette

Trail user education is the first and most effective strategy to address conflicts that may arise between different users of a given trail. Over the last decade numerous jurisdictions across North America have proven that conflicts on multiple use trails can be minimized by establishing codes of conduct and common trail etiquette and advertising them on signs, trail guides and at special events. Trail etiquette relative to the Squamish Trail Standards can be found in Appendix E.

Code of Conduct: The trail etiquette code (based on the Provincial Trails Strategy) considers all trail users. A trail etiquette code has been developed and will be posted at trailhead and staging areas (see figure 2-8).

Figure 2-8: SLRD T rail

Conflict Resolution

Preliminary review and discussions with stakeholders suggests that, due to the divergent nature of trail activities (i.e. motorized vs. human powered pursuits), users tend to self-regulate and accordingly focus their activities in specific areas within the District that are relatively easy to access and are suited to their needs rather than travelling everywhere there are trails. For example, when the Garibaldi at Squamish development displaced existing dirt bike trails, users shifted to the Diamond Head Trails.

Regardless of how well-intentioned the trail users are, conflicts will arise and steps or actions are needed to provide resolution for all involved. The Trails Master Plan includes steps outlined by other trail management agencies such as the Ministry of Tourism, Culture and the Arts (MoTCA) and the Sea to Sky Corridor Trail Working Committee. The recommendation section also includes more specific actions such as annual meetings of trail users and the involvement of the District Trails Coordinator to facilitate conflict resolution through collaborative means.

User groups such as Trials Riders, Squamish Off Road Cycling Association, Squamish Dirt Bike Association, and Squamish Climbers' Association have created codes of conduct to help minimize potential user conflicts and promote respect between user groups. These codes of conduct are included in Appendix E, Trails Standards.

Conflict Management Plan
An approach to conflict resolution is to develop a framework for resolving trail use conflicts or disputes as follows:

- Receive in writing (email) from the complainant the policy or procedure being contravened;
- Hold a meeting between the complainant and District Representatives (Conflict is either resolved or is escalated as below)
- Hold a meeting between the complainant and District of Squamish TMP Steering Committee and reconsider; prepare a written report and provide complainant with copy;
- If still not acceptable, DoS Trail Steering Committee refers the item to the Dos Council for a decision;
- Monitor and get back to all involved interests.

Trails Maintenance

The goal of a good maintenance program is to invest time, effort and funding to keep the trail network in the best possible condition. Regular maintenance creates safer trails, allows for continued use and access and helps to preserve the area around the trail by encouraging users to remain on the original trail alignment. A successful maintenance regime is responsive to trail erosion and degradation and helps to keep the network performing at its peak.

In keeping with the risk management and liability issues already discussed, it stands that reasonable care must be taken to ensure that trails are free from hazards. Animal-proof garbage receptacles and garbage removal are important at key trailhead locations. In winter, trails and trailhead areas are not suitable locations for snow storage locations.

General trail maintenance guidelines include:

- Prepare an annual Trail Maintenance Plan;
- Practice environmentally sound maintenance and use techniques appropriate for the type of trail, and
- Inspect trails in the spring and maintain them throughout the summer and fall on an as-needed basis.

Trail maintenance tasks by priority include:

- Correct unsafe trail conditions;
- Repair environmental damage;
- Restore the trail to desired conditions;
- Budget for bike lane paved shoulder repairs, and
- Budget for a monthly street sweeping program of all District paved bike lane shoulders.

Annual spring tasks include:

- Check the structural integrity of trail features such as bridges, steps, and railings. Repair damage;
- Clear windfalls and dangerous trees from the trail bed for safety and to prevent detouring;
- Remove loose rocks and debris from the tread surface;
- Repair trail washouts;
- Remove new plant growth;
- Level the trail tread as necessary and restore the trail grade to the original slopes. Fill ruts, holes, low spots, or muddy areas;
- Clear and maintain drainage features to minimize trail erosion and environmental damage;
- Check and repair water bars, drainage ditches, culverts and drainage dips. Construct additional drainage works if needed, and
- Check, repair or replace signs and trail markers prior to the high-use season.

(Source: Kimberly Trails Master Plan)

Trail Damage

Damage to trails can be a result of improper use of trails and can include trail hardening. Solutions include seasonal closures, re-locating the trail or recommending alternate routes. If trail damage is caused by a certain use, the reason will be determined and measures taken to correct the situation.

Trail maintenance standards are included in Appendix E, Trails Standards.

ANALYSIS KEY FINDINGS

In community surveys, Squamish's trail system is often identified as one of the community's prime assets (June 2009 Town Hall Survey). As trails are a valued asset, Squamish's Official Community Plan provides direction for the trail network with respect to connecting neighbourhoods, community facilities, parks and open spaces, tourist accommodation centers and commercial areas, as a viable alternative transportation mode for residents and visitors.

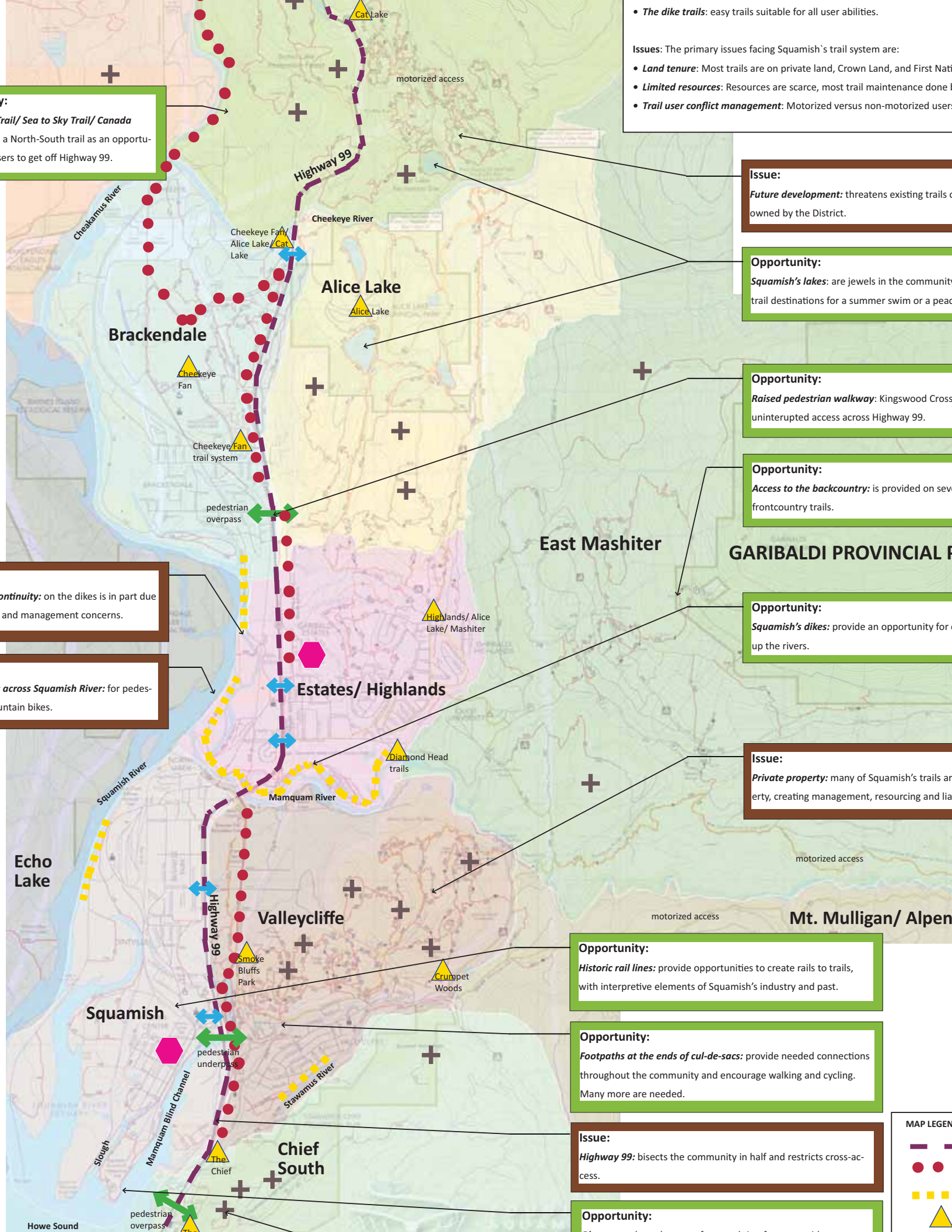
Squamish has a well-established trail network that is enjoyed by a wide range of user groups, both residents and visitors. To reduce conflict and to maximize a positive experience, the District of Squamish aims to ensure trails management in creating a sustainable trail system that is enjoyed by all users. A well-balanced trail network is one that includes a variety of trail difficulty and meets the needs of multiple user groups. Linkages between and amongst existing trails systems or distinct areas creates a continuous uninterrupted system, including links and loops of varying length and levels of difficulty.

Many opportunities for the trail system relate to Squamish's geography. Neighbourhoods such as Garibaldi Highlands, Valleycliffe and Brackendale play significant roles as staging areas for trail users and provide linkages to open space areas. Other key nodes for the trails system include schools, Downtown Squamish, and the Garibaldi Commercial Area for urban/ suburban trail connections. Squamish's Frontcountry consists of five Provincial Parks, an Ecological Reserve, five major rivers and world-class landmarks such as the Stawamus Chief. Trails connect the array of natural features in Squamish's backyard, along with a vast network of forestry service roads (FSRs), some which access areas with active logging. Dikes along the rivers provide excellent vantage points to see eagles and rivers, as well as easily accessible trails. Squamish has opportunities to highlight and celebrate historic rail lines both as heritage features and as active trails. Similarly, there are opportunities to provide access points and facilities to the many oceanfront, lakefront and riverfront locations in the community.

Issues with the trail system such as Highway 99 dividing the community in two are being resolved with elements such as pedestrian overpasses and The Corridor Trail –allowing users to access the trail network without having to be on or cross Highway 99. Another trail system divide is the Squamish River, which has no pedestrian or cyclist crossing and thus eliminates trail use of lands west of Squamish.

Many of Squamish's trails are on land that is not owned by the District, such as Crown Land, private land and First Nations land. Trails that are not on District land but are used by trail users create liability and network management concerns. Future development plans can close trails, and often the trail users are not aware where land tenure lines are drawn in the landscape. Due to the magnitude of trail amenities located in the District, there is a heavy reliance by the District on volunteer efforts of various grass roots clubs and associations. The hard work of volunteers has had a very positive impact on the trail system.

The ongoing success of the trail system in Squamish will depend on clear agreements with land owners regarding use of trails, adequate financial and staff resources, and increased connectivity between trail areas. The anticipated growth of the community will increase the frequency of trail use, requiring sound management of the trails system and adequate resourcing.


• *The dike trails*: easy trails suitable for all user abilities.
Issues: The primary issues facing Squamish`s trail system are:
• *Land tenure*: Most trails are on private land, Crown Land, and First Nati
• *Limited resources*: Resources are scarce, most trail maintenance done b
• *Trail user conflict management*: Motorized versus non-motorized users
y:
Trail/ Sea to Sky Trail/ Canada
a North-South trail as an opportu-
sers to get off Highway 99.
Issue:
Future development: threatens existing trails o
owned by the District.
Opportunity:
Squamish's lakes: are jewels in the community
trail destinations for a summer swim or a peac
Opportunity:
Raised pedestrian walkway: Kingswood Cross
uninterupted access across Highway 99.
Opportunity:
Access to the backcountry: is provided on sev
frontcountry trails.
ontinuity: on the dikes is in part due
and management concerns.
across Squamish River: for pedes-
untain bikes.
Opportunity:
Squamish's dikes: provide an opportunity for
up the rivers.
Issue:
Private property: many of Squamish's trails ar
erty, creating management, resourcing and lia
Opportunity:
Historic rail lines: provide opportunities to create rails to trails,
with interpretive elements of Squamish's industry and past.
Opportunity:
Footpaths at the ends of cul-de-sacs: provide needed connections
throughout the community and encourage walking and cycling.
Many more are needed.
Issue:
Highway 99: bisects the community in half and restricts cross-ac-
cess.
Opportunity:
Cat Lake
motorized access
Highway 99
Cheakamus River
Cheekeye River
Cheekeye Fan/
Alice Lake/ Cat
Lake
Alice Lake
Alice Lake
Brackendale
Cheekeye
Fan
Cheekeye Fan
trail system
pedestrian
overpass
East Mashiter
GARIBALDI PROVINCIAL
Highlands/ Alice
Lake/ Mashiter
Estates/ Highlands
Diamond Head
trails
Squamish River
Mamquam River
Echo
Lake
motorized access
Highway 99
Valleycliffe
motorized access
Mt. Mulligan/ Alpen
Smoke
Bluffs
Park
Crumpet
Woods
Squamish
pedestrian
underpass
Stawamus River
Mamquam Blind Channel
Slough
The
Chief
Chief
South
pedestrian
overpass
Howe Sound
MAP LEGEN

3.0 Recommendations

The following recommendations are fundamental to meeting the Goals of the Trails Master Plan. The recommendations are intended to be implemented over a short-to-long term time frame, as funding and resources allow. Section 4 provides an Implementation Plan.

1. Make trail support a District priority.

    - Commit to ongoing recreational and commuter trail planning to provide maximum benefit to the community and to support the District's brand as the Outdoor Recreation Capital of Canada;

    Prepare a Trails Funding Plan. In order to implement the Trails Master Plan, sustainable funding sources in addition to the District of Squamish capital funds (i.e. grants and public/private donations) may be pursued.

    - Support trail-based activities including: equestrian, mountain biking, climbing, hiking, and motorized sports (dirt bike and trials), so that Squamish can continue to reap the economic and social benefits of these activities in the community;
    - Ensure that the trail network is considered in the short and long term infrastructure and financial planning for the District of Squamish;
    - Determine the value of Squamish's trails network.

2. Work to secure trails within the District of Squamish.

    - Adopt policies that provide incentives to land developers to dedicate trails or trailhead areas at the time of development;
    - Consider amending the Subdivision Servicing Bylaw to include trail construction specifications outlined in the Squamish Traisl Standards Manual, and
    - Work with other landowners to secure necessary trail Right-Of-Way agreements or Licence of Occupation through negotiation or development approval process.

3. Adopt trails standards with a consistent trail rating system.

    - Adopt the five-classification system outlined in this document:

        1. Primary/Corridor;
        2. Area/Collector;
        3. Neighbourhood;
        4. Specified Use Trail/ Area, and
        5. Designated On-Street Cycling.

4. Improve Existing Trails.

    - Amend trail surfaces, trim and remove deadfall, reduce erosion, and construct stairs and bridges;
    - Identify high-use multi-purpose rural trails for trail widening and surface hardening, and
    - Pave high-use urban trails such as the Corridor Trail and Discovery Trail (attempt to develop a paved loop trail).

6. Connect neighbourhoods and community destinations.

- Continue development of the Corridor Trail (as part of the regional and national Sea-to-Sky/ Trans Canada Trail) to provide a viable commuter route and a spine for the recreational trail network;
- Develop additional trails and recreational greenways in Squamish's developed areas to connect the neighbourhood mixed use nodes with each other and with downtown Squamish;
- Make each neighbourhood a node of the trail system with destinations such as Brennan Park, Smoke Bluffs Municipal Park and the numerous provincial parks in the area;
- Encourage trails that connect neighbourhoods to schools as part of any new development in order to facilitate alternative transportation methods (i.e. walking, cycling);
- Improve on-street bike routes and bike route signage, and
- Develop Blueways where and when possible.

6. Celebrate Squamish's history and culture.

- Ensure that the historical and cultural aspects of the trail network are recognized and celebrated as part of our heritage, and
- Develop trails as connections to historical, natural and cultural experiences within neighbourhoods and the larger community of Squamish. (ie: old industrial sites, vistas and viewscapes, natural features such as rivers or wetlands, habitat areas and wildlife viewing locations and other points of interest).

7. Balance the trail network.

- Initiate a Zone-Sensitive Trail Needs Analysis at a community-wide scale, followed by a neighborhood-specific scale;
- Develop links and loops of varying length and levels of difficulty. Consider the types and skill levels of persons who may use the trails and the types of activities they might engage in, and
- Plan the trail system for multiple uses - portions of the trail system should be designated for specific uses in order to minimize conflict between trail users.

8. Develop trails with regional connections.

- Communicate with Corridor partners to encourage regional trail connections and provide an alternative mode of transportation;
- Identify potential routes for motorized uses and equestrians to connect from designated areas within the District of Squamish to trails outside of the District boundaries and,
- Work with Provincial agencies to ensure appropriate access to trails outside District boundaries.

9. Design trails to accommodate user abilities.

- Designate trails as shared use or single use;
- Provide trails, features and facilities for skills development;
- Place technical features appropriately;
- Use trail filters as a gateway or qualifier;
- Provide optional lines;
- Provide adequate falls zones, and
- Build trails according to the environmental and construction guidelines included in Appendix E, Trails Standards Manual.

10. Continually update the trails inventory.
    - Indicate the location of trailheads, parking areas, proposed skill parks, pump tracks and points of interest on the trails inventory map;
    - Expand the inventory to include information about trail length, difficulty, uses, responsibility and maintenance, and
    - Create a list of desired trails, bridges and other features to upgrade, replace and expand the network.

11. Ensure applicable municipal documents reflect the importance of the trail network to the community.
    - Implement the Trails Master Plan and trail network in alignment with the OCP Section 15 including regional connections such the Sea to Sky / Trans Canada Trail;
    - Encourage active transportation and recreational opportunities throughout the community through implementation of the Trails Master Plan, and
    - Link policy and regulations pertaining to trail planning, design, construction, and maintenance to the District of Squamish Trails Master Plan.

12. Create a Trails Maintenance Program.
    - Perform regular trail maintenance per the standards in Appendix E, Trails Standards;
    - Determine the frequency and method of inspection on a trail-by-trail basis;
    - Promote Adopt-a-Trail;
    - Provide animal-proof garbage receptacles and garbage removal at key trailhead locations;
    - Provide snow removal from trailhead and trailhead parking areas, and
    - Ensure knowledge of trends in trail maintenance.

13. Develop a Trails Signage Program.
    - Create trail signage per Appendix E, Trails Standards;
    - Develop an up-to-date, visible, effective and consistent signage system;
    - Adopt educational signage, including a code of conduct for trail users, and
    - Create signage to alert trail users of the potential risks/ hazards associated with using trails.

14. Adopt a Trails Risk Management Strategy.
    - Designate a Risk Management Coordinator;
    - Perform regular inspections per Appendix E, Trails Standards;
    - Document inspections and trail maintenance activities, and
    - Build partnerships and communicate.

15. Initiate a Trails Conflict Resolution Program.
    - Initiate a proactive approach to minimizing potential for conflict to ensure that personal safety, preservation of the natural environment and user experience are considered first and foremost;
    - Use education, communications and dispute resolution strategies as the preferred course of action, not a formal enforcement program;
    - Establish formal means to resolve disputes and assist in areas of concern between trail users and user groups, and
    - Establish an annual meeting of all trail user groups to celebrate areas of mutual success while addressing areas of concern. Share information and open discussions as the first step to create a viable trail network & resolving potential conflicts.

16. Develop a Trail Network Marketing Plan

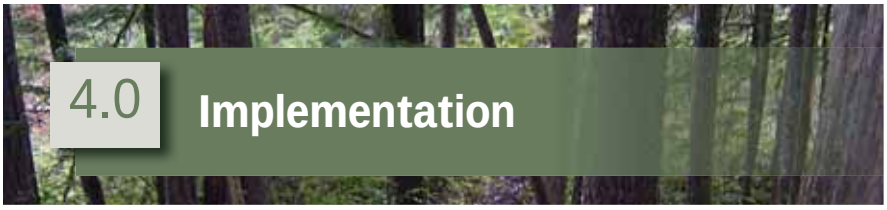
- Develop a marketing plan in conjunction with available marketing initiatives including the Chamber of Commerce, Tourism Squamish, Tourism BC, Vancouver Coast Mountains, the District of Squamish and Mountain Bike Tourism Association of BC.

17. Establish a Trails Steering Committee.

- Establish a standing Trails Advisory Committee to assist with the implementation of the Squamish Trails Master Plan.
- Develop a Trail Network Marketing Plan

18. Support events on trails.

- Ensure that the District of Squamish strives to continue to support events that utilize the trail network;
- Quantify the positive benefits that trail based events bring to the District of Squamish, and
- Provide an appropriate level of District and public support to help foster relationships with event promoters.



4.0 Implementation

The key to successfully implementing the recommendations in the Trails Master Plan will be in developing a corporate and civic culture supported by Council policy that will foster implementation of trails initiatives.

Many of the recommendations identified in Section 3.0 will be implemented in an ongoing manner as trails development opportunities arise and as funding and resources allow; in particular:

- Increase support for trails and committing additional resources to trails;
- Secure trails with amending bylaws, adopting policies, and securing trails with private landowners;
- Improve existing trails;
- Connect neighbourhoods and community destinations;
- Design trails to accommodate user abilities;
- Continually update the trails inventory;
- Celebrate Squamish's history and culture;
- Develop trails with regional connections;
- Ensure applicable municipal documents reflect the importance of the trail network to the community;
- Initiate a Trails Conflict Resolution Program, and
- Support events on trails.

Some of the recommendations are possible to achieve or make progress on in a short-to-medium time frame with existing funding and resources. All phases are dependent on funding and may require completion in sub-phases or may occur simultaneously. The Implementation Plan includes the following seven phases:

Phase 1 – Adopt a Trails Risk Management Strategy

(2011)

- Create detailed maps that show property ownership and trails for each neighbourhood;
- Secure legal access to identified existing trails (ongoing);
- Identify hazards and correct or identify risks on trails maps or close the trail and erect signage (ongoing);
- Improve trail signage, post signs at all trail entrances indicating that the trail is a "recreational trail" and that trail users "use at their own risk" (to be completed);
- Assess all trail-road intersections and determine if safety precautions are needed (ongoing), and
- Establish a trails advisory committee and develop a mandate and terms of reference for same.

Phase 2 – Prepare a Trails Funding Plan

(2011)

Phase 3 – Implement the Trails Signage Program identified in the Trail Standards, Appendix E

(2011/ 2012)

- Determine signage needs and develop a sign plan for each trail area using the sign standards developed in the Trails Master Plan;
- Prepare a signage funding plan;
- Erect preliminary trails name signs. To be augmented later as part of the official signage program;
- Erect entrance signs at trailheads that incorporate maps, closures, rules and regulations;
- Place directional signs at all trail intersections;
- Place trail markers along routes;
- Place necessary regulation or warning signs along trails, and
- Dedicate interpretive routes and points of interest, install informational signage.

Phase 4 – Create a Trails Maintenance Program

(2011/2012)

Phase 5 – Initiate a Zone-Sensitive Trail Needs Analysis

(2012)

- The Zone-Sensitive Trail Needs Analysis should first be completed at a community-wide scale, followed by a neighbourhood-specific scale.

Phase 6 – Develop a Trail Network Marketing Plan

(2011 - 2015)

Phase 7 – Construct New Trails

(2011 - 2015)

- Construct new trails as funding becomes available, and
- Base new trails development on criteria and planning considerations established by the Trails Master Plan in providing unique trail experiences, creating links between trail resources and looping trails.

Resources

The District of Squamish has placed a priority on the importance of the trail network by creating a full-time Trails Co-ordinator staff position. In addition, the District allocates monies for trail maintenance and works in collaboration with partners in the community. This collaboration and partnership with the community and other Government agencies such as the Squamish Lillooet Regional District (SLRD) has fostered opportunities for trail related projects, most notably the Corridor Trail. With the increase of Squamish as a destination to ride, hike, climb and walk, the demand on the trail network within the District of Squamish is expected to increase. Despite limited resources, the District has a responsibility to ensure that the trail network is maintained for the community needs of today and tomorrow.

Where there are financial considerations, partnering and service agreements (based on the Trail Standards) may be negotiated between the District, other government agencies such as SLRD, and existing or new community groups and service clubs, for both maintenance and trail development issues.

Examples of such partnerships and agreements include the:

- Management Agreement with the Squamish Windsports Society who assisted the District in developing the Windsports Park at the Spit;
- Memorandum of Understanding with the Skatepark Group to develop the Skatepark;
- Service contract with the Sea To Sky Community Services Society to operate the Youth Centre, and
- Smoke Bluffs Planning Group.

The Squamish Trails Society, Squamish Dirt Bike Association, Squamish Off Road Cycling Association and other trail user groups, have indicated an interest in partnering with the District on both projects and trail improvements. This creates opportunities to explore mutually supported initiatives that move the whole trail network into a more managed and collaborative partnership.

Due to the magnitude of trail amenities located in the District, the heavy reliance by the District on volunteer efforts of various grass roots clubs and associations and the current lack of a comprehensive trail strategy, an Adopt-a-Trail program is recommended.

The Adopt-a-Trail documentation has been approved by Council, can be found at www.squamish.ca and www.adoptatrail.ca and is attached as Appendix G. Programs such as "Adopt-a-Trail" encourage local sponsors to maintain a section of trail as a service for all the recreation users. However, this should not replace District of Squamish involvement and commitment to fund required work and planning process.

Appendices

A - Trails Master Plan Stakeholder Committee Member List.

B - Trails Master Plan Stakeholder Committee Terms of Reference

C - Squamish Trail Network Map/Inventory

D - Commuter Routes and Trail Network Map (Schedule F of OCP) Urban Trail System

E - District of Squamish Trails Standards

F - Off Road Vehicle Bylaw Number 1716, 2002

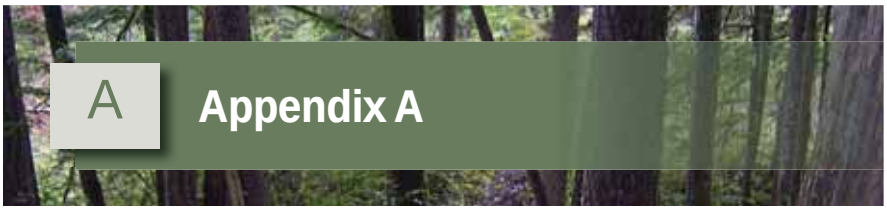
G - Adopt-A-Trail Documents

H - Special Events Use Application

I - Trail License Agreement

J - Trail Right of Way Agreement

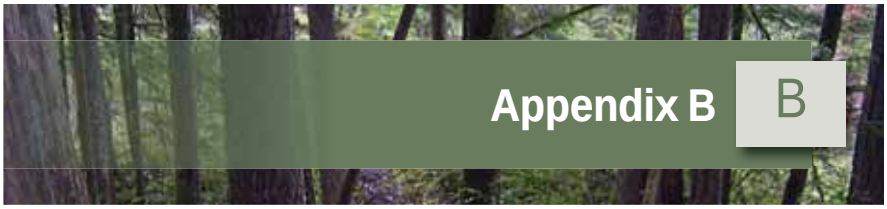
K - Future Maps



A Appendix A

Trails Master Plan Stakeholder Committee Member List

Squamish Equestrian Club Jan Roberts (Primary) Jeannie Bardach (Alternate)
Squamish Trails Society Bob Brant (Primary) Matt Parker (Alternate)
Squamish First Nations Jason Calla (Primary)
Squamish Dirt Bike Association Erin Ellis (Primary) Scott Ellis (Alternate)
Howe Sound Trail Riders Association Spencer Fitschen (Alternate)
Squamish Off road Cycling Association Mike Nelson (Primary) Ian Lowe (Alternate)
Private Land Owner David Rittberg (Primary)
Tourism Squamish Lesley Weeks (Primary) Tim Schoahs (Alternate)
Howe Sound Trail Riders Association Tim Tallevi (Primary)



Appendix B B

Appendix B Trails Master Plan Stakeholder Committee Terms of Reference

District of Squamish Trails Master Plan
Terms of Reference and Process

Section I. Terms of Reference

Plan Purpose, Goals and Objectives:

The purpose of a Trails Master Plan is to provide the Council, staff, and the wider community of Squamish with a comprehensive vision and direction for trails and trails related issues in Squamish.

The DRAFT Official Community Plan – Parks and Recreation section speaks to the broad issues of community liveability, community leadership and the cultivation of partnerships. Objectives of this OCP section include the following:

- Fostering access to outdoor recreational activities close to residential areas;
- Develop, maintain, and enhance an integrated and connected recreational trail network for multiple users;
- Enhance the outdoor recreational experience for residents and visitors; and
- Generate economic development that capitalizes on the recreational potential of the District.

Further, the Trails & Recreational Greenways portion of the Parks and Recreation chapter of the DRAFT OCP further identifies how trails and the trail network in Squamish should function and connect our community in terms of recreation, culture, and transportation.

Focusing further, the goal of the Trails Master Plan will be to better define a strategy for a community wide trail network which links neighbourhoods, parks, schools, shopping areas, open spaces and greenways while preserving wildlife corridors and environmentally sensitive areas. The strategy is intended to provide comprehensive and adaptive guidance for achieving this goal by identifying short and long term trail routes, trailheads, a trail classification system, trail construction guidelines, signage guidelines, proposed phasing with cost estimates, policies for development proposals and an implementation plan. However, this plan is not a detailed construction document. Prior to proceeding with construction of a trail section, detailed design plans need to be prepared.

There are a number of major objectives that can be achieved by preparing the Trails Master Plan. These include the following:

- Council can achieve maximum benefit from the investment by ensuring the trails are linked and connected. The development of unconnected and random trails would not provide the same opportunities for recreational and alternative transportation as provided by a comprehensive network with a high degree of connectivity.

- Council can establish phasing priorities in order to get the best value for any given investment.
- Council can outline a process to address conflict between trail users.
- Council will have some degree of comfort that the trail sections are feasible as they have been ground proofed.
- Council can achieve environmental goals by enabling trail corridors to also provide for conservation of waterway/water body habitats and for wildlife corridors.
- Council can promote community support for trails and encourage partnerships for building trails.
- Council will have a plan form which to apply for construction cost sharing grants.
- Council will have the ability to better capitalize on the recreational potential of trails within the District.
- Council can be a leader in fostering access to outdoor recreational activities.
- Council and the Approving Officer will have a logical plan from which to have developers provide trails in new developments during development approval processes.

Given the short timeline on this project (Fall 2009, completion date) and the currently available data, staff envisions that the Plan will have two main working components or phases, which will be developed with input from Council, the public, work groups, and stakeholders. These broad sections consist of the following:

- A framework plan with mapping. This will include the visioning, research and drafting of policy.
- Stakeholder and public engagement process.

The final 'phase' will be the presentation of the plan to the general public for their input and fine-tuning, with any revisions to the plan prior to finalization.

Plan Area:

The District of Squamish Trails Master Plan area includes the entirety of the lands contained within the District of Squamish. This includes all District owned lands, Crown Lands and private lands. However, the plan will necessarily look beyond the District boundaries to ensure connectivity and synergy with both trails and trails initiatives (i.e. Sea to Sky Trail/Trans Canada Trail) with the SLRD and others. The plan recognizes that there are a variety of landowners both within and outside the plan area.

Plan Principles

The plan principles -- or the 'vision' for the plan and what the plan should do -- will be the subject of the initial works through the early summer of 2009 and will be refined to include inputs and information gathered during that time. These principles will be used to analyze the plan framework and the plan itself (once drafted) to ensure that the plan is responsive to and meets the needs and desires of the District and the residents of Squamish.

The Plan shall:

- Set forth the communities goals, routing priorities and standards for ensuring effective management and evolution of trails within the District of Squamish for the benefit of the public and tourists.
- Encourage broad public participation in the development of the plan and decision-making regarding trails in general.
- Preserve and enhance public access.
- Provide a clear and concise process for addressing and resolving user conflicts.

- Provide an evolving inventory and hierarchy of trails within the scope of the plan
- Incorporate the Squamish Trail Standards within the plan to assist with maintenance and future trail development.
- Assist in decision making regarding capital and operating funding options

District Staff (Planning and Parks Recreation and Tourism)

Planning, in conjunction with Parks, Recreation and Tourism staff ('Staff'), are responsible for developing the plan and managing all components of the trails master plan process. Other District staff will be brought in as necessary to complete the project. This may include Engineering, IT, Finance and others as needed.

Trails Master Plan Stakeholder Committee

The Trails Master Plan Stakeholder Committee will consist of community stakeholders including:

- Squamish Nation
- Squamish Trails Society
- Squamish Dirt Bike Association
- Squamish Off Road Cycling Association
- Squamish Equestrian Club
- Howe Sound Trials Riders Association
- Tourism Squamish
- One District of Squamish Council Representative

The Trails Master Plan Stakeholder Committee members will be nominated from their respective stakeholder groups and each group will also nominate an alternate to attend should it be necessary. The Stakeholder Committee will meet as required and will have the following areas of responsibility:

- Review staff's data sources to identify other available data that is directly applicable and useful.
- Review and/or assist in the development of an outline and structure for the plan.
- Confirm or amend plan principles as necessary
- Review and provide feedback on public input process and results
- Review and provide feedback on the plan framework and alternatives (the conceptual framework of the plan) to ensure that public input is incorporated appropriately and that plan principles are addressed.
- Review and compile feedback received from the Council Cruise initiative
- Once the plan is drafted, review the plan to help ensure that public input is incorporated appropriately and that plan principles as decided upon are incorporated.

In addition to the Trails Master Plan Stakeholder Committee, the following organizations and individuals will be consulted as needed to support the work of the Master Plan Stakeholder Committee.

- SLRD
- Streamkeepers
- Women on Wheels (WOW)
- Accessibility Advisor
- Squamish Environmental Conservation Society
- MOTCA

- BC Parks
- Squamish First Nation
- MOT
- MoFOR
- other staff departments

Plan Process:

The Master Plan process should include the following:

- Establishment of a Trails Master Plan Stakeholder Committee as outlined above.
- A review of community opportunities and challenges and benefits and the experience of other places that have developed trail systems and trail plans.
- Research on trail standards and signage. Existing municipal documents will be reviewed and incorporated as necessary.
- A review of relevant planning documents and Council policies (including the DRAFT Official Community Plan, District Parks Master Plan, and the Subdivision and Development Control Bylaw 1767) as well as those of the Squamish-Lillooet Regional District (SLRD).
- Incorporate the District of Squamish draft Trails Standards Manual
- Consultation with planning staff from the SLRD and key property owners in order to ensure viable trail routes and connections within Squamish and into the SLRD.
- Identification of geographical constraints, environmental sensitivities, recreational opportunities, commuter and pedestrian needs.

The plan process should include the following phases:

- Public Input on Plan Development
- Plan Drafting
- Ongoing feedback from Public and Council via Council Cruise Initiative

Section II. Plan Development

<u>Plan Development</u>

The Trails Master Plan development will focus on three distinct issues as follows:

- Statement of Principles- what we want the plan to do (based on stakeholder and broad based public input);
- Characteristics of the trails environment in Squamish (existing and needed data/mapping); and,
- Development of a plan that is responsive and able to evolve with the needs of the District of Squamish.
- Establishment of Standards which will aid in future development and planning

<u>Phase 1:</u>
<u>I -- information gathering, conceptual plan framework, alternatives, targeted stakeholder engagement.</u>

- Staff and the Trails Master Plan Stakeholder Committee will serve as the core of Phase 1, gathering data and generating maps;
- Public engagement (i.e. meetings, surveys, focused stakeholder engagement, etc.) will collect feedback with specific focus on plan (i.e. identification of plan principles, trail opportunities, conflicts, etc.
- Master Plan framework will be analyzed and options considered for presentation.

Work groups

Staff and the Trails Master Plan Stakeholder Committee will identify and review existing data, mapping and other trails related information. Information gaps or other missing pieces needed for the completion of the Trails Master Plan will be identified during this time.

The plan development process will develop and integrate both focused and more broad based public input, use available data and mapping information, and will explore available planning tools as the basis for advancing a master plan framework that will meet the needs of the District.

Public meetings

Public meetings will collect feedback that will be compiled and reviewed. Consideration of how to include salient and relevant comments into the Plan Principles will be discussed the Master Plan Stakeholder Committee. Should it be required or necessary, more focused and in depth public input will be solicited as necessary. Public consultation will consist of consultation with the following:

- Local Environmental Groups
- Council Cruise Initiative
- Private land Owners
- General Public / Residents
- Other Governmental bodies

Plan Development

Workgroups

Targeted stakeholder meetings will collect feedback that will be

Trails Master Plan Steering Committee

Phase 1 Products

All relevant data and mapping collected or identified, planning principles defined and finalized, DRAFT plan framework created.

Phase 2:
Information compilation, planning analysis, DRAFT plan, Council presentation and feedback, application of planning tools and review of outcomes

- Plan compilation and initial drafting (including alternatives).analysis
- Consider alternatives with the Trails Master Plan Stakeholder Committee.
- Share and review with Council.

Plan Drafting

Staff will compile collected information and feedback and use to create the DRAFT plan. The plan review will consider alternatives as outlined in Phase 1.

Trails Master Plan Stakeholder Committee Review

Staff will present the draft plan to the Trails Master Plan Stakeholder Committee for their review and consideration.

Trails Master Plan Steering Committee review

Phase 2 Products

Phase 2 Products:
Draft recommended plan for presentation to Council/public.

Phase 3:
August 2009 – public, Trails Master Plan Steering Committee review of draft plan

- Present plan to public, Commission/Science Council and public
- Revise
- Finalize plan for adoption and integration into the Official Community Plan

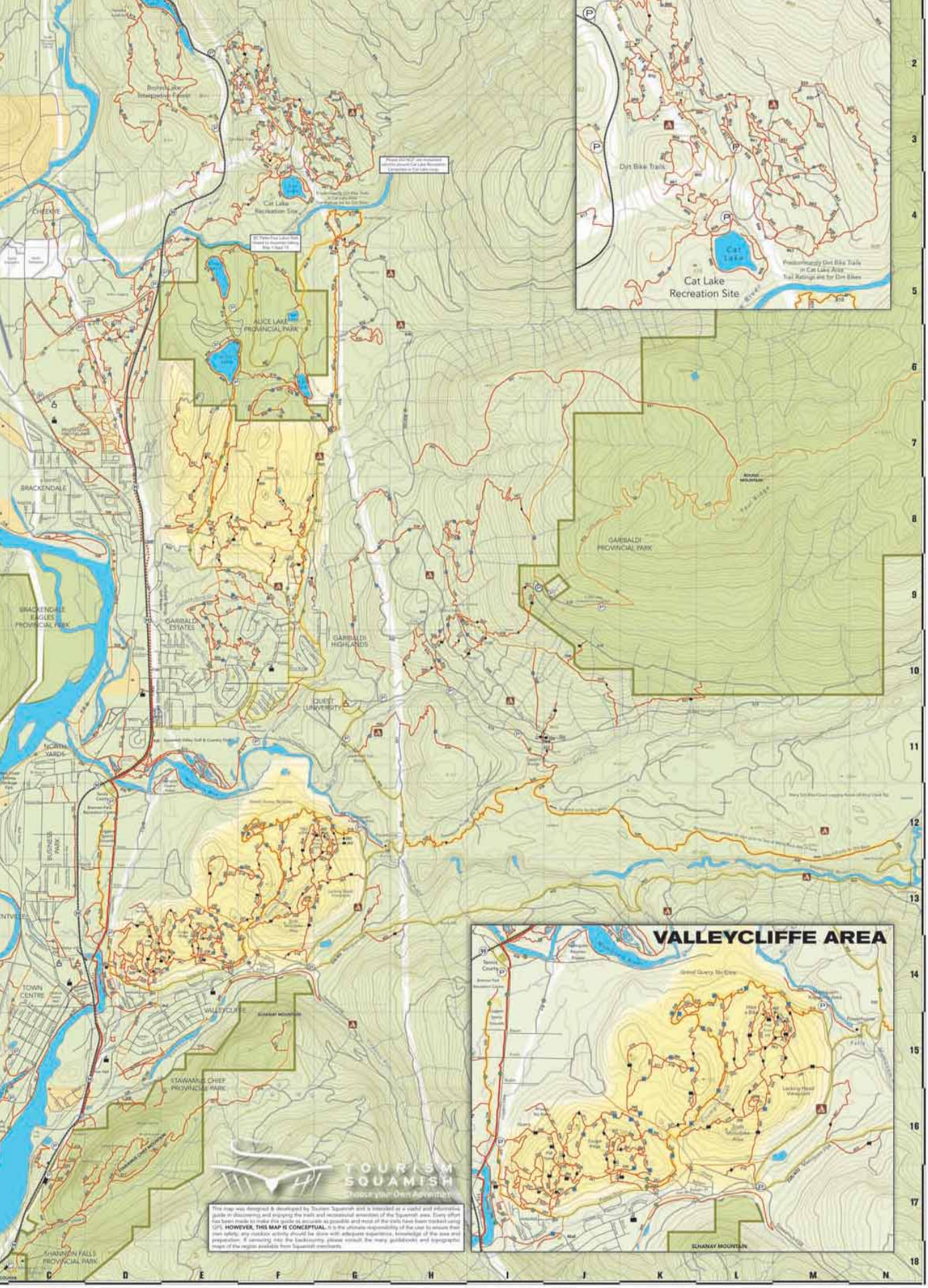
Public meetings

Present plan to the general public for final feedback and discussion.

Finalize plan in response to comments and present to Council for review

Phase 3 Products

Revised recommended plan



The trail grades are guides only. Non-grade
and hiking only. Some trails are designated n

TRAILS

Area 1 Downtown Squamish

Area 2 Valleycliffe

Area 3 Chief South
(hiking & climbing access trails)

Area 4 Mt Mulligan/

Area 5 East Meshite

Area 6 Estates/High

Area 7 Brackendale

Area 8 Alice Lake

For more information about how to
please visit www.adoptatrail.ca

PRIVATE PROPERTY & L

PLEASE respect the requests of private property owners,
Parks and Recreation Sites and active logging areas.

DISTRICT TRAILS & MOT

Motorized vehicles, including dirt bikes and all-terrain veh
prohibited on trails, footpaths, municipal utility right of w
styles in the yellow area on the map within the District of S
with the exception of 2 exempted areas for trials motorbike
yellow). The minimum fine is $200. The maximum is $10,000

For further information about dirt bike trails please check
great people at No Limits Moto Sports in the Squamish
Park or visit SDBA at www.squamishdirtbikeassociation.com

SQUAMISH SWEE

*Every town has a "sweet spot" or two. You k
locations local residents tell visitors about enthu
this incredible place!" But as the Outdoor Recr
amidst some of the most spectacular scenery an
Squamish has a lot more than just one or two 'swe*

*There are just a sample of some of the many i
waiting for you to discover when visiting Squamis*

The Stawamus Chief

Commonly referred to simply as "The Chief", it d
hikers, climbers and sightseers from around the
monoliths in the world and is a significant spiritual
Located within the five-kilometre Stawamus Chief P
of The Chief and surrounding area offer a campgrou
simply stunning sightseeing from various summits,
watch world-class climbers tackle The Chief's most ch

Shannon Falls Provincial Park

It's hard to miss spectacular Shannon Falls when
Highway 99 as you approach the town, the 335-
Columbia. Named for a man who once owned the
was also once owned by the Carling O'Keefe Brewe
brew their beer. Local First Nations legends say the
sea serpent slithering and twisting his powerful t
expeditions from his home in Howe Sound.

Brackendale Eagles Provincial Park

The Squamish area is renowned for having the larg
the world. The eagles start arriving in mid-Novemb
largest concentration in late December to Januar
located on the west side of the Squamish River
confluence with the Mamquam River to just north of
The park preserves critical habitat for these winterin
the Squamish and Cheakamus Rivers to feed on salm

Diamond Head / Garibaldi Provincial

Named for Giuseppe Garibaldi, a 19th century Italia
Park is a popular destination for outdoor enth
Squamish, the park offers perhaps Canada's most a
backcountry alpine experiences. Extraordinary wildli
Provincial Park can range from a few hours to a few
southwestern portion of the 194,650-hectare pa
cross-country skiing trails to spectacular mountain
viewpoints.

Alice Lake Provincial Park

Just five minutes north of Squamish you'll find an inc
lakes, beaches and campsites at Alice Lake Pr
snow-capped mountain vistas, Alice Lake Park featur
fishing or paddling pleasure. Although Alice Lake, th
family day at the beach, with toilet and shower fa
areas. As well, many superb singletrack mountain b
park. During the summer months, Alice Lake's camp
area, so be sure to make your reservations in advanc

The Squamish Estuary and Spit

In addition to record-breaking numbers of wintering
for many other bird species. The Squamish Estua
includes tidal canals with mud flats at low tide and a
Estuary is home to thousands of ducks and geese,
such as osprey and hawks. The nearby Squamish Spi
adventurous members of the human species every
around the world come to Squamish to experience a
destinations for wind sports in Canada.

Smoke Bluffs Park

Tucked conveniently off Highway 99 in Squamish ar
Adventure Centre is the versatile Smoke Bluffs Park.
offers challenging solid granite climbing for all leve
walking and hiking paths on the Smoke Bluffs loop
maze of moderately difficult singletrack to challenge
Logger's Lane at the lights in Squamish on Highw
Adventure Centre to the Smoke Bluff Park on the rig

SQUAMISH AREA TRAILS - BROHM LAKE TO STAWAMUS CHIEF

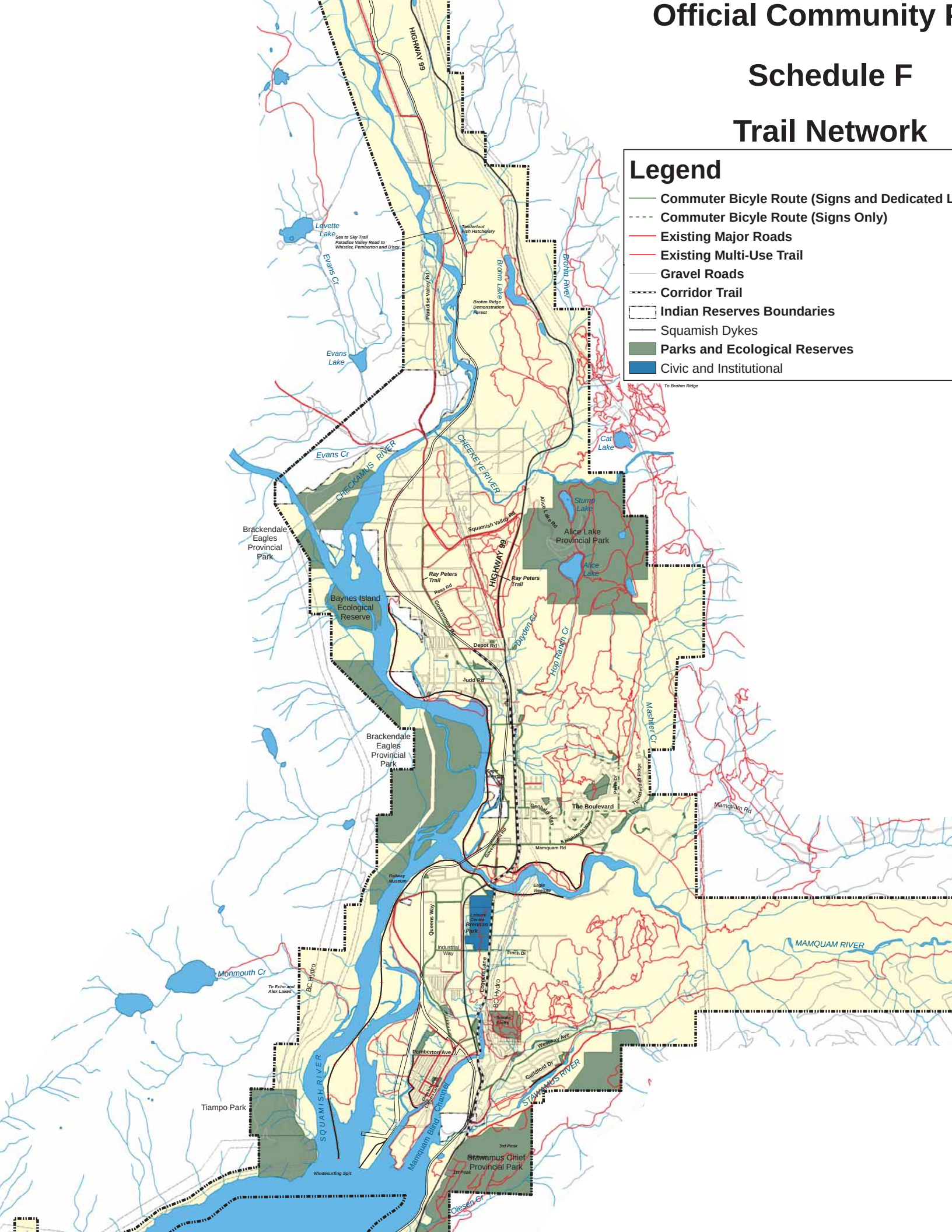
Scale Approximately 1:30,000 Contour Interval 20 metres

SUPER, NATURAL BRITISH COLUMBIA
CANADA
& Mountain Region

Official Community P

Schedule F

Trail Network



E Appendix E

This document does not imply or consent that the trails discussed herein are established, legal, or authorised unless explicitly stated. All trails are presented in the greater context of a network for discussion purposes. This includes all attachments and appendices which are consolidated for convenience only. Trails fall within different governmental jurisdictions. Ownership may be private or public, and users should ensure that they are not in trespass while using, building or maintaining trails within the District of Squamish. To verify accuracy and currency of this information please contact the District of Squamish.

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ACKNOWLEDGEMENT AND DEDICATION

This document could not have been achieved without the invaluable input and collaboration from the original Trails Standards Working Group. The volunteer members of the committee included: Bob Brant, Vince Hoog, John Howe, Chris McCrum, Cliff Miller, Neil Plumb, and Brad Walkey. There were also a large number of individuals and staff who, from time to time, have contributed to various sections of the Trail Standards Manual. The Squamish Trails Society (STS), Squamish Dirt Bike Association (SDBA), and the Squamish Off-Road Cycling Association (SORCA) have supported and nurtured this long process and provided their knowledge and expertise to its development.

This document is dedicated to the memory of Councillor Ray Peters. Ray Peters was the Council representative on the Working Group. His passion and commitment to his community and his beloved trails both inspired and led the working group. It was Ray's vision to see the District play a lead role in the future of our extensive trail system and to continue to develop Squamish as the "Outdoor Recreation Capital of Canada".

We also acknowledge the many great resources drawn upon in creating this document, including:

- Corridor Recreational Trail Management Plan
- Trails Strategy for British Columbia
- Squamish Mountain Bike Management Plan
- Sea to Sky Corridor Recreation Strategy
- Whistler Trail Standards: Environmental and Technical Trail Features
- Trail Solutions: IMBA's Guide to Building Sweet Singletrack

INTENT AND OPERATING PRINCIPLES

The intent of this document is to provide consistent guidelines and standards for trail development and maintenance for the District of Squamish and other potential trail builders in the community. All new trail development will be built and maintained to these standards. Existing trails will be "grand-fathered" and upgraded to these standards as time and resources permit.

Effective "Trail Standards" provide a strong foundation for good trail design, construction, and maintenance and will provide a safe and enjoyable experience for users. A successful trail system is dependent on the cooperation, communication and courtesy of the users, builders, and the landowners. The underlining philosophy of this document is that all public access trails are a "shared resource and a shared use" and as such no public trails are of exclusive use. Different courtesies and "rights of the road" may apply depending on the primary use of the trail.

These guidelines and standards are applicable within municipal boundaries and as supported by the landowner, which may include the District of Squamish, private landowners, and public agencies, such as the Ministry of Tourism, Culture and the Arts and the Ministry of Forests and Range. Outside of District boundaries, the Squamish/Lillooet Regional District Trails Coordinator should be consulted along with the Sea to Sky Corridor Recreation Trail Steering Committee on trails issues.

As user volumes, physical environments, and trail usage may change with time, a periodic review of these guidelines and standards by the District of Squamish will be done to keep them effective and relevant.

The District of Squamish should be contacted about any enquires or clarifications of these standards. There are many stakeholders who need to be part of the process of developing and maintaining trails. It is important to engage the District of Squamish in the planning stages of trail projects and to consult with all stakeholders in the development process.

For safety and maintenance reasons, there is limited access to trails for motorized vehicles with the exception of maintenance/service vehicles and battery-powered wheelchairs and carts. Other motorized vehicles may be operated only on "specified" trails within certain areas and warning signs to the area must be posted at all access points. In the future there may be new "designated" areas that are developed and maintained by local motorbike clubs (ex: SDBA).

INVENTORY AND MAPPING

NEW TRAIL DEVELOPMENT APPLICATION PROCESS

All new trails must be approved through an application process. This process will be managed by the District of Squamish, through the Trails Coordinator, in cooperation with local trails user groups. If the trail falls on Crown Land, the Provincial Standards set out in the Sea to Sky Corridor Recreation Trail Strategy must be followed. The appropriate landowners must be contacted and provide written approval before making an application for trail construction. An application form and a Trail Plan must be submitted for approval. The location and route must be flagged, GPS'd, and inspected prior to any approvals or development. All safety and security issues must be addressed in the Trail Plan, including any technical trail features (TTF'S) to be added.

Once approval has been given, the trail will be re-inspected and any outstanding issues will be addressed. The trail will be classified, named, GPS mapped, and added to the trail inventory.

TRAIL NUMBERING AND MAPPING SYSTEM

All "authorized" trails will be classified, numbered, named and mapped using a GPS system for mapping and signage purposes. The intent of this requirement is to have a consistent and accurate system that works for all user groups and enables trail maps to be coded, indexed and consistently named.

ESTABLISHED TRAILS

Section 56 of the Forest and Range Practice Act allows the minister to order the establishment of a recreation trail on Crown Land. These 'established trails' are legal trails that must be given consideration during land-use planning decisions. Infrastructure development, maintenance, and resources will be invested on these trails. A higher level of preservation applies to these trails; however, establishment of a trail does not guarantee conservation in the same sense as a Provincial Park or Protected Area. Section 56 also allows the minister to order the disestablishment of a recreation trail on Crown Land.

If a land-use decision may impact an 'established trail', local communities, trail clubs, and users will be consulted. A wide-spectrum of trail impact mitigations (TIMs) may be used, dependent upon the significance of the trail and its amount of use. An example of TIM's may be a forested buffer along the trail or the trail may be relocated or re-established after harvesting or other industrial activity.

Section 57 Forest and Range Practice Act states no recreation trails may be constructed on Crown Land unless authorized by the minister. The minister may authorize the construction, rehabilitation, or maintenance of recreation trail on Crown Land and may impose conditions that must be met. These trails are not established as in section 56 and are therefore not protected. The minister may revoke authorization.

For more information about 'established', 'authorized', and 'unauthorized' trails, and information about applying for authorization, please see page 16.

TRAIL CLASSIFICATION SYSTEM AND STANDARDS CHART

The trail classification charts on the following pages divide the trail system into five types or classifications of trails. The function and description define each classification, and the left side column provides detail on specific aspects of the trail.

Further to this Trail Classification system, The Sea to Sky Corridor Recreational Trail Strategy Draft, February 2007, from the Provincial Government, breaks downs the Trail Classification into Roman Numerals I-V. (#1 is also a Type I, #2 & #3 could be a Type I or II whereas #4 ranges from II-V) For further clarification see the Mountain Bike Section on Page 18.

TRAIL TYPE CLASSIFICATION TABLE

From Sea to Sky Corridor Recreation Trail Strategy Draft February 2007

Trail Classification	#1 Primary/Corridor	#2 Area/Collector	#3 Neighbourhood	#4 Specified Use Trail/Area	#5 Designated On-Street Cycling
Function	-To provide a pavedcorridor/connector trail linking uplocal communities within urbanSquamish.-To provide a linear commuter routethat is accessible to all trail users.-To provide a north and south link tothe proposed Sea To Sky Trail.	To provide a collector trail(s)that links the local neighbourhood trails to the corridor trail or other major artery.	To provide connecting trailswithin a community area that enables ease of movement for local residents, walkers, hikers, joggers, cyclists, and bike commuters.	To facilitate, or enable, specified use trails or areas for designated recreational activities (such asmountain biking, rock-climbingaccess, trials riding, horseback riding, etc.). Refer to Specified Use Trails & MTB Sections in this report for details.	To provide designated cycling routes throughout the District that link street routes and 'shared" trail routes to enable safer commuter cycling movement.To link the cycling routes to the Corridor Trail at key connectors in each local community.
Description	Wide, paved, 2 way trail, suitableand accessible for all users, that accommodates linear connectivity through the urban community.	A medium width, 2-way trail that connects local neighbourhood trails and links them to the corridor trail. This includes all public accessible dykes paths.	Narrow to medium width trails that enable pedestrian/cyclist links to various parts of a neighbourhood. Designated "Nature Trails" would also be included in this classification, or a higher classification if considered a high usage trail.	Narrow paths, usually with naturalground materials, minimal maintenance and minimal clearing. Maintenance and development may be by an"authorized" user group. Examples; single or double track mountain bike trails, horseback riding trails, "trials" motorbike riding area or trail.	Designated paved bike lanes "on shoulder grade" with paved roadways.Commuter routes are planned and developed by the District of Squamish and are designed to comply with Ministry of Transportation (MoT) Bikeway Standards.
Diffuculty Grading	Difficulty Grading – Green Circle (Easy) Distances and gradient (degree of climb) will also be posted, where required, at Trail Heads.	Same. Except, some gradients and surfaces may not bea ppropriate for wheelchairs.	Same	Same. Difficulty grading willrange from green circle coding (appropriate for all users) to double black diamond (expert hikers and riders only). See the Mountain Bike Section for Trail Grading System details.	Location for mapping will comefrom existing street mapping, unlessthe route is part of the corridor commuter trail.
Authorizing and Registering	All "authorized" trails and routes will be numbered, named and GPS'd for mapping purposes. New trail construction must go through an application process and be authorized and registered with the District of Squamish.	Same	Same	Same	See "Description" above
Restrictions	No motorized use, except to accommodate physically challenged accessibility or as specifically "designated". Dogs must be on aleash. DOS or authorized service vehicles permitted.	Same	Same	"Shared Use" as allowed/signed, trail courtesies and right of ways will vary. Occasionally some small isolated areas may be restricted for safety reasons to specified activities only.Restrictions as appropriate for activity or environment.	No motorized vehicles, except for handicap accessibility. No dogs. No horseback riding. No Parking.

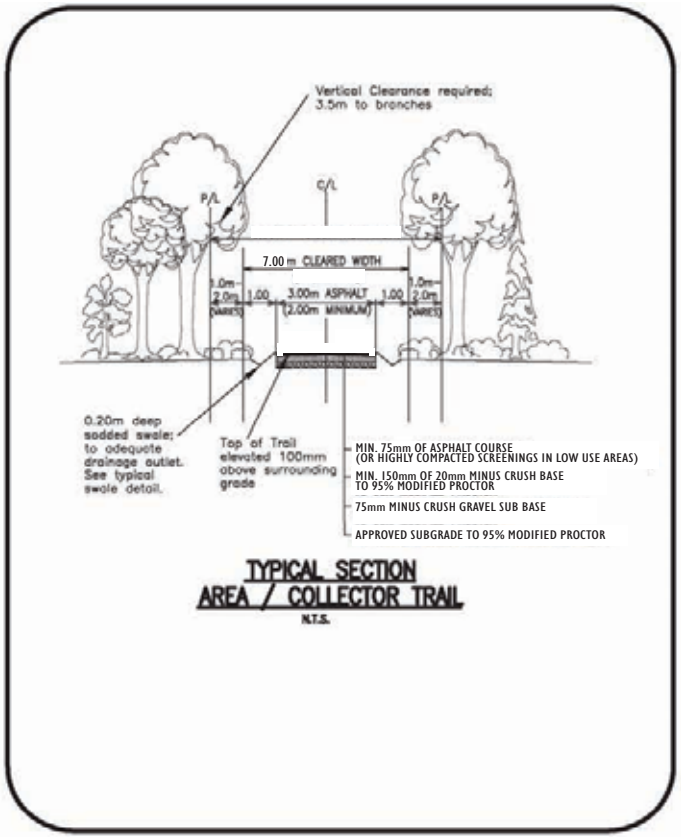
Trail Classification	#1 Primary/Corridor	#2 Area/Collector	#3 Neighbourhood	#4 Specified Use Trail/Area	#5 Designated On-Street Cycling
Trail Surface Width	Minimum – 3.0 m.Preferred – 4.0 m.	Minimum – 2.0 m.Preferred – 3.0 m.	Minimum – 1.5 m.Preferred – 2.0 m.	See MTB Section	Minimum – Shared roadway with minimum 4.0 m. width.Preferred - 1.5 m. (each way)
Cleared width for drainage. Right of way setbacks from cleared width	Minimum – 7.0 m.Preferred – 8.0 m. to allow for drainage and buffers.2.0 – 5.0 m./side As topography indicates and/or as required for future growth.	Minimum – 4.0 m.Preferred – 5.0 m.1.0 – 2.0 m./side. Same	Minimum – 3.0 m.Preferred – 4.0 m.1.0 – 1.5 m./side. Same	As appropriate for activities.As appropriate for activities.	Not applicable
Surface	Minimum – Highly compactedscreenings (low use urban areas).Preferred – Asphalt or highlycompacted alternative (high useurban areas). Colorized and stampedconcrete may be used at intersectionsor rest areas.	Min.-Highly compacted screenings.Preferred – Asphalt or alternative (closer to Corridor trail connections).	Min. – Fine compacting gravel (equestrian use).Preferred – Compacted screenings.	As appropriate for activities, including natural surfaces.	Asphalt on shoulder of road, painted white line between roadway and cycling lane.White line – 10cm. width
Sub-grades	Refer to Attached Drawings andSpecifications.	Same	Same	As appropriate for function.	As per road construction standardsof DOS
Gradient Cross-slope	Average – 0 -3%Max. – 5% or 8% over 4 m.2 -3%	0 – 10%15% or 20% over 30 m.2 -3%	0 -15%30% over 150 m.2 – 3%	As appropriate for function.	0 – 5%10%2 – 5%
Clearance: Width - Brush - Height - Branches	-Brush -Trail Cleared Width plusmin. 2 m./side-Height -3.5 m. to branches-Retain trees when practical.	-Cleared Width plus min.1m./side-Same-Same	-Cleared Width plus min. .5m./side-3.0 m. to branches-Same	Site and use specific.	Not applicable. As per roadconstruction standards.3.0 m. clearance
Sightlines	Good visibility for 20 m.	Good visibility for 10 m.	Good visibility for 8 m.	As safety permits.	Not applicable
Buffers	Maintain clear surveillance from Highway, except where environmental or technical issues require rerouting. Maintain natural buffers where they do not compromise safety.	Maintain natural buffers where they do not compromise safety. Buffer from homes and businesses to mitigate impacts (ex. fencing, landscaping).	Same	Not applicable	Not generally applicable. At the discretion of the District, and for unique safety considerations, an artificial barrier may be used to separate cyclists and traffic.
Landscaping	Landscape appropriately between trail and adjacent facilities and amenities. Landscape at appropriate trailheads with native vegetation.	Same	Site specific, as required.	Not applicable	Not applicable

Trail Classification	#1 Primary/Corridor	#2 Area/Collector	#3 Neighbourhood	#4 Specified Use Trail/Area	#5 Designated On-Street Cycling
Lighting	Appropriate pedestrian-level lightingin forested urban areas to allowevening commuting and access.	Not applicable. Dawn to duskuse.	Not Applicable. Dawn to duskuse.	Not applicable. Dawn to duskuse.	Per lighting standards for roadways
Maintenance Access	Locked bollards at trailheads and intersections to allow maintenance and emergency vehicle access.	Same, where access isappropriate. Some dykes orwide trails may require gatesto control vehicle access.	Site specific, as required.	Site specific, as required.	Not applicable
Wheelchair Accessibility	Trail must meet minimum provincialstandards for surface material, widthand gradient to accommodatemanual or motorized wheelchairs.	Same for paved sections of trail. Paving may be added as funding permits.	Site-specific restrictions may limit access because of various trail surface materials, naturalgradients and restrictive trailwidths.	Not applicable	Will accommodate one way wheelchair access, although this use is not recommended.
Signage/Markers	Signage includes trailhead andcollector trail posts, including appropriate distance (.5 – 1 km.) markers. nformation kiosks andposted trail maps may be constructed at key intersections. nterpretive and special feature signs may be placed where appropriate. See Signage Section.	ncludes trailhead posts and appropriate signage/markers. nterpretive signs where appropriate.	Trail indicator/post where appropriate.	Appropriate area alert/warning signage, including caution use a town risk or shared usage notice. May include rules of the road or user code of conduct notices. Trail head and trail directional signage, where appropriate. Trail Map iosk when required.	Minimum – 10 cm. painted whiteline for designated route.Preferred – Above plus Cycle route signage and painted symbol on route road surface.
Furnishings Amenities	May include: District approved benches. Strategic use and placement of rocks for sitting and controlling access. Shaded rest areas, landscaping, and information kiosks. Doggie Bag stations where appropriate.	Same	As appropriate and site specific.	As appropriate and site specific.	Not applicable
Designated Trail Parking Site Amenities	Minimum – Port-a-potty, garbage can, doggie-do station, iosk with signage and mapping.Preferred – Toilets (high use area)	Same	Same	Same, plus site-specific information.	Not applicable
Bridge Platforms	Require environmentally sensitive , treated wood construction. Design forbridges or elevated platforms must besite specific and approved by theDistrict. See Bridges and PlatformsSect.	Same	Same	The District must approve designs. The District must also approve other built structures .i.e. Technical Trail Features See Provincial Standards	Not applicable

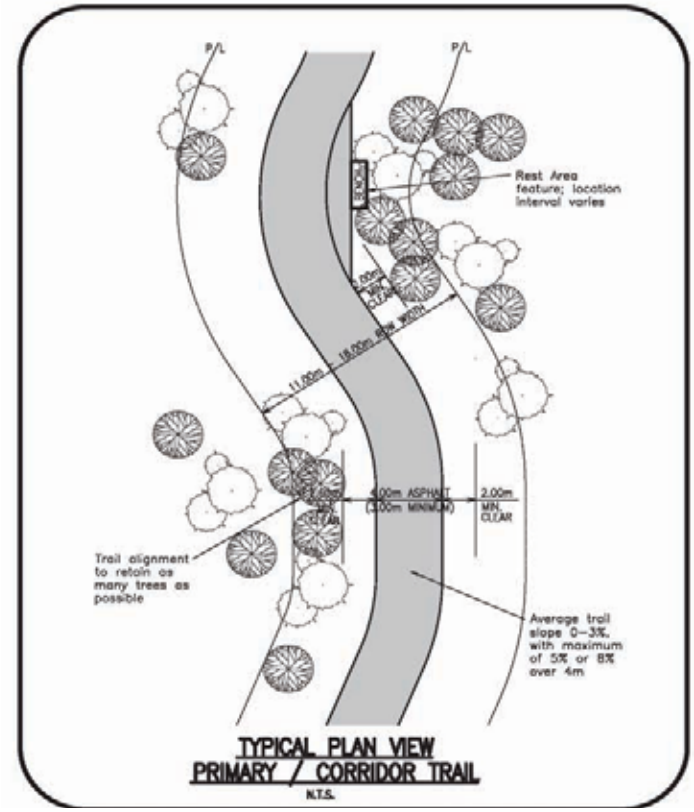
Trail Classification	#1 Primary/Corridor	#2 Area/Collector	#3 Neighbourhood	#4 Specified Use Trail/Area	#5 Designated On-Street Cycling
Garbage	Bear-proof garbage receptacles at appropriate intersections or trailheads.	Bear-proof garbage receptacles at appropriate trailheads only.	Bear-proof receptacles on a site-specific basis only.	At designated areas assigned tospecific user groups the group will collect and remove garbage, as appropriate.	Not applicable
Maintenance: Responsibility, Servicing Standards	District of Squamish (Parks,Operations) or designate.1. During routine servicing do regular service checks on all operational issues, amenities,furnishings, and trail conditions.2. Schedule quarterly safety and operational inspections and reports. 3. Schedule annual repairs and clean up of trail.4. nsure even and unobstructed trail surface.5. Remove leaves and debris seasonally. . Collect garbage as scheduled.7. Check/service lighting.8. Clear snow in winter as prioritized. . Annually cutback or remove underbrush or trees that may create a hazard or security issue for users.	DOS or designate. 1, 3, 4, , Two scheduled annual safety and operational inspections and reports. NOT ALL CLASS F CAT ONS:Safety Hazards must be reported and repaired or mitigated as appropriate .NOT ALL CLASS F CAT ONS:Some trail maintenance maybe carried out through the Adopt a Trail Program or through a Partnership Agreement with a Not For Profit Service Group or Society.	DOS or designate. 1, 3, 4, , Scheduled annual safety andoperational inspection andreport.	Maintenance needs to be carriedout by authorized user group andwould include 1, 3, , andscheduled joint (with DOS)annual safety and operational inspection and report. This process may include external submissions for consideration of operational or capital budget items by the DOS.	As per DOS road maintenancestandards.Patching – Higher quality patch material than regular road patching material. Sweeping as required.Snow Removal – As determined by DOS staff due to priorities,conditions and usage.
nspections	uarterly (See nspection Forms section)	Biannually	Annually	Annually	DOS will inspect condition of bike lanes when roads are inspected.
OCP Trail Plan ntrenchment	All existing and authorized planned trails to be entrenched (mapped andupdated) and the systemdocumented/designated in OCP TrailPlan. New trails to be added and Plan updated as appropriate. Changes to routes to bedocumented.	Same	Same	Same	Same
nauthorized Trails	NOT : New or existing trails that are not registered, constructed, inspected,and/or maintained under the Trails Standards established by this document are not the responsibility of the District of Squamish or other partnering Trails Groups. nauthorized trails or features maybe dismantled/removed at the discretion of the DOS and at the expense of the trail builders.	Same	Same	Same	Not Applicable
Special Note	This Section will also follow the Provincial Standards outlined in theSea to Sky Recreation Trail Strategy.See MTB Section				

TRAIL TYPES

The diagrams in this section illustrate trail construction standards.

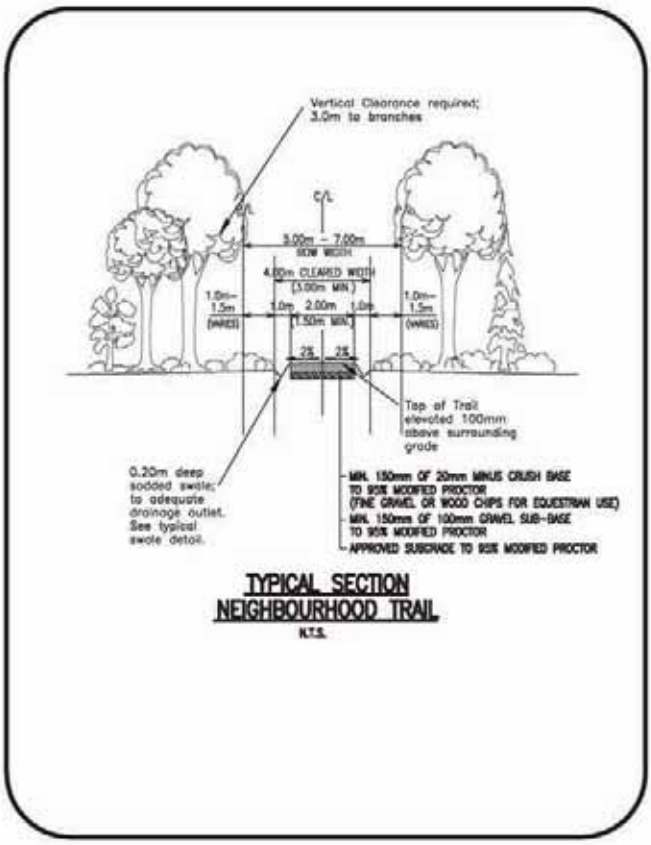


TYPICAL SECTION
AREA / COLLECTOR TRAIL
N.T.S.

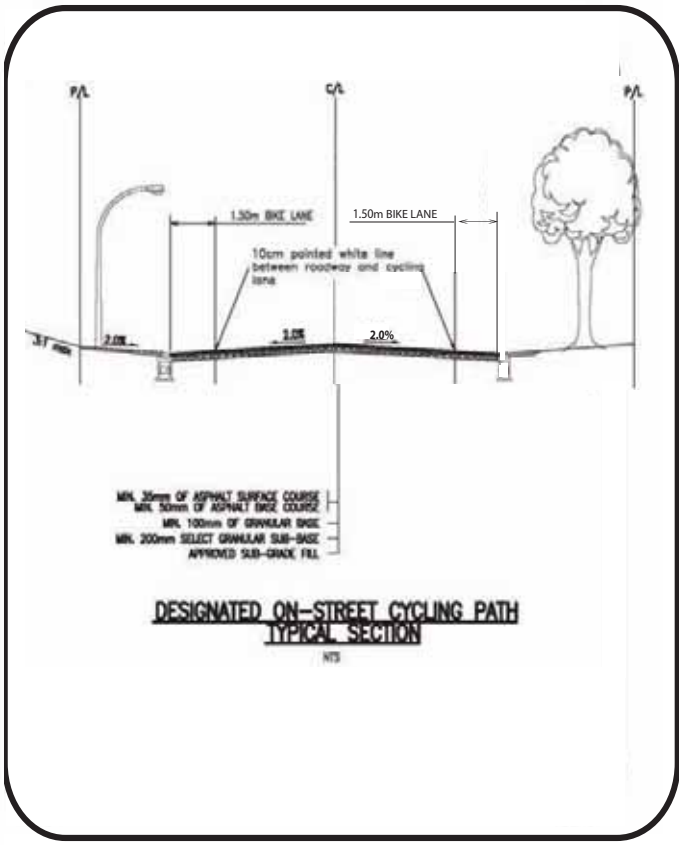


TYPICAL PLAN VIEW
PRIMARY / CORRIDOR TRAIL
N.T.S.

Photo: Courtesy of Randy Symons

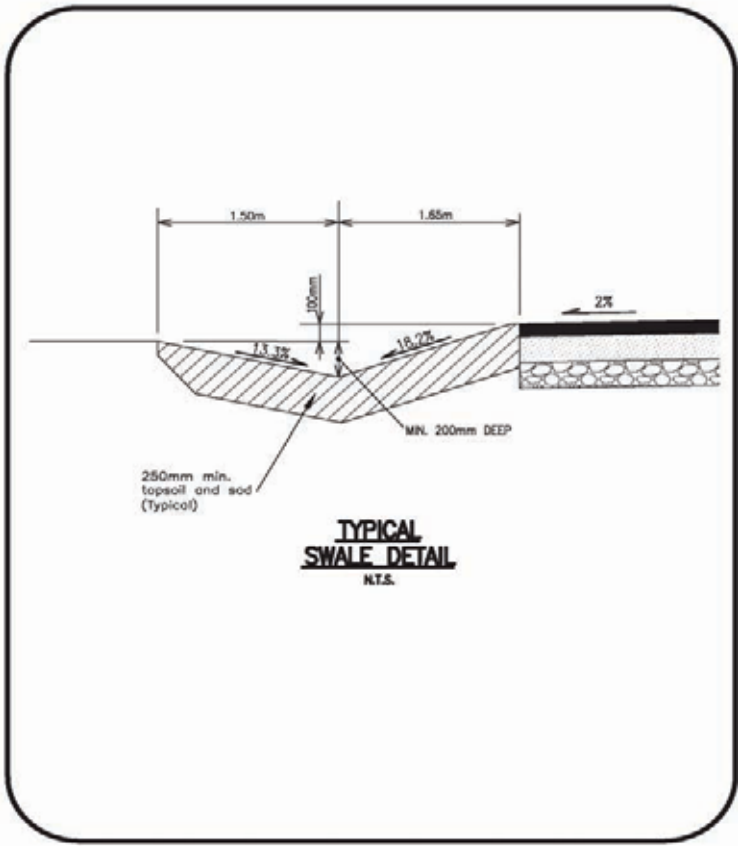


TYPICAL SECTION
NEIGHBOURHOOD TRAIL
N.T.S.

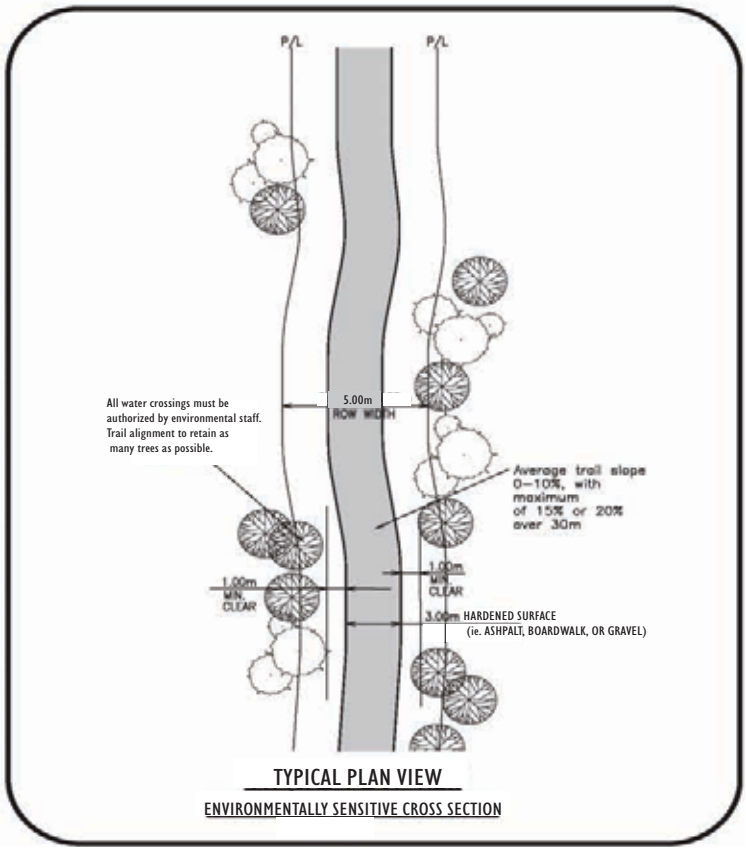


DESIGNATED ON-STREET CYCLING PATH
TYPICAL SECTION
NTS

Photo: Courtesy of Sandra Koenig

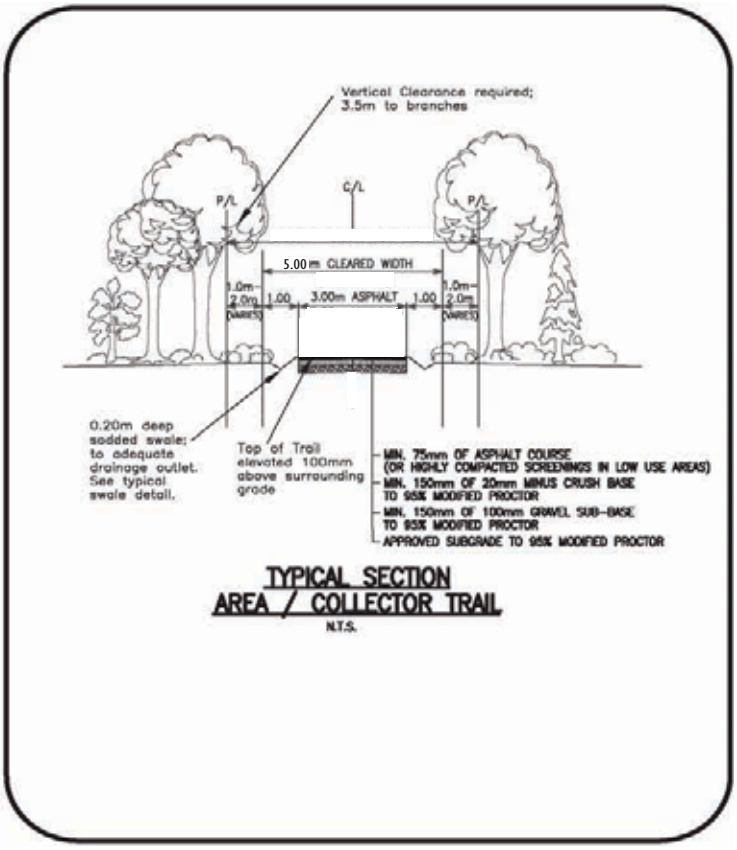


TYPICAL
SWALE DETAIL
N.T.S.



TYPICAL PLAN VIEW
ENVIRONMENTALLY SENSITIVE CROSS SECTION

Photo: Courtesy of Sandra Koenig



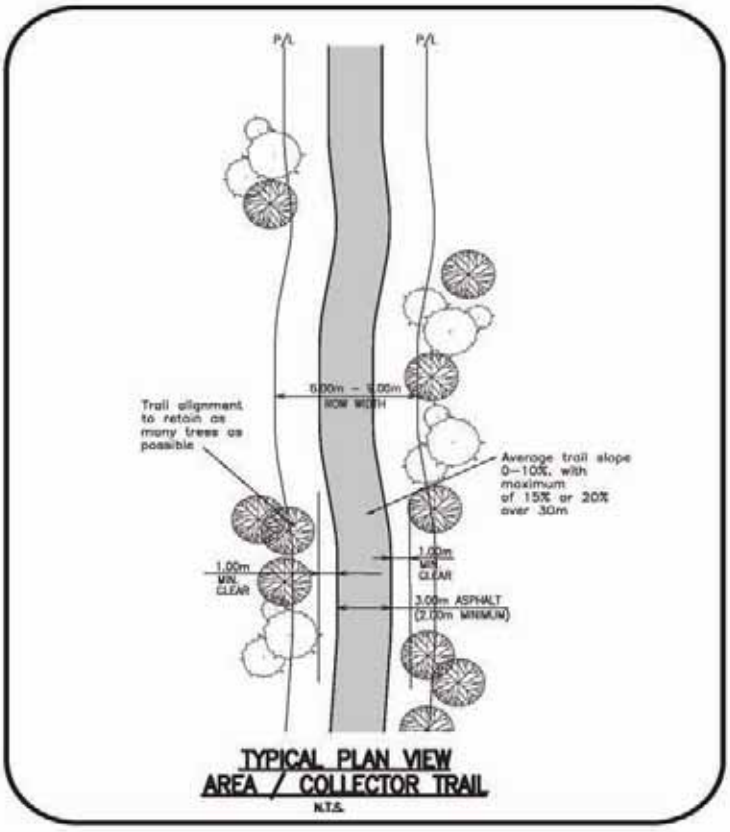


Photo: Courtesy of Sandra Koenig

TRAIL MAINTENANCE AND INSPECTION STANDARDS

An effective Trail Maintenance System requires regularly scheduled inspections, scheduled priority servicing, and proper record keeping.

INSPECTIONS, REPORTS, RECORD KEEPING

All trails that will come under these Trail Standards must be inventoried and have scheduled inspections and scheduled servicing when required. Trained Trail Inspectors will file reports and maintain records on all inspection and servicing requirements of the section of trail. The District of Squamish will schedule inspections and determine servicing requirements.

PRIORITIES

Effective risk management requires that safety, security, and critical signage issues take precedent over other issues such as underbrush/vegetation clearing, surface servicing, branch removal, and remedial work. In some cases environmental issues may require immediate response. The District of Squamish, in consultation with the appropriate bodies, will determine priority items along with the Sea to Sky Recreational Trail Steering Committee in conjunction with the Province.

SCHEDULED SERVICING AND UNSCHEDULED TRIGGERS

Schedule servicing may be changed/altered by the District of Squamish based on a number of factors, including risk management issues, public complaints, Council or Administrative directives and unscheduled "windows of opportunity" where resources or time factors require a quick response.

Unscheduled maintenance triggers include:

- Vegetation loss
- Deterioration of Technical Trail Features (TTF)
- Soil Loss
- Trail widening
- Short-cutting of switchbacks or climbing turns

PUBLIC INPUT/CONCERNS

All public requests and concerns will be documented and responded to in a timely manner. Files and records of these issues will be maintained.

TRAIL DEACTIVATION/DEMOLITION/REMOVAL

Occasionally, it may be necessary to temporarily or permanently deactivate or remove a trail from public access. It is important that the reasons for such action are well-documented, that all known stakeholders are consulted, and appropriate internal and external communication is provided. When required, appropriate signage will be used to alert the public to closed or deactivated trails.

FORMS/RECORDS

See Appendix for Trail Inspections and Servicing Requests forms.

ACCESSIBILITY

Where possible, the District of Squamish will strive to meet accessibility standards related to width, surfacing and grade. See accessibility standards on page 6.

TRAIL CONSTRUCTION STANDARDS AND GUIDELINES

ESTABLISHED TRAILS

'Established Trails' are those trails on Crown Lands established by the minister. They are legal trails that must be given consideration during land use planning decisions. Infrastructure, maintenance, and resources have been invested on these trails. Authorization is the first step to an 'established trail".

AUTHORIZED TRAILS

S.57 of the Forest and Range Practices Act provides that the minister may authorize the construction, rehabilitation, or maintenance of a recreation trail on Crown Land and may impose conditions that must be met. Authorization may be revoked or varied. Information about the application process is available on the Province of BC, Ministry of Tourism, Culture and the Arts website. The application form is available as a Word file download. (www.tca.gov.bc.ca/sites_trails/managing/Section_57.htm)

UNAUTHORIZED TRAILS

Unauthorized trails are trails on Crown Land not authorized by the minister. These trails are in trespass and will not be given consideration during land use management and planning decisions. No infrastructure, maintenance, and resources will be invested on these trails and the infrastructure may be removed.

The Ministry's website provides a form for reporting someone who is using Crown land without authorization, or is misusing Crown land, causing damage, or contravening their permit, licence or lease relating to Crown land. (ww.tca.gov.bc.ca/sites_trails/using/reporting.htm)

TRAIL UPGRADES AND REPAIRS TO STANDARDS

These Trails Standards apply to new trail construction and, where feasible, when existing trails, sections of trails, or trail features are upgraded or repaired. Because it is not financially possible to upgrade all existing trails to the new standards, the existing trails will be "grand-fathered" and upgraded as opportunities and resources become available.

BRIDGE AND PLATFORM CONSTRUCTION AND ENVIRONMENTAL STANDARDS

All built structures for bridges and platforms must be certified and authorized by the Community Development Department of the District of Squamish. Specifications will vary depending on the use, location, height, materials and size of the construction required.

In most cases, wooden structures are preferred with non-corroding hardware. All structures near waterways will need proper environmental authorization. See the environmental section of this document for guidelines.

Photo George's Crossing Bridge
Courtesy of Todd Pope

AN EXPLANATION OF TRAIL TYPES

From the Sea to Sky Recreation Trails Program Interim Terms of Reference – Draft March 2007

MOUNTAIN BIKE TRAIL RATING CHART

Trails are graded according to the green circle, blue square, black diamond, double black diamond system used predominantly in the ski industry and adopted by the International Mountain Bike Association (IMBA), and is defined in the following section. Trail widths and standards generally match the difficulty of the trail, i.e.: a narrower steeper trail will be rated as more difficult, a wider gentler trail as easier. This is reflected in the rating system.

	Type I	Type II	Type III	Type IV	Type V
Tread Surface	Concrete or Asphalt	Surfaced with Compacted Aggregates	Unsurfaced	Unsurfaced	Unsurfaced
Tread Width	2-4m	2m for double track trails; 1m for single track trails	50-70 cm	30-50 cm	30-50 cm
Clearing width	Tread width plus 1 m on each side	5m for double track trails; 1.6 m for single track trails	1.1 m – 1.3 m	1 m	N/A
Typical Use	Non motorized multi-use	Pedestrian Biking Equestrian Limited Motorized	Hiking Mountain Biking Trails Riding Equestrian Limited Motorized	Hiking Mountain Biking	Pedestrian Mountain Biking
Tread Type	Paved Double Track	Double track or Single Track	Single track	Single Track	Single Track
Typical Mountain Bike Difficulty Rating	N/A	Green Circle	Green Circle Blue Square Black Diamond Double Black Diamond	Blue Square Black Diamond Double Black Diamond	Black Diamond

MOUNTAIN BIKE TRAIL RATING DESIGNATIONS	GREEN CIRCLE (Easiest)	BLUE SQUARE (Challenging)	BLACK DIAMOND (Difficult)	DOUBLE BLACK DIAMOND (Most Difficult)
APPROPRIATE USER	Beginners and Recreational Riders. Mountain Bikes recommended. Safety equipment required (including helmets).	Intermediate Riders. Mountain Bikes required. Increased challenges and difficulty. Full safety equipment required.	Advanced/Expert Riders. Difficult and technical challenges. Full safety equipment required. High level of fitness required.	Expert Riders only. Most difficult and technical challenges. Highest risk level. Full safety equipment required. Do not bike alone. Recommend carrying a cell phone with you.
TRAIL DESCRIPTION	Gentle slopes and easily avoidable obstacles such as rocks, roots and potholes.	Challenging riding with steep slopes and/or obstacles, narrower trails with reduced traction. Requires riding experience.	Mixture of long steep climbs and descents, loose trail surfaces, numerous difficult obstacles to avoid or jump over, drop-offs and sharp corners. Some sections easier to walk than ride.	Exceptional bike control skills and balance essential to clear many challenging obstacles. Higher risk level. Only a handful of riders will enjoy these rides. Some sections easier to walk than ride.
TYPICAL TRAIL TYPE	II – III	III – IV	III – V	III - V
FEATURES	Embedded trail obstacles up to 10 cm. high.	Embedded trail obstacles up to 20 cm. high	Embedded trail obstacles may exceed 20 cm.	Same
MINIMUM WIDTH	1 metre	.5 metre	.3 metre	.3 m. or less
TRAIL SURFACE	Primarily soil and small loose rock, occasional screening.	Rough natural terrain and increased rock and root debris. TTF's (see below)	Rugged natural terrain. See TTF's below.	Same
AVERAGE GRADE	8%	10%	15%	May exceed 15%.
MAXIMUM GRADE	15%, except rock faces at 25%	Climbing – 25%, Descending – 35%, Rock Surface - 45%	Climbing – 35%	May exceed 35%
MINIMUM CURVE RADIUS	2.4 m.	1.8 m.	Sharp Corners	Same
EXPOSED NATURAL OBSTACLES (MAX. HEIGHT)	10 cm. max. height. Occasionally higher height for highly visible, easily avoidable obstacles.	20 cm. max. height	Various heights, some exceeding 20cm.	Same
BRIDGES (MIN. WIDTH)	Min. 1.0 m.	Minimum width of 50 cm. Flat decking is minimum one-half the height above surface.	Various widths. Minimum 30 cm. Flat width of decking is one-quarter the height above surface. Elevated bridges less than 3 m. high above surface.	Most difficult, exceeds Black Diamond.
TECHNICAL TRAIL FEATURES (TTF'S)	Small roots and logs to cross, embedded rocks to avoid.	TTF width to height ratio of 1:2. Small bridges (flat, wide, low and rollable from section to section). Small rollable drops. Small teeter-totters, less than 60 cm. high. Small jumps. Medium sized logs.	TTF width to height ratio of 1:4.Elevated bridges and teeter-tooters with maximum deck height. Connected Bridges. Larger Jumps. Steep descents with sharp transitions.	Most difficult, exceeds Black Diamond TTF's.
ROCK FACE OR RAMP DESCENTS (MAXIMUM ANGLE)	Rock face descents not to exceed 25% grade.	45%	Not to exceed 120%	May exceed 120%
DROPS (MAX HEIGHT)	None	Drops up to 30 cm., with exit cleared of all obstacles	Drops greater than 30cm. Some mandatory air.	Mandatory air.
JUMPS (MAX HEIGHT)	None	45 cm. No jumps with consequences for lack of speed. Table top jumps max. 40 cm. high.	Table tops, no maximum height. No gap jumps.	Same, except may include gap jumps.

MOUNTAIN BIKE TRAIL RATING DESIGNATIONS	GREEN CIRCLE (Easiest)	BLUE SQUARE (Challenging)	BLACK DIAMOND (Difficult)	DOUBLE BLACK DIAMOND (Most Difficult)

MOUNTAIN BIKE TRAILS

BACKGROUND AND RATING DESIGNATIONS

Squamish is an international mountain biking destination. Countless volunteer hours have gone into creating an exceptional trails network that provides for the fitness-oriented cross-country rider, the all-day epic rider and hard-core freeride/downhill rider. Trails in such a diverse sport range from wide, flowing, and gentle that are very "obvious" to the untrained eye, to a 6 inch wide tread of moss scraped off a vertical rock face succeeded by a narrow log with mesh tacked on the top. Because of this great variability, the classification and duplication of trails is inherently difficult.

> *"The trail is the thing—not the end of the trail—travel too fast, and you miss all that you are traveling for!"*
> *(Trailside sign on the Pinnacles Trail in Jackson Hole, Wyoming)*

Mountain bike trails are, by nature, quite different from hiking, commuting, walking and equestrian trails. Hiking trails generally strive to reach certain points of interest via the route of least resistance, i.e. low grade and wide, or steep with less regard for terrain features. Mountain bike trails are constructed to maximize the esthetic appeal of the terrain at hand. Soil, logs, lumber, and rock are sometimes used to enhance and create new landforms. Trails meander through a landscape from one feature to the next, the most successful and popular trails "flow" through the landscape in this endeavour.

Mountain bike technology reflects this. Suspension, brakes, geometry and drivelines of bicycles have evolved rapidly in the last few decades. Trails and man-made technical features have evolved with these technological advances to encompass astoundingly creative and sometimes extremely difficult trails and structures. For this document, mountain bike trails are not grouped by function but rather by degree of challenge or difficulty.

Photo
Courtesy of Todd Pope

NEW MOUNTAIN BIKE TRAIL DEVELOPMENT

All new mountain bike trails must be approved through an application process. This process is managed by the District of Squamish in cooperation with the local mountain bike club, Squamish Off Road Cycling Association (SORCA). The appropriate landowners must be contacted and provide written approval before making application for trail construction. An application form and a Trail Plan must be submitted for approval. The location and route must be flagged and inspected prior to any approvals or development. All safety and security issues must be addressed in the Trail Plan, including any technical trail features (TTF'S) to be added. Once approval has been given and the trail has been constructed the trail will be re-inspected and outstanding issues will be addressed before it is open. The trail will be classified, named, GPS mapped, and added to the trail inventory.

CONSTRUCTION STANDARDS AND AUTHORIZED MOUNTAIN BIKE TRAIL BUILDING

Terrain, precipitation and riding styles in Squamish exceed the scope of this manual, specially when constructing black and double black diamond trails. The skill and know-how of an experienced trail builder is invaluable. Input from an "authorized" trail builder is mandatory for all new trail construction project.

Squamish is located in a coastal rainforest and it must be emphasized that water erosion is the largest detrimental force for trails in the Squamish area. Trails located on steep slopes with shallow bedrock are especially prone to turning into drainages when not properly constructed. Care must be taken, especially on steeper trails, to provide for proper water management.

Consultation, design approvals and inspections with an authorized trail builder are mandatory.

FALL ZONE STANDARDS AND INSPECTIONS

Fall Zones are areas adjacent to TTF's (Trail Technical Features), sharp corners, and steep descents. They provide a reduced-risk area for riders to deviate into. Fall zones will be established on the outside of steep corners, at the bottom of steep descents, and adjacent to TTF's.

Fall zones cannot eliminate the potential for injury; however, a commonsense approach to establishing safer trails through the minimization of trail-side hazards will mitigate the potential of injuries. Annual trail maintenance:

Fall zones shall be inspected twice per year and maintained as appropriate. Trail users are requested to report potential hazards or problem fall zone areas to the District of Squamish. All trail inspections and repairs must be documented, including TTF's and on-going reports of potential safety issues.

Hazards may include rocks, stumps and roots, branches, trees, and parts of the TTF. Trails will be closed until safety or risk issues have been mitigated or addressed.

SIZE OF FALL ZONES

Fall zones shall be cleared of the following materials to a minimum of 1 m for TTF's lower than 30 cm, and 1.5 m for higher TTF's. Steep hills and sharp corners shall have a 1.5 m. fall zone on the downhill or outside area:

- Large shrubs with hard woody branches
- Stumps cut flush with ground or pulled out
- Tree branches trimmed to branch collar
- Non removable hazards covered with mulch or decayed wood
- Rocks with pointed or sharp edges should be dulled, or removed

Photo: Courtesy of Pat Gilbert

Not all ground covering vegetation should be removed from the fall zone. Moss, grasses, herbaceous and small shrub cover should be left to avoid soil erosion and to deter riders from enlarging the trail into the fall zone. Fall zones shall be considered especially important on blue and single black trails, where less experienced riders may be honing their riding skills and the opportunity of falling is increased.

TECHNICAL TRAIL FEATURES MATERIALS AND CONSTRUCTION STANDARDS

From the Provincial Document the Sea to Sky Corridor Recreational Trail Strategy Draft 2007.

Man-made Technical Trail Features (TTF) must conform to an **engineered** standard of minimum strength, stability and construction. Poorly built features are a potential source of injury and require extra maintenance

Man-made structures must be authorized and inspected to ensure compliance to construction and safety standards. The IMBA Trail Solutions Book has guidelines in their reference section pertaining to TTF design and construction. The Whistler Trail Standards: Environmental and Technical Trail Features is becoming the international standard for Technical Trail Feature construction. The information in this section pulls from both these resources.

Photo: Courtesy of Pat Gilbert

TTF DESIGN REQUIREMENTS:

VISIBILITY

By making the most difficult section of the TTF visible from the entry, riders can make an informed decision if they wish to proceed or not. By placing a narrow or difficult section at the beginning of a longer TTF, where it is low to the ground, less skilled riders will dismount early where the consequences of a fall are the choice of the rider.

STRENGTH & STABILITY

The structure must be capable of supporting a centered vertical load of 200 kg and a horizontal load of an 80 kg adult leaning against the constructed feature with less than 5 cm of displacement.

HEIGHT & WIDTH

Maximum height and width are dependant on the trail, and the feature's difficulty rating. Difficult features should be located on difficult trails, and vice versa. Bridges on green, blue and black trails that exceed height standards should be equipped with a railing for safety. Please note that handlebars can be as wide as 75 cm. Minimum distance between railings should be at least 1 m.

Photo: Tracks from Hell
Courtesy of Chris McCrum

CONSTRUCTION STANDARDS

When possible, native materials should be used.

- Sills should be cedar or treated wood.
- Douglas fir is the preferred material for weight bearing members (stringers, purloins, beams), split cedar rails are the preferred material for surfacing.
- Weight bearing members should be notched and cross-braced where they join.
- Whole logs should be peeled to slow the onset of rot, and increase joint strength and fastener penetration.
- Dimensional lumber may be used, it should be noted that standard SPF (spruce pine, fir) materials are not very durable when exposed to weather.
- Treated lumber is preferable.

Acceptable fasteners are, in order of structural integrity:

1. Galvanized carriage bolts and nuts (with galvanized washers)
2. Galvanized lag screws and washers
3. Galvanized Ardox spikes and nails (spiral spikes for their superior holding strength)

NOTE lag screws and nails should be of adequate length to allow for 2/3 penetration of the member being screwed or nailed into.

BRIDGE RUNG SPACING & SURFACING

Deck rungs shall be spaced 1-2 cm to allow for water and mud drainage.

- Rungs shall not overhang stringers by more than 5 cm.
- Rungs shall be securely fastened with a minimum of two or more (preferably four, if practical) large bolts, lag screws, or Ardox nails (see above).

It is recommended that wood surfaces, particularly those with a grade, have an anti-slip surface. Chicken wire is not acceptable because it wears quickly. The anti-slip surface should be fastened every 15 cm square.

EQUESTRIAN TRAILS STANDARDS

The following standards and guidelines are intended for trails that have a significant use (20% or more) by horseback riders. These trails will be designated as "Equestrian Trails" and signed accordingly.

SPECIFICATIONS

The equestrian trail surface material is finer and more compactible than the regular grades of trail material. This material is intended to reduce equestrian wear and tear. The trail width is wider than the Type 3 trail to allow for two horses and their riders to pass safely. The following specifications apply to new or rebuilt equestrian trails only:

- Minimum Trail Width – 2 m
- Preferred Trail Width – 3 m
- Width Clearance – 1 m per each side of trail,
- Height Clearance – 3.5 m
- Surface Material Type – Screened Gravel, Grade – ½ inch or less crushed minus
- Subgrades as per Type 2 Trail
- Maximum Trail Grade – 15%

GENERAL

The same principles of alignment and design (not covered in this manual) that apply to regular hiking trails also apply to equestrian trails. The size of the gravel may vary with the terrain and/or erosion and drainage issues. Bark mulch is not recommended as a trail surface material due to the higher level of maintenance required and a need to keep the mulch out of waterways and drainage areas.

BACKCOUNTRY EQUESTRIAN TRAILS

These Standards and Guidelines are not intended to apply or impact equestrian use of trails beyond the District of Squamish boundaries.

WATER CROSSINGS AND BRIDGES

Bridges are to be engineered to support equestrian use or alternate routes provided, with proper signage, to allow equestrian crossing.

These structures must be inspected annually. When a bridge is not available and there is significant equestrian use across a waterway the District Environmental Department should be consulted about alternatives that provide easy fish and debris passage, as well as reducing the stirring up of silt. For example, a French Ford - two parallel logs imbedded across a stream with small to medium rocks set between the logs - allows water to flow easily across and impacts are mitigated.

Photo: Elvis
Courtesy of Kim Muller

ENVIRONMENTAL REQUIREMENTS: WORKING IN AND AROUND STREAMS

REGULATORY REQUIREMENTS

Some regulatory requirements should be kept in mind when planning and building trails, particularly with respect to stream crossings. A brief overview is provided here. The District of Squamish Environmental Department can advise on potential site-specific regulatory requirements

DISTRICT OF SQUAMISH SITE ALTERATION BYLAW

Sections of bylaw 1886, 2005 that apply to trails construction include provisions for tree removal as well as deposit or excavation of material. The District of Squamish Environmental Department can discuss compliance of individual projects with trails organizations.

DISTRICT OF SQUAMISH WATERCOURSE REGULATIONS

District of Squamish Bylaw 2062, 2008 requires the assessment of any development proposed within a 30 m stream corridor (termed the "riparian assessment area"). Consult with the District of Squamish Environmental Department to discuss how these regulations may apply to your project.

FISH PROTECTION ACT

The Provincial Fish Protection Act (FPA) was enacted in 1997 to help protect BC fish stocks. Its fundamental objectives are: to ensure sufficient water for fish; to protect and restore fish habitat; to improve riparian area protection and enhancement; and, to support local government powers in environmental planning.

BC WATER PROTECTION ACT

This Act is the main Provincial statute regulating water resources within BC. Under the act, it is an offense to divert or use water or alter a stream without approval from Land and Water BC; however, Section 9 of the Water Act allows for some activities to be conducted under the Notification system, as opposed to the formal approval process. Many trail construction activities (such as bridges) can be directed through the simpler Notification Process.

WILDLIFE ACT

FEDERAL FISHERIES ACT

The Department of Fisheries and Oceans Canada (DFO) has the ultimate authority over fish habitat through the Fisheries Act, which is the main federal legislation affecting all fish, fish habitat and water quality. Any proposed trail building or maintenance activity that has the potential to deposit a deleterious substance (such as sediment or concrete wash water) or to alter or destroy fish habitat invokes this act.

APPLYING THESE REGULATIONS WITHIN THE CONTEXT OF TRAIL BUILDING AND MAINTENANCE

In general, most works within stream channels or riparian areas that are in support of trail building and maintenance will not require a Fisheries Act authorization. However, any trails proposed trails to be located within 30 metres of a stream may require municipal permit and must be discussed with the District of Squamish Environmental Department.

The Environmental Department will communicate with the local DFO habitat biologist and determine the best trail alignment through sensitive riparian habitat areas; the Environmental Department will also work with DFO and the trail builders to establish site-specific impact reduction measures during the trail design and construction practice.

ENVIRONMENTAL STANDARDS AND GUIDELINES IN TRAIL DEVELOPMENT

Trail builders may be subject to any permit requirements under either the BC Water Act or the Riparian Areas Regulation. Contact the District Environmental Department for assistance in preparing a Notification Form (Water Act) or to ensure that your project is in compliance with the Fisheries Act and the District of Squamish Watercourse Regulations.

STREAMS: TRAIL BUILDERS' DUE DILIGENCE

When working in and around water, it is the trail builders' responsibility to:

- Be aware of the legal municipal, provincial and federal requirements for working in and around water.
- Recognize the potential impacts from proposed works and the need to mitigate or lessen those impacts.
- Ensure the protection of fish and wildlife populations, including Species at Risk.
- Obtain appropriate permits and authorizations from regulatory agencies prior to proceeding with trail construction and/or maintenance.
- Conduct work activities to limit impact and comply with the law.

Photo: Courtesy of Sandra Koenig

STREAM CROSSINGS AND SETBACKS

Installing stream crossings for trail building and maintenance is the area of a trails project that could result in the greatest environmental impact. If done improperly, stream crossings can have both shortterm and longterm impacts on streams, including sediment transport and deposition and blocked fish access to spawning and rearing areas.

Some terminology is introduced here to aid trail builders in understanding the legislation and Best Management Practices (BMP) applicable to stream crossing projects.

> *The International Mountain Bicycling Association (IMBA) has an excellent publication called "Trail Solutions" which outlines the construction of mountain bike trails. Portions of this environmental section reference specific sections of this IMBA publication.*

DEFINITIONS

RIPARIAN AREA

Sometimes referred to as "riparian zone". This is the area on either side of a stream. For the purposes of this trails standards document, the riparian area extends 30 m landward from the top of bank of the stream channel.

The riparian area performs numerous beneficial habitat and flood control functions; including supplying food and nutrients to aquatic species (fish, invertebrates, etc) and storing runoff from large storm events.

RIPARIAN SETBACK

Sometimes referred to as "riparian leave-strip", "leave-strip", or "buffer". The setback denotes the zone immediately adjacent to the channel where development is either, a) not allowed, or b) allowed only in a very limited capacity. Typically, riparian setbacks are as follows:

- 30 m from channel top of bank for fish-bearing and/or permanent watercourses;
- 15 m from channel top of bank for non-fish-bearing and/or ephemeral watercourses.

The District of Squamish Environmental Department can advise as to whether the stream you are working on is fish bearing or non-fish-bearing.

PERMANENT STREAMS

Watercourses that contain year-round flows.

EPHEMERAL STREAMS

Watercourses that only flow part of the year (for example, flow approximately 6 months of the year, or only during large storm events).

STORM WATER MANAGEMENT AND TRAIL BUILDING

The District is increasingly advocating the infiltration of storm water as a policy for all new developments. Returning storm water to the ground helps to maintain summertime base flows, thereby ensuring sufficient water supply for rearing fish. While recreational trails arguably may not have much impact on local hydrology, the District still believes that infiltration of rainwater should be a priority on all new trails, particularly for the larger Primary and Area/Collector Trails (#1 and 2).

Vegetated swales along trail alignments can be used to aid in infiltrating the rainwater that would otherwise be conveyed off the trail via surface runoff into the closest municipal storm sewer culvert and lost for groundwater recharge.

The swale system can be effective even in soil types such as clays, which have a very low infiltration rate. However, use of the swales may be limited in areas where the water table is very near the surface (< 0.6 m). The District Environmental Department and the project engineer can provide guidance in selecting an infiltration measure suitable to the trail site conditions.

EROSION AND SEDIMENT CONTROL

(Reference Trail Solutions: IMBA's Guide to Building Sweet Singletrack. Section Understanding Soils, pages 84-85)

Best Practices during trail construction: working within the riparian area or "in stream"

Next to poorly constructed stream crossings, erosion at the works site and sediment deposit in adjacent watercourses have the next greatest potential to impact streams and riparian habitats.

Numerous guidelines for erosion control on trail projects exist. This section provides a brief overview of erosion/sedimentation Best Management Practices (BMPs) for trails projects in Squamish.

The District Environmental Department can provide additional design details for selected sedimentation control measures on a site-specific basis.

Water drainage features are necessary to prevent erosion along trails on slopes and to avoid standing water on trails on flat ground. The frequency, size and type of control structures depend on erosion potential of the soils under the trail. For example, sandy soils are less erosive than clay soils because of the large grain size and porosity of sands. Two other important factors include the velocity of water along the trail (which depends on the slope), and the length of time, or distance, running water is allowed on the trail. Most erosion control measures are designed to reduce the velocity and/or the distance of water running on the trail. Such measures must be installed immediately after clearing and prior to trail construction.

The trail design process can incorporate recommendations to minimize soil erosion for specific soil types. Details of the prescriptions, and where they occur, should be described in the final trail plan for individual projects. Some erosion/sedimentation BMPs appropriate for trails projects include: straw bale barriers, silt fencing, and temporary sediment traps.

FISHERIES ISSUES

Construction timing and work windows guidelines.

Construction sequencing and the timing of in-stream works during the "fish window" will significantly reduce a trail project's potential for adverse environmental impact. In general, keep these guidelines in mind:

- Coordinate the construction schedule to minimize the amount of area disturbed at any one time.
- Coordinate land clearing for the trail and stream crossings with the installation of erosion control measures.
- Minimizing the disturbed area reduces the potential for erosion.
- Halt clearing and in-stream works during periods of heavy rainfall.
- Construct in-stream works (channel crossings) during the summer work window (the "fish window") when use of watercourses by salmon is at a minimum. The District Environmental Department can advise on specific dates of window, but in Squamish, it's generally from mid-June to mid-August, depending on weather.

Work area isolation

When installing watercourse crossings

Isolate work areas within streams to minimize erosion and sedimentation.
Pump water from within the in-stream work area to a land site where it will infiltrate through the soil, or settle out sediment, prior to returning to the stream.
Revegetate areas of disturbed riparian vegetation.

Fish Salvage

Fish Salvage is the relocation of live fish from a work site to a safe location above or below the site. If channel dewatering is required to complete the trail project, fish should be salvaged from the dewatering site and returned to the stream. The person undertaking the fish salvage and/or fish passage operations should consult with the District Environmental Department and obtain and hold all necessary permits required by DFO.

Fish Passage

For Stream Crossings (Reference section: IMBA Wetlands and Water Crossings, pp.176186).

All stream crossings must be constructed so as to allow upstream and downstream access for migratory fish (e.g., salmon). Passage must be ensured during both high and low flows, and for juvenile as well as adult fish. Bridges are the preferred crossing mechanism, installed from just above the channel top of bank. Where bridges are not feasible, culverts can be installed in accordance with the following requirements:

- Provide culverts large enough to allow fish passage in all flow conditions. Open bottom culverts are a viable alternative.
- Maintain a minimum depth of water to allow continuous fish passage at all times.
- Maintain drops in water surface small enough to allow fish passage upstream.
- Install the culvert such that the downstream invert is well below grade to accommodate changes in streambed elevation.

Round or elliptical corrugated metal culverts do not provide good fish access, concentrate flows and velocity (increasing erosion potential), and are generally unsuitable for fish passage.

MONITORING OF WORKS

The independent environmental monitoring of works is an activity undertaken to ensure that works are completed in compliance with the required standards, best practices, and regulatory conditions. Depending on the nature of the works and the sensitivity of the site, the District Environmental Department or DFO will advise whether an environmental monitor is required.

CONCRETE WORKS

A trail bridge over a stream often requires the installation of concrete bridge abutments or retaining structures. Concrete, cement, mortars, grout and other Portland cement or limestone containing construction materials are basic or alkaline materials (high pH). They are highly toxic to fish and must be used near water with extreme care. In general, it is preferred that precast materials are used, as opposed to cast in place. If cast in place abutments are proposed, consult the District Environmental Coordinator for guidelines.

TRAIL ALIGNMENT AND VEGETATION REMOVAL

In general, vegetation removal for trail alignment does not constitute a significant environmental impact. Trail alignment must be discussed with the District Environmental Department for any trails proposed within the riparian setback. In addition, keep these guidelines in mind:

Photo
Courtesy of Todd Pope

- Limit vegetation clearing for access and at the work area. Consider other options when contemplating the need to remove vegetation.
- Wildlife trees are important for numerous species in Squamish. Avoid removing trees that are used for nesting or roosting by songbirds and/or raptors.
- Where a danger tree can be removed by topping or removal of the dead limb(s), this should be undertaken in preference to removal of the entire tree.
- Discuss with the Environmental Department about the possibility of replacing trees in a nearby location in "exchange" for the removal of valuable trees to accommodate a trail alignment.

TRAIL SIGNAGE STANDARDS GUIDELINES

Signs are a critical part of Trail Management. They provide vital information to trail users to enable them to make informed choices about trail use by identifying trail difficulty rating, risks, length, and primary use. Signs are an important part of a Risk Management Program.

Photo: Courtesy of Sandra Koenig

All signage used at trail heads, trail connections/links, and directional signage must conform to the District of Squamish signage guidelines. Because these guidelines may change from time to time, please consult the District of Squamish and the District of Squamish Sign Bylaw before initiating. Also refer to the Provincial Sea to Sky Corridor Recreation Trail Strategy page 48.

The following specifications are intended to summarize current signage guidelines as they apply to trails:

SIGN MATERIAL: Aluminum - minimum 2.3 mm thick

DIMENSIONS: Note: Heights may vary depending on the volume of information.
Trailhead: (Width) 300 to 450 mm. X (Height) 450 to 600 mm
Trail Marker: (Width) 180 mm. X (Height) 225 mm
Directional/Distance Posts: (Width) 85mm. X (HeiWght) 85mm

FASTENERS: Vandal-resistant, stainless steel or hot-dipped zinc galvanized lag bolts.

Photo: Courtesy of Todd Pope

SURFACE FINISH: Aluminum sign sheet with vinyl skin (minimum thickness .091 in.)

SURFACE/BACKGROUND COLOUR: To match 3M Dark Forest Green

GRAPHICS:

Colour:	Matte White
Material:	Vinyl Lettering:
Titles:	Capital Letters.
Height:	30-50 mm.
Copy Height:	20-40 mm.
Font:	Frutiger 55
Symbols:	As per symbols in the current signage guidelines. See #3 below.
Logos:	As supplied in appropriate colours and sizes, and as space allows.

TRAIL HEAD SIGNAGE INFO:

1: Trail name and map reference number (capital letters – bold).
2: Trail distance/directional Information (km) and special features, degree of difficulty symbol.
3: User and restriction symbols (black symbol on white circular background), including "No motorized vehicles" symbol.
4: "Use at your own Risk" and "Please Keep Clean" and other appropriate risk management requirements, such as uneven terrain, blind corners, etc.
5: Appropriate sponsors or constructor logos.
6: District of Squamish Logo and website and/or landowner's identification
7: Separate or add-on signage – trail map, special safety considerations, trail etiquette Info., "No Motorized Vehicles" sign, and additional symbols, etc.

TRAIL MARKER: Signage information from above. Items 1, 2, 6 & 7

DIRECTIONAL/DISTANCE SIGN POSTS: Signage information from above. Items 1 & 2 at trail intersections.

TRAIL HEAD: Either 8 X 8 inch treated (brown stains and preservatives) western red cedar (preferred) or minimum 50 mm diameter zinc galvanized steel post with cast brackets and cemented base.

TRAIL MARKER: 8 X 8 or 4 X 4 inch treated, western red cedar.

TRAIL DIRECTIONAL & DISTANCE POST: 4 X 4 inch treated, western red cedar

KIOSKS: Usually located at major parks entrances, key trail heads or on dyke trails. Design and size must be approved by District of Squamish and will vary depending on use and location.

Colour schemes should be consistent with regular trail signs. Kiosks will be used to highlight area/park trail maps, local protocols/courtesies (ex. climbers' code, right of ways, trail courtesies, safety issues, etc.), special interest areas, message boards, sponsors, etc.

TRAIL MAPS: Usually located at major trail heads or on trail kiosks. Sections of the District of Squamish trails mapping and numbering system will be used, or a graphic representation of the localized trail will be used, noting the users location (you are here) and distances to the next trail section(s) or other trail intersections. Maps may be printed/duplicated on vinyl and attached to aluminum signs or mounted and protected on kiosks with plastic lamination and lexan.

Mapping may also include key destination points, special interest points along the trail, and/or degree of difficulty sections. "Designated" trails such as mountain bike, climbing, equestrian use routes are shared use trails, but rights of way and courtesies are different and should be noted on the map or legend.

DIRECTIONAL ARROWS: Used to point to landmarks, special interest points, climbing sites, viewpoints, etc. May be attached to existing trail posts or may require own post. Design and size of arrows need to be established. Colour schemes should be consistent with regular trail signs and the Provincial Standards where applicable.

All sign photos Courtesy of Todd Pope

STREET SIGN DIRECTIONAL ARROW: Attached to regular street sign poles and used to direct trail users when a "special" trail route uses a path beside, or on, a street way. Requires approval from DOS for designated and dedicated routes (ex. "Test of Metal" mountain bike race route). Colour schemes will be different and distinct from street name signs and easily identifiable.

SIGN APPROVALS AND ORDERING: All trail signs will be approved by the District of Squamish (DOS), or designate, and will be ordered by the DOS, or designate. Placement and mounting of signs will be done by the DOS or an approved agent (for example, the Squamish Trails Society, Squamish off Road Cycling Association, Squamish Access Society, Squamish Dirt Bike Association).

Photo
Courtesy of Todd Pope

USER HARMONY

Squamish's extensive trail network is used by a wide variety of users including hikers, trail runners, mountain bikers, motorized bike riders, equestrian riders, and climbers. Many trails are 'shared use' and conflict can arise between users. Signs that identify a trail as multi-use (ex. mountain biking and motorized biking) inform users to expect to encounter each other, identify the primary use of the trail and who has the 'right of way', can reduce the likelihood of conflict.

User groups such as Trials Riders, Squamish Off Road Cycling Association, Squamish Dirt Bike Association, and Squamish Climbers' Associations have created codes of conduct to help minimize potential user conflicts and promote respect between user groups.

All users - motorized or non-motorized, wheeled or non-wheeled - should respect each others' right to trail access and enjoyment. All users should be familiar with the other groups' user information. When in doubt, please be courteous and give the other user the right of way.

To get involved, please contact the your local users' group or visit www.squamish.ca.

DOGS ON TRAILS

On main hiking trails dogs must be on a leash, even for cyclists. On designated back country mountain bike trails, while it is not safe or practical to expect mountain bikers to have dogs on leash, it is expected that dog owners will have their dogs under control. Complaints about dogs may result in the owner's dog being barred from mountain bike trail access.

Dog feces creates hazards to humans and wildlife. Owners are to clean up after their pet.

HORSES

All users should be aware that horses can be shy and easily frightened. Extra care should be exercised when encountering an equestrian user. Please see equestrian section on page 35 for more details.

RESPECT BEAR HABITAT

Trails users should not only respect each other but also the area's natural inhabitants.

Squamish is located in prime black bear habitat and trail users should be prepared to encounter a bear. These guidelines help ensure any encounters with bears are positive and free from conflict.

- Stay alert and look for signs: scat, claw marks on trees, broken up rotted logs, overturned rocks, berry bushes, and possible daybed areas.
- Make some noise: traveling fast on moving mountain bikes can lead to surprise encounters.
- Avoid surprise encounters: make your presence known by talking loudly, singing songs, cracking sticks, or banging rocks especially when near loud stream/rivers, going around blind corners and when in areas with dense berry bushes.
- Pack out what you pack in. Bears have a keen sense of smell. Never feed a bear – intentionally or unintentionally.
- Keep all dogs on leash and under control. Dogs can be helpful in detecting bears but they may also aggravate or lead a bear back to you.
- If you see a bear remain calm and assess the situation. Identify yourself as human by talking in a calm tone of voice. Back away slowly in the direction you came from to increase the distance between you and the bear. Do not run. In most cases the bear will flee.

CLIMBING

SMOKE BLUFFS PARK: CLIMBERS' "CODE OF ETHICS"

Some of the crags and trails in the Smoke Bluffs Park are close to residential areas, in particular "Burger and Fries", "Alexis" and "Neat and Cool". In order to foster good relations between neighbours and climbers, a "Courtesy Code" was developed and is supported by the District, the Squamish Access Society, the Federation of Mountain Clubs of BC, the Climbers Access Society of BC and the Squamish Trails Society . The Code is on a sign at the entrance to the main trail from the Climbers Parking Lot off of Loggers Lane and at other locations in the park. Please follow and support this park user's Courtesy Code:

Photo: Courtesy of Sandra Koenig

- Please minimize your noise impact, especially at Neat & Cool, Penny Lane, and Burgers & Fries
- Please park in the Loggers Lane parking lot and not in residential areas
- Please use the toilets provided (Parking lot, start of Smoke Bluff Loop)
- Keep dogs under control at all times and pick up after them.
- Cyclists – avoid excessive speed and yield to pedestrians
- Avoid monopolizing popular climbs; organized groups do not have precedence over others and should consider using less popular crags

Climbing group volunteers, such as those in the Crag Keepers program, regularly perform "vertical terrain management", including the clean-up and maintenance of popular or under-utilized climbing routes.

Photo
Courtesy of Garry Broeckling

EQUESTRIAN

The following standards and guidelines are intended for trails that have a significant use (20% or more) by horseback riders. These trails will be designated as "Equestrian Trails" and signed accordingly. For safety reasons, riding on trails should be "single file" except when passing.

Photo: Elvis & Jan
Courtesy of Todd Pope

SHARED USE

All public trails in urban Squamish are shared use, and this includes "equestrian" designated trails. Some trails, due to safety or sensitive habitat issues, may not be appropriate for equestrian use. Please observe posted signage.

TRAIL COURTESY

Horses can sometimes be shy, frightened or unpredictable, therefore, for safety reasons, trail courtesy on both regular and equestrian designated trails requires that the horse will have the right of way over the walker and the cyclist. Cyclists and walkers should provide as much room as possible and, when it is safe to pass, provide a verbal warning to the horse rider.

HORSE DROPPINGS

The horse rider will be responsible for the cleaning up, bagging, and proper disposal of all horse droppings on all trails throughout the District.

GALLOPING

Riders are not permitted to gallop or race on any District trails as this action can endanger other users, in particular small children, the physically challenged, and elderly. Galloping can also cause damage to the trails. Equestrian Groups may want to get landowner permission to create appropriate "equestrian runs" off-trail or gallop only in open, safe, off-trail areas.

PEDESTRIAN

Hiking and trail running are becoming increasing popular. To avoid conflicts, pedestrian users should recognize other groups' right to access and be familiar with their codes of conduct.

Pedestrian users should note the trail's primary designation and when on trail designated for motorized bikes, mountain bikes or equestrian use, pedestrian users should yield the right of way.

Photo
Courtesy of Todd Pope

MOTORIZED BIKE

LIMITATIONS

For safety and maintenance reasons there is limited access to trails for motorized vehicles with the exception of maintenance/service vehicles and battery powered wheelchairs and carts. Other motorized vehicles may be operated only on "specified" shared use trails within certain areas and warning signs to the area must be posted at all access points. Negotiations are currently underway to improve access for off-road motorcycles.

The OFF-ROAD VEHICLE BYLAW NO. 1716, 2002 and amendments is the current District of Squamish bylaw related to off-road vehicles. A copy of the bylaw is available at the District website www.squamish.ca or at municipal hall.

DESIGNATED/SHARED TRIALS BIKE TRAILS

The Park Avenue (Boulderdash) trail (in Smoke Bluffs Park) is an example of a designated trials bike trail. It will be "shared use" with appropriate warning signage, posted trail courtesies and degree of difficulty markings. Almost all Trials Bike shared trails will, by nature of the use and degree of physical challenge, have a "difficult" or "very difficult" rating. The same construction, maintenance, and inspection standards will apply to these trails as the Mountain Bike Standards. Some trails, or portions of trails, will also be designated (signed/marked) as permitting Trials Bike access.

On designated motorized bike trails the motorized bike will have the right of way and approaching hikers and mountain bikers should step aside and wave the bike through. The same courtesies as on regular shared trails apply.

- Learn about the area you will ride in. Contact your local user group for more information to ensure that you understand area restrictions and have permission to ride there. Get maps of the area, and stay on the designated trails
- Contact the SDBA for your BCORMA Trail Pass.
- Respect the rights of all recreationists to enjoy the beauty of the outdoors. Respect public and private property.
- Park considerately, taking no more space than needed, without blocking other vehicles and without impeding access to trails.
- Keep your dirt bike quiet – spark arresters mandatory and 96 DB noise limits.
- Obey trail markers and closure signs. There are many reasons why an area may be closed, if it is posted as closed, stay out.
- Respect designated areas, trail-use signs and established trails.
- Realize that destination objective and travel speed should be determined by your equipment, ability, the terrain, weather, and the traffic on the trail.
- Be courteous to other recreationists you may meet on the trail. Yield the right-of-way to traffic moving uphill. Pull off the trail and stop your engine for horses. Slow down and use caution when approaching another.
- When stopping do not block the trail.
- Pack out everything you packed in and do not litter.
- When talking to another trail user, take your helmet off. The helmet can make you appear to be intimidating and unfriendly. Be friendly and don't interfere with or harass others. Recognize that people judge all trail users by their actions.

TRIALS RIDING

TRIALS BIKE INFORMATION AND CODE OF CONDUCT

Trials Trail riding is a sport of skill, balance and precision. The Howe Sound Trials Riders Club contribute to trail construction and maintenance. They support shared access and typically have interest in access to a few trails that will get them away from higher public use routes.

Their codes of conduct listed below help create mutually respectful relations between all users.

Trials bikers belonging to the Howe Sound Trials Riders Club have created and agreed to the following "Code of Conduct". They also educate and do follow-up with their members and visitors from other Clubs about this Code:

- Promote the "shared" use of trails by hikers, climbers, mountain bikers and trials riders.
- Ride only on signed "designated use" trails.
- Do not enter areas or trails that restrict "motorized" use.
- Smoke Bluffs Park Use the segregated "put in" area at the back of the Loggers Lane parking lot to access "Park Avenue/Boulderdash". The Smoke Bluffs parking lot is a "No Riding" area.
- Promote courteous and respectful behaviour at all times with all trail users. Be an ambassador for Trials Biking. Wave and/or stop to greet people you meet on the trail. Give directions and be helpful.
- Give the right of way to other users whenever possible. Always slow down when approaching other trail users and pass only when safe to do so.
- Whenever possible maintain any trail you ride on by trimming back underbrush and branches, clearing hazards such as fallen rocks, branches and trees, picking up garbage, etc.
- Avoid riding near housing developments or places that might be impacted by noise. Maintain proper muffler systems and standards. Avoid ecological sensitive areas, and overriding of trails or areas.

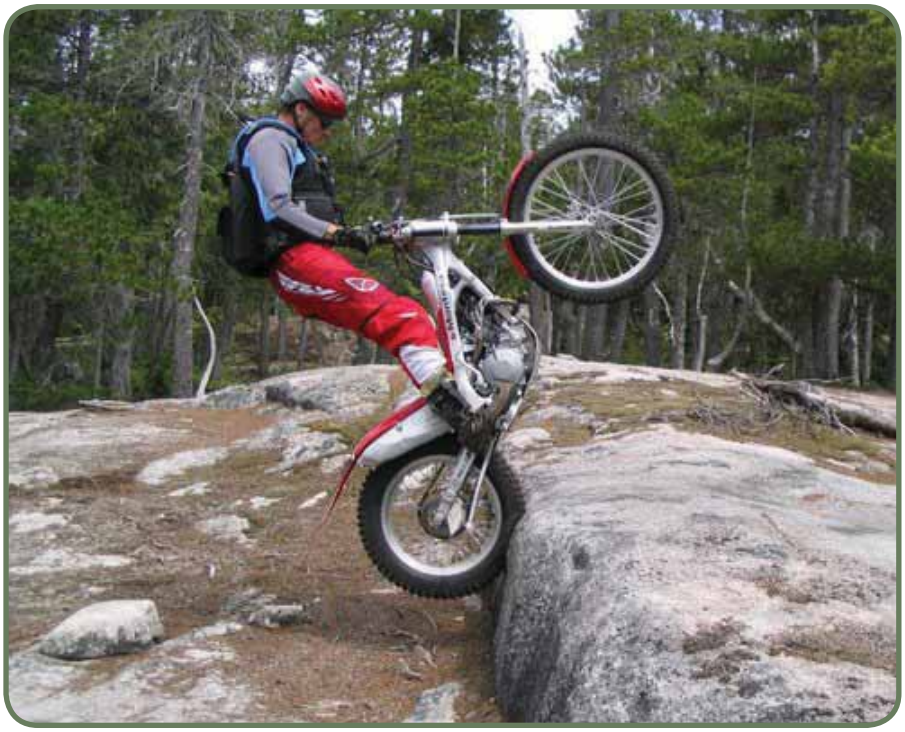


Photo: Courtesy of Francesca Knight

MOUNTAIN BIKE

COURTESIES, RULES OF THE ROAD

All trails in Squamish are shared. When mountain bikers are on general hiking trails the person on foot has the right of way and caution should be exercised in passing or approaching. Slow-down, be courteous, warn of your approach and thank them for giving you room.

Photo
Courtesy of Pat Gilbert

On "designated" mountain bike trails hikers should physically step aside and wait while a mountain biker rides through, again a wave and a thank you will earn respect from both users.

While these "courtesies" will be posted at appropriate trailheads it will take time to educate all users. Squamish Off Road Cycling Association, Squamish Trails Society, Squamish Dirt Bike Association, Squamish Access Society, Federation of Mountain Clubs, the District of Squamish and other local groups will assist In educating their membership and the general public about trail courtesies.

SORCA has the following Responsible Riding Tips posted on their website www.sorca.ca

1. Be Prepared
   Know your equipment, your ability, the weather, and the area you are riding and prepare accordingly. A well-planned ride will go smoothly for you and your companions.
2. Don't Ride On Closed Trails
   Whether it is to protect the environment or for rider safety, a closed trail is off limits for a reason. Riding closed trails is not only illegal; it gives mountain bikers a bad reputation.
3. Respect the Trail, Wildlife and Environment
   Be sensitive to the trail and its surroundings by riding softly and never skidding. Do not litter and never scare animals.
4. Stay On the Trail
   Do not intentionally ride off trail. Riding off trail can damage the ecosystem. Never cut switchbacks.
5. Ride Slowly On Crowded Trails
   Just like a busy highway, when trails are crowded you must move slowly to ensure safety for all trail users.
6. Pass With Courtesy and Care
   Slow down when approaching other trail users and respectfully make others aware you are approaching. Pass with care and be prepared to stop if necessary.
7. Share the Trail With Other Trail Users
   Mountain bikers, hikers and equestrians must share multi-use trails. Remember: mountain bikers should yield to hikers and equestrians.
8. Don't Do Unauthorized Trailwork
   Unauthorized or illegal trailwork may lead to environmental damage, injury or even potential trail closure. Don't change a trail just because you don't like it or can't ride it. Send us an email if you have a trail issue.
9. Get Involved
   If you want to make a difference in your mountain biking community get involved with SORCA.

SPECIAL EVENT ACCESS/APPROVAL TO USE TRAILS

GENERAL

The District of Squamish encourages and supports special events in the community. The intent of the application process is to foster and enable good planning and positive experiences for the organizing groups and the general public. The process is designed to enhance the event by improving communications and clearly outlining expectations.

APPLICATION PROCESS

All community special events that utilize trails, both internal and external, must go through an application process with the District of Squamish. There are standard forms to be filled out by each event organizer. The intent of this process is to monitor, control and protect the trails from overuse, user conflicts, and potential abuse of the resources and facilities.

The process will also be used to inform and educate the users and the public, and in some cases enhance trail maintenance or amenities. The Application Form will require event information (including date, time, type of event, anticipated number of users, route description and mapping, cost for participants, and whether or not it is a private, public, or commercial event, etc.).

REQUIREMENTS

Depending on the complexity of the event, the application may involve a site visitation, safety inspections, event reports, and a list of requirements (or expectations list) for the event organizers.

There may also be a trail/amenity/facility cleanup requirement following the event. Major or commercial events may be required to complete a consultative process with specific trail community groups. Some events may require Council approval.

APPROVAL PROCESS AND TIME

Depending on the complexity, sensitivity or history of the event, the process can be relatively simple or the consultative process can take some time. It is important that all first-time events get their applications into the Trail Coordinator as soon as possible (even if it is only in the planning stages).

Major events or commercial events should apply a minimum of two months in advance of the event. Late applications may not be approved.

TRAILS INSPECTION CHECK LIST

The checklists on the following pages are available from the District of Squamish.

SQUAMISH
OUTDOOR RECREATION CAPITAL OF CANADA

T A S NSP CT ON C C ST

Trail Name

Trail Location

Date of nspection

Overall nspection Comments

SP C F C NSP CT ON F ND NGS	R F R NC N MB RS	R D	F R NC N MB R AND SCR PT ON OF PROBL M	G N RAL LOCAT ON OF PROBL M	COND T ON GOOD	AD AT B T W LL N D PGRAD	POOR	MM D AT M T GAT ON
Litter/Garbage		1						
dge Brushing		2						
Brushes and Windfall		3						
Safety Hazards		4						
Slope rosion		5						
Riparian Crossings								
Bridging and Decking		7						
Sightlines		8						
Surface Conditions								
Signage in Place		10						
Hazard Signage		11						
Technical Trail Features		12						
Fall ones		13						
andalism		14						
Trail Braiding		15						
Fence/Barrier Condition		1						
Cultural Areas Protected		17						

Please use the back of this sheet for any further comments, including suggestions for improvement of any kind.

SQUAMISH
OUTDOOR RECREATION CAPITAL OF CANADA

T A S NSP CT ON C C ST

ADD T ONA CO NTS	
Reference Number	

RESOURCES

TRAIL MAPS Current Trail Maps are available at the Squamish Municipal Hall, the Squamish Adventure Center and local businesses for a small fee. Net proceeds from these sales go to the Squamish Trails Society for further work on the trail system.

The interactive trails map available online through www.squamish.ca (follow links to trails) contains excellent information. Users can search by area, difficulty, and by trail type (ex: hiking, SDBA, access trails).

FORMS (Available through the District of Squamish):

- Trail Safety/Maintenance Inspection Form
- Special Event Application Form for Trail Use

OFFROAD VEHICLE BYLAW NO. 1716, 2002 – Available through Municipal Hall or online at www.squamish.ca.

District of Squamish Watercourse Regulations. Available through Municipal Hall.

British Columbia Ministry of Forests and Range website:
www.gov.bc.ca/for

British Columbia Ministry of Forests and Range statutes section 57 proposal applications:
www.tca.gov.bc.ca/sites_trails/managing/Section_57.htm

Squamish Adopt-a-Trail
www.adoptatrail.ca

REFERENCES

Cascade Environmental Resource Group Ltd. Squamish Mountain Bike Management Plan. July 5, 2005.

Catalyst Community and Resort Planning. Corridor Recreation Trail Management Plan. September 17, 2008.

British Columbia: Trails Strategy for British Columbia.

British Columbia Ministry of Forests. 2002 Forest and Range Practices Act.

British Columbia Ministry of Tourism, Sport and the Arts. Sea to Sky Corridor Recreation Trail Strategy. April 2008.

Catalyst Community and Resort Planning. Corridor Recreation Trail Management Plan. September 17, 2008.

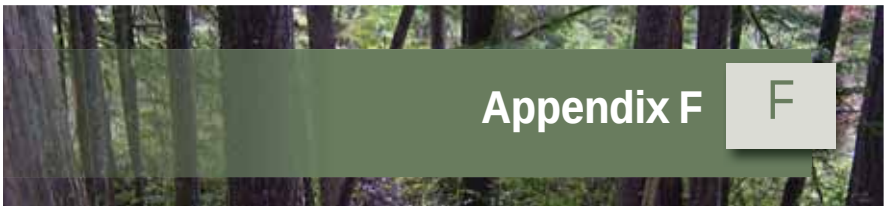
District of Squamish Watercourse Regulations.

International Mountain Biking Association. Trail Solutions: IMBA'S Guide to Building Sweet Singletrack. 2004.

Resort Municipality of Whistler. Whistler Trail Standards Environmental and Technical Trail Features.

This Trails Standards Manual is appendix E of the District of Squamish Trail Master Plan, adopted April 2011.

TRAILS
master plan



Appendix F

F

D STR CT OF S AM SH

O - OAD C A NO 1 1 2 2

As Amended by Bylaws No. 1877, 1 0 and 1 4

TH S S A CONSOL DAT D B LAW PR PAR D B TH D STR CT OF S AM SH FOR CON N NC ONL . TH CORPORAT ON DO S NOT WARRANT THAT TH NFORMAT ON CONTA N D N TH S CONSOL DAT ON S C RR NT. T S TH R SPONS B L T OF TH P RSON S NG TH S CONSOL DAT ON TO NS R THAT T ACC RAT L R FL CTS C RR NT B LAW PRO S ONS.

WH R AS the *Local Government Act* authorizes Council to regulate the use of all highways and public places within the District of Squamish

NOW TH R FOR the Municipal Council of the District of Squamish, in open meeting assembled, NACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as the District of Squamish Off-Road ehicle Bylaw No. 171 , 2002.

2. n this Bylaw, off-road vehicle means a vehicle propelled by a motor that is designed for off-road travel, and includes vehicles having two, three or four wheels, whether known as dirt bikes, quads, or by any other name, but excludes conventional trucks or cars with off-road capabilities that are licensed under the *Motor Vehicle Act*.

3. No person shall operate, or permit to be operated, an off-road vehicle on any of the following:
   (a) the portion of a highway not designated or improved for vehicular traffic.

   (b) any land held by the District for park purposes.

   (c) a municipal utility or trail right of way. (Amended by Bylaw No. 1877)

   (d) a municipal dike.

   (e) a trail or footpath within the shaded areas numbered 1,2, and 3 on the plan attached to this Bylaw as Schedule A.
   (Amended by Bylaw No. 1877)

4 Section 3 e does not apply to the operation of a category of motorcycles no n as a trial motorcycle ithin the shaded areas numbered 2 and 3 Amended by yla No 1 4

5. No person shall park, store or leave an off-road vehicle on a portion of a highway or public place. (Amended by Bylaw No. 1877)

. An off-road vehicle parked, stored or left on a portion of a highway or public place may be removed and impounded at the owner s expense upon the order of the Director of Protective Services or Manager of Operations.
(Amended by Bylaw No. 1877)

7. The costs incurred by the District in removing and impounding an off-road vehicle under section may be recovered by the sale of the off-road vehicle at a public auction if the owner of the off-road vehicle fails to pay the costs or cannot be identified after reasonable efforts. (Amended by Bylaw No. 1877 and 1 4)

8. This Bylaw does not apply to the operation of vehicles by police, fire, ambulance, or search and rescue personnel in the course of their duties, or by employees or contractors of the District engaged in maintenance activities.

. The Director of Operations may place or erect signs and barriers to give effect to this bylaw.

10. The Director of Operations may issue a written authorization to use an off-road vehicle contrary to the terms of this bylaw, at such times and places and subject to such further terms and conditions as may be specified in the authorization, if the Director of Operations considers that the use of the vehicle is reasonably required in the exercise of rights granted by the District to use municipal property for film production or a special event on municipal property authorized under the provisions of a District bylaw.

11. very person who violates a provision of this bylaw, or who permits any act or thing to be done in contravention of, or in violation of any provision of this bylaw, is guilty of an offence against this bylaw and is liable on summary conviction to a penalty of not more than 10,000.00.

12. The offences set out in Schedule B are designated for enforcement under s. 2 4 of the *Community Charter*, persons designated by Council as a Bylaw nforcement Officer and members of the R.C.M.P. are designated as bylaw enforcement officers for the purpose of enforcing those offences, the use of the expressions set out in Schedule B are authorized to designate those offences, and the fines for those offences are specified in Schedule B.
(Amended by Bylaw No. 1877 and 1 4)

R AD A F RST T M this 1 th day of uly, 2002

R AD A S COND T M this 1 th day of uly, 2002

R AD A TH RD T M this 1 th day of uly, 2002

ADOPT D this 23rd day of uly, 2002

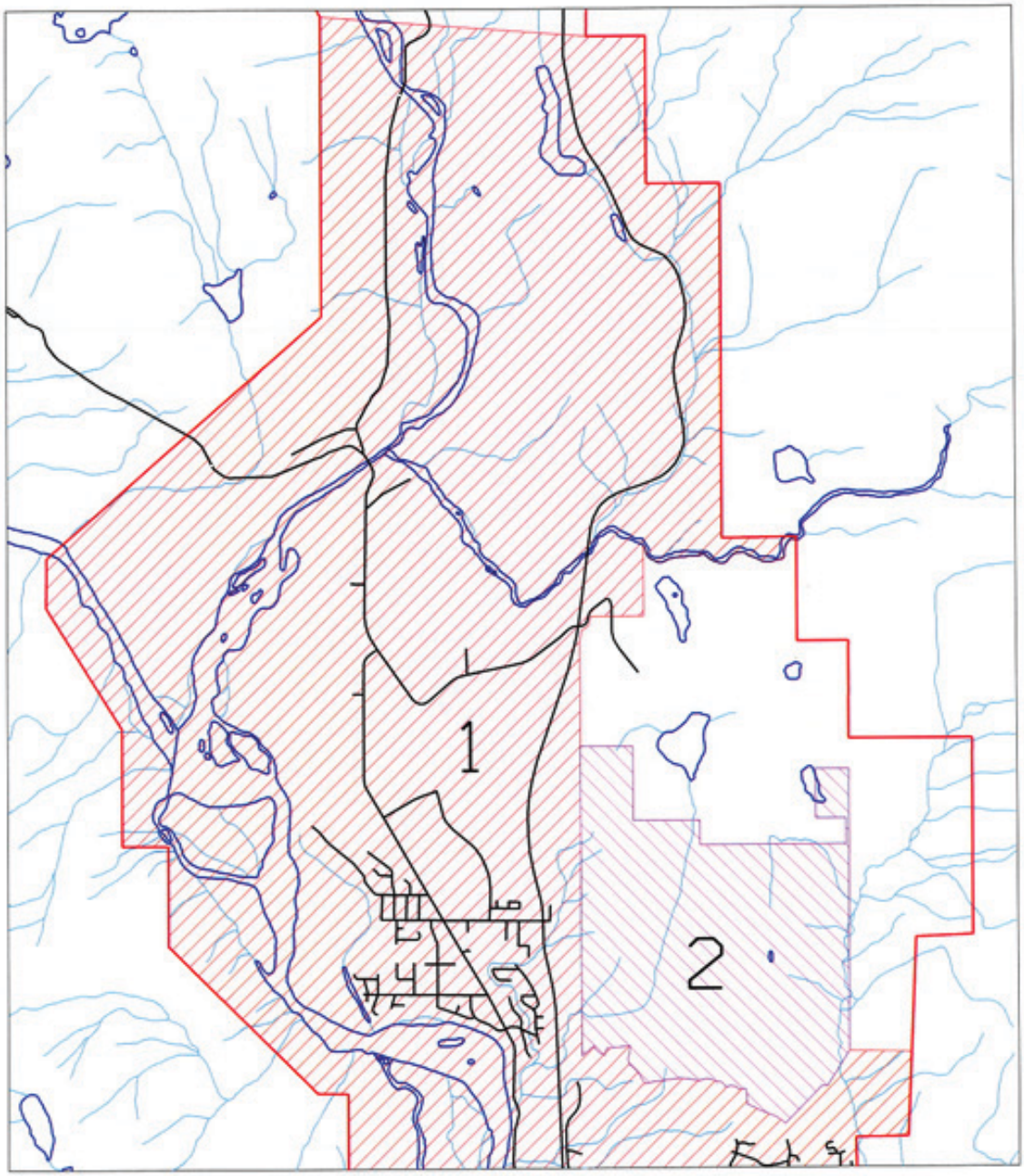
"Original Signed"

Corinne Lonsdale, Mayor

Original Signed"

Trudy Coates, Manager of Administrative Services

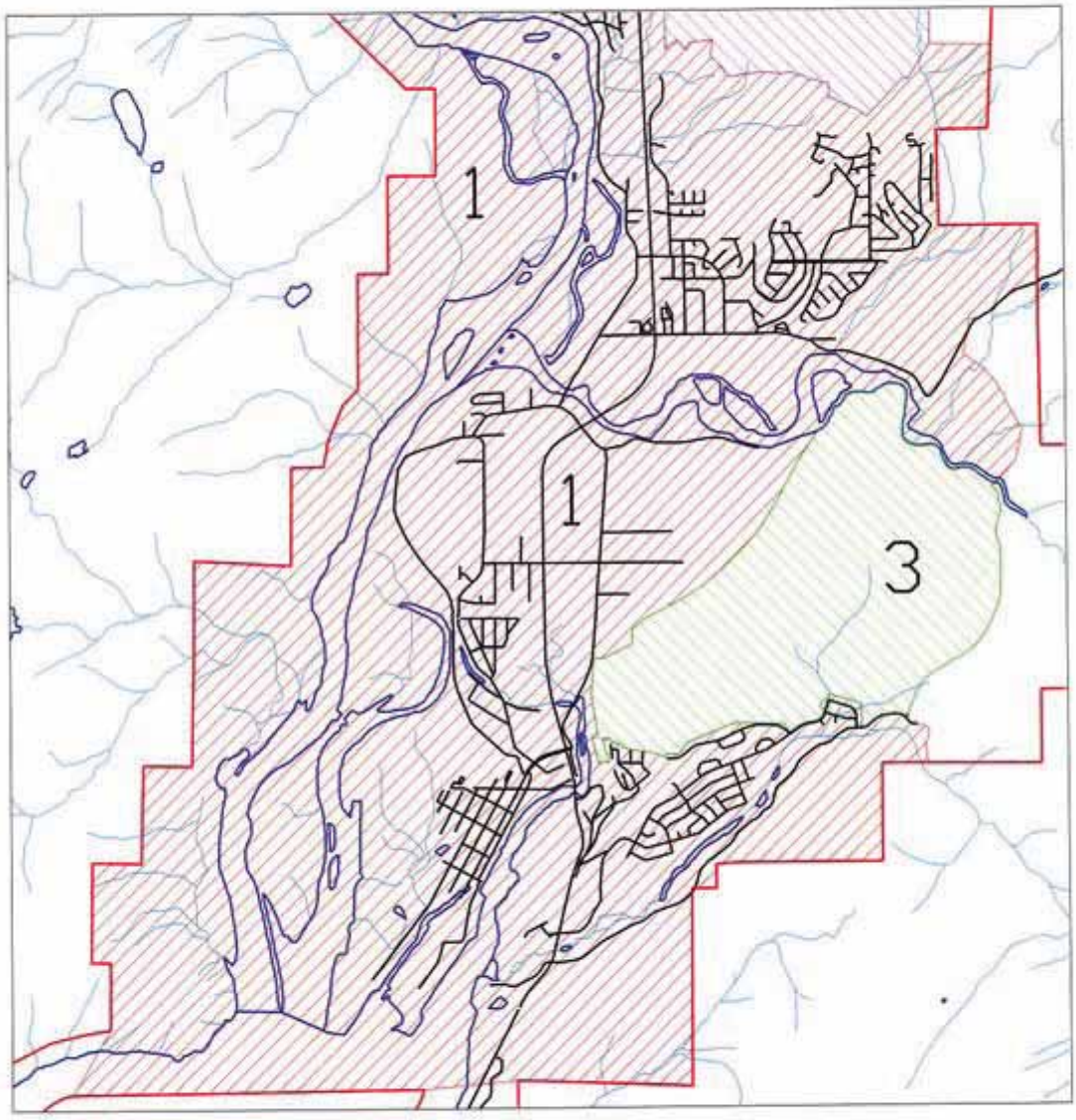
District of Squamish Off-Road Vehicle Bylaw No 1716, 2002
Schedule "A"



This document does not imply or consent that the trails discussed herein are established, legal, or authorised unless explicitly stated. All trails are presented in the greater context of a network for discussion purposes. This includes all attachments and appendices which are consolidated for convenience only. Trails fall within different governmental jurisdictions. Ownership may be private or public, and users should ensure that they are not in trespass while using, building or maintaining trails within the District of Squamish. To verify accuracy and currency of this information please contact the District of Squamish.

Schedule A Continued of yla No 1 1
Amended y yla No 1 4

District of Squamish Off-Road Vehicle Bylaw No 1716, 2002
Schedule "A" continued



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Schedule of yla No 1 1
Amended by yla No 1 and 1 4

SCHEDULE B
MUNICIPAL TICKET INFORMATION DESIGNATIONS

Offence	Bylaw Section No.	Fine
Off-road vehicle on undesignated highway	3(a)	$100.00
Off-road vehicle on park land	3(b)	$100.00
Off-road vehicle on municipal right of way	3(c)	$100.00
Off-road vehicle on municipal dike	3(d)	$200.00
Off-road vehicle on trail or footpath	3(e)	$200.00
Off-road vehicle occupying highway or public place	5	$100.00

G Appendix G

District of Squamish Adopt a Trail Program

The purpose of the Adopt a Trail Program for the District of Squamish is to provide opportunities for partnerships with the community in keeping our extensive trail network clean and safe. The District of Squamish has a diverse trail network that has been built by volunteers and community groups. The trails range from single-track mountain biking to a leisurely stroll around Nexen beach with everything else in between. The District wants to recognize these efforts and maintain the existing network and plan for the future. The District realizes that trails represent and provide many benefits to the community some of these are:

Health and Well-Being

- ✓ Encourages physical Fitness and healthy lifestyle
- ✓ Creates new outdoor recreation and alternative transportation opportunities
- ✓ Connects users with the natural environment and contribute to spiritual and mental well being
- ✓ Provides a safer alternative to roadways

Social and Cultural

- ✓ Provides social venues for interaction
- ✓ Protects culturally and historically valuable areas
- ✓ Fosters community involvement by providing excellent partnership opportunities
- ✓ Provides natural learning grounds
- ✓ Improves community aesthetics

Economics

- ✓ Stimulates tourism and recreation related spending
- ✓ Reduces the costs of medical care, sick leave and absenteeism in the workplace
- ✓ Improves property values and marketability of homes
- ✓ Improves the image and attractiveness of the District as a business and resident location

Environment

- ✓ Preserves associated open spaces
- ✓ Provides an opportunity for increased understanding and appreciation of the natural resources and the protection of those values
- ✓ Improves air quality by providing an alternative to motorized transportation.

Volunteers will be asked to adopt a section or an entire trail to perform selected duties for a select period of time. Any business, community or service organization, youth group, school, class, family, a group of individuals or a individual can volunteer for the Adopt a Trail Program in the District of Squamish. If you are interested fill out the Adopt a Trail Program Application online form at www.squamish.ca

Job Description

- ✓ Visit the trail at least once a week or as often as possible from April to October and once a month from November to March
- ✓ Designate a contact person. The contact person is responsible for submitting all required documentation (forms and Activity logs) to the District and serves as the liaison between the District and the volunteers they represent
- ✓ The trail should be kept clean from litter / garbage
- ✓ Leave garbage at the nearest Parks garbage can. If nothing is available call District Trails Coordinator to arrange pick-up
- ✓ Remove any fallen branches off the trail (dispose of farther into the bush)
- ✓ REPORT all Hazards – erosion, sink holes, missing or damaged signs, dangerous / fallen trees, damage bridges and benches to the Trails Coordinator
- ✓ Report vandalism and any dumping activity
- ✓ Report any unusual or suspicious events on the trail
- ✓ Fill in the Activity log after each visit. When activity log is filled, forward to the District drop off at Brennan Park or the Municipal Hall or fax, email the Trails Coordinator
- ✓ Provide proper Trail etiquette to ensure safety of all users

Length of Adoption

The Adoption is a minimum of one year. Renewal after each period (if no other group is interested in the section of trail.) change trail section or terminate.

Standards and Procedures

- ✓ Safety first
- ✓ Complete Activity Log during or after each visit
- ✓ Fill out First Aid Form when injured and contact the Trails Coordinator
- ✓ Do not spend your own money anticipating reimbursement from the District without receiving written approval from the District.

Safety Standards

- ✓ Any Persons under the age of 18 must be accompanied by an adult
- ✓ Work in pairs or team, this is safer than working alone as it allows you to look out for each other
- ✓ Report all accidents and injuries immediately to the Trails Coordinator
- ✓ Have access to a phone. Carry a cell phone and know where you are along the trail and different access points that are available in case of emergency
- ✓ Never reach blindly to pick up an item. Use tongs or a stick to identify the item before picking it up. Volunteers should always be wearing gloves
- ✓ Motorized vehicles are not allowed on trails
- ✓ Power Tools such as chain saws are not permitted to be used by volunteers
- ✓ Trees shrubs and all plant material should not be cut or damaged
- ✓ Stay off the trail during storms and adverse weather conditions
- ✓ For environment and safety concerns, please stay out of creeks or rivers even to retrieve litter
- ✓ Wear gloves, safety vest, suitable footwear and appropriately dress for the weather
- ✓ Carry adequate supply of water especially during the summer months

Forms

The following forms must be completed to volunteer in the Adopt a Trail Program.

- ✓ Adopt a Trail Program Application Form or on line at www.squamish.ca
- ✓ Statement of Commitment
- ✓ Release and Waiver Agreement

The following form must be completed when volunteering in the Adopt a Trail Program

- ✓ Activity Log

The following form must be filled out in the event of an injury.

- ✓ First Aid Form

Liability

All volunteers with the District of Squamish must be registered and the Activity Log must be up to date and accurate. The District of Squamish will carry third party liability insurance for injury and property damage to third parties arising out of the activities of this program. In addition program volunteers will be added to the District's volunteer insurance program. Should you wish to have further information about this coverage please contact the Trail Coordinator.

Contact Information

Todd Pope
Trails Coordinator
District of Squamish

Phone: (604) 815-4962
Fax: (604) 892-1083

Email: tpope@squamish.ca
Web: www.squamish.ca

Mail To:
BOX 310
Squamish BC
Canada V8B 0A3

District of Squamish Adopt a Trail Program
Application Form
Date: _____

Contact Information:

_____
Group / Organization Name | Group Contact

_____
Address

_____
City | Postal Code

_____ | _____
Daytime Phone | Evening Phone

_____ | _____
Cell Phone | Fax Number

_____
Email / Website

Best Time to contact: _____

Period of Adoption: (yyyy/mm/dd) _____
Preferred Contact method: ☐ Mail ☐ Email ☐ Phone
Number of Participants: _____

Location of Adoption: _____
Please be as detailed as possible

Second Choice: _____

If you wish to be publicly recognized: ☐ check here
Preferred method of reporting volunteer hours: ☐ Activity Log ☐ Email

_____ _____ _____
Signature of applicant | Signature of parent Guardian if Applicant under 16

Adopt A Trail Program Statement of Commitment

The Adopt a trail Program is a partnership between the community, businesses and groups who wish to contribute their time in keeping the trails clean and safe. Both the District and the individuals or groups adopting the trail section or an entire trail commit to each other to perform certain duties to help the appearance of their community.

It is understood that at no time is the safety of any volunteer to be placed in jeopardy in the performance of their participation.

The Adopter agrees to:

1) Performs agreed upon duties along a specified section of trail
2) Designates a contact person who will assure that all participants are responsible and that all participating minors under the age of 18 are provided with adult supervision. The contact person will discuss safety precautions with participants and assure that the appropriate tools and equipment are used.
3) Deal with hazardous material in a proper manner (Contact Trails Coordinator for removal)
4) Complete Activity Logs
5) Report to the Trails Coordinator any injury incurred by any participant during cleanup activities. The injury will be reported within two working days of the incident and shall include:
    a) The name of the injured person
    b) The time and date of the incident
    c) The nature of the injury
    d) Details of the incident
    e) The name of hospital or clinic

The District of Squamish agrees to:

1) Loaning out of some operating materials, make arrangements for free removal and disposal of litter from the nearest parks trash cans
2) Provide a contact person from the District of Squamish
3) Provide Guidance, and advice.

I have read and understood this statement of commitment and agree to the terms of participation.

ADOPTER:

Name (please print)		Organization
Address	City	Postal Code
Phone Number		Email Address
Signature		Date

District of Squamish Adopt a Trail Program

Trail Coordinator	Signature	Date
Trail to be adopted		
Period of Adoption		

Adopt a Trail Program Release and Wavier Agreement

PLEASE READ CAREFULLY

By signing this document you waive certain rights including the right to sue.

To: The District of Squamish, its Officers, Employees, Directors, and Volunteers, ("The Releasees")

Assumption of risk

I am aware that engaging in any Trail Adoption Program activities may involve certain risks, dangers, and hazards including but not limited to contact with dangerous debris and collision with passing traffic and animals. I agree to wear a safety vest and gloves while participating to minimize any such risks and I freely accept and fully understand and assume all risks and dangers.

Release of Liability

I agree to waive any and all claims against the Releasees and to release the Releasees from any and all liability for any loss, damage, injury or expense that I may suffer as a result of participating in the Adopt a Trail Program. However, I understand that this waiver does not preclude one from making a claim under the District of Squamish Volunteer Insurance Policy.

I have read and understood this Release prior to signing it. I am aware that by signing this release I am waiving certain rights that my heirs, next of kin, executors, administrators and assigns my otherwise have against the Releasees.

Organization or Group: _____

Name (print)	Address	Signature	Witness

Adopt a Trail Program Activity Log

Date: _____ Organization: _____

Contact Person: _____ Phone Number: _____

Trail Section: _____ Time: _____

Volunteers: Estimated Volunteer Time:

_____
_____
_____
_____
_____
_____
_____
_____
_____

Please check the following to your best knowledge:

Of People on the trail: ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16 or more
Of Dogs on the trail: ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16 or more
Of Dogs off leash ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16 or more
Of Bicycles: ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16 or more
Any people or dogs in the water? ☐ Yes ☐ No
Any debris in the water? ☐ Yes ☐ No If Yes Location: _____ _____
_____
Did you notice any dumping activity? ☐ Yes ☐ No If Yes Location: _____ _____
_____
Graffiti: ☐ Yes ☐ No Comments: _____
Vandalism: ☐ Yes ☐ No Comments: _____
Trail Hazards ☐ Yes ☐ No Location: _____
_____
Injuries ☐ Yes ☐ No If yes fill out the first aid report and contact the Trails Coordinator

Comments: (When completed forward to the Trails Coordinator)

_____
_____
_____

Adopt a Trail Program First Aid Report Form

Name: _____ Phone Number: _____

Organization: _____ Contact Person: _____

Date and Time of Injury: _____

Date And Time of Reporting: _____

Description of Accident: _____
_____
_____
_____

Please state all injuries – indicate left or right if applicable: _____
_____
_____
_____

Did you receive first aid? ☒ Yes ☒ No
If yes, First Aid Attendants Name: _____
Treatment (Must be filled out by First Aid Attendant) _____
_____
_____
_____

First Aid Attendant Signature: _____ Date: _____

Did you go to the clinic or the hospital? ☒ Yes ☒ No
If yes location: _____

Were there any witnesses? ☒ Yes ☒ No
If yes please list their names: _____
_____
_____

Signatures:

_____ _____ _____
Injured Volunteer Organizations Contact Trails Coordinator

H Appendix H

District of S uamish ent Application

Name

Title

Organization

outh Non-Profit Private

Address

Phone

Mobile

Fax

mail

Website

vent Name

vent Dates and Times (including set-up and tear down schedules)

vent Description

Appendix I

TRAIL LICENCE AGREEMENT

THIS AGREEMENT is made as of the _____ day of _____, 20__,

BETWEEN:
(the "Owner")

AND:

DISTRICT OF SQUAMISH
37955 Second Avenue
P.O. Box 310
Squamish, BC V8B 0A3

(the "District"")

WHEREAS:

A. The Owner is the owner of the lands and premises legally described as follows:

Parcel Identifier: _____
Lot ___
District Lot _____
Plan _____

(the "Owner's Lands"); and

B. The District has had requests from the community to develop a system of trails for use by members of the community and by visitors to the area;

C. In order to fulfill the District's mandate of developing an integrated system of trails, the District plans to develop some trails on private lands; and

D. The District had requested that the Owner grant the District a license (the "License") over the existing trail system located on the Owner's Lands (the "Trail System") for purposes in accordance with the terms and conditions hereof. As per Schedule A with legal line work, Trail Names, Roadways, and water bodies.

THEREFORE in consideration of the premises, the terms and conditions herein contained, the amount of $1.00 now paid by the District to the Owner and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the Owner, the parties agree as follows:

1. Grant of License. The Owner hereby grants, transfers and conveys unto the District the non-exclusive, right, liberty and license for the District and the general public (collectively the "Permitted Users"), to enter, use, go, return, pass and repass along, over and upon the Trail System for recreational hiking, mountain biking or horse-back riding purposes in common with the Owner and all others using

the Trail System but subject always to the terms and conditions set out herein. Without limiting anything contained herein, the District and the Permitted Users will not be permitted to bring motorized vehicles, or any animals other than horses and dogs onto the Trail System except with the prior written consent of the Owner.

___ Pedestrian
___ Mountain bike
___ Equestrian
___ Trials Motorbike
___ Dirt Bike
___ ATVs
___ Climbing (access and/or use)
___ Other

2. Term. The term of this License will commence on the day first above written and terminate on the day five years from such date subject to earlier termination in accordance with this Agreement, provided that if not in default, the District may renew this Agreement for successive five year periods by providing notice in writing at any time during the last year of the Term, or any renewal term.

3. Reservations. Notwithstanding the rights hereinbefore granted, there is hereby reserved to the Owner, subject to the restrictions and limitations hereinafter set forth, the right for the Owner at all times hereafter and from time to time to temporarily interrupt the use and enjoyment of the Trail System by the Permitted Users for the purposes of constructing, installing, inspecting, cleaning, maintaining, repairing, renewing, replacing, altering and relocating the Trail System and for developing, modifying or preserving and protecting the Owner's Lands in accordance with the Owner's goals, all as the Owner may deem to be necessary or desirable in its sole and unfettered opinion.

4. Use by Owner. Nothing in this License will be interpreted so as to restrict or prevent the Owner from using the Owner's Lands in any manner, whether or not such use interferes with the exercise by the Permitted Users of the rights herein granted.

5. Owner's Covenants. The Owner covenants and agrees with the District that the District, in performing and observing the terms, covenants and conditions on the District's part to be performed and observed herein, will and may peaceably hold and enjoy the rights herein granted without hindrance, molestation or interruption on the part of the Owner or any person claiming under or through the Owner, except in accordance with the reasonable exercise by the Owner of its rights as set out in Sections 3 and 4 above.

6. District's Covenants. The District covenants and agrees with the Owner that:

(a) the District will act reasonably in the exercise by the District of any of their rights hereunder and use reasonable efforts not to interfere with the Owner's Lands or the use or enjoyment thereof by the Owner or any other person;

(b) the District will use all reasonable efforts not to damage the Owner's Lands or any improvements thereon and in the event of any such damage whether caused by the District or the Permitted Users, the District will restore the damaged lands or improvements to their previous condition or, where restoration is not possible, compensate the Owner for any unrestored damage;

(c) use and occupy, and permit only Permitted Users to use and occupy, the Trail System solely for the purposes for which the Licence is granted as set out in Section 1 of this Agreement;

(d) observe, abide by and comply with, as applicable, all applicable permits, laws, bylaws, orders and regulations of any applicable governmental or regulatory authority in any way affecting the Trail System or any improvements, equipment or facilities located thereon;

(e) the District will keep the Trail System in a safe and clean condition;

(f) the District will improve and maintain the Trail System at the District's sole cost and expense;

(g) the District will not remove any trees from the Owner's Lands without the Owner's prior written permission;

(h) the District will not remove or construct any new trails or relocate the trails existing of the date hereof, without the Owner's prior written consent which consent may be arbitrarily withheld;

(i) the District will post signs at the point where the Trail System begins and ends on the Owner's Lands, at its sole cost and expense, advising the Permitted Users that the Trails System is on private property and advising of the proper and safe use of the Trail System, and will remove such signs upon the termination of this License; and

(j) the District will not use chain saws and power equipment on the Lands during periods of high fire risk.

7. Owner's Covenants. The Owner covenants and agrees with the District that the Owner shall inform the District if the Owner sells or intends to sell the Owner's Lands and shall also inform any purchaser of this Agreement and make reasonable efforts to cooperate in securing the agreement of any Purchaser to agree to the grant of a license on the same terms as are set out herein.

8. Risks. The District hereby accept all risks associated with the District's use and occupation of the Trail System, and the use of the Trail System by the Permitted Users, at the District's own risk, and the District for itself and other Permitted Users, hereby releases and discharges the Owner from any and all responsibility and liability, whether arising in tort, contract or otherwise, in respect of any and all loss, damage, personal and property injury and death arising out of the use and occupation of the Trail System by the District or other Permitted Users, or arising out of or attributable to the state or condition of the Trail System.

9. Indemnity. The District will and does hereby indemnify and save harmless the Owner from all liabilities, damages, costs, claims, suits and actions of any nature whatsoever and whenever occurring arising directly or indirectly out of the exercise by the District or any other Permitted User (except those arising from the Owner's own fault or negligence) of the rights herein granted or the breach or non-performance of any covenant or obligation of the District contained in this Agreement.

10. Insurance. The District will obtain, pay for, and maintain in force, during the term of this agreement, a general liability insurance policy with respect to the District's use and occupation of the Trail System, and will name the Owner as an additional insured. This insurance policy will insure against bodily injury, including death, and property damage arising out of such use and occupation of the Trail System under this License. In the event that the insurance is allowed to lapse, this License will immediately come to an end.

11. Amendment. This License may only be amended by an agreement in writing signed by the District and the Owner. No modification or amendment of any provision of this License will be inferred from anything done or omitted by any of the parties except by an express agreement in writing duly executed and delivered by all of the parties.

12. No Waiver. No condoning, excusing or overlooking of any default nor any delay in proceeding or failure to proceed in the case of any default under this License will operate as a waiver of or otherwise affect in any way any rights or remedies under this License or at law. No waiver of any rights or remedies will be inferred from anything done or omitted to be done by any party except by an express waiver in writing. No waiver in respect of any matter or thing will operate as a waiver in respect of any other matter or thing.

13. Not a Highway. The parties acknowledge and agree that:

(a) notwithstanding the expenditure of public moneys on the Trail System at any time after the date of this Agreement , no part of the Lands shall be or shall be deemed to be a "highway" or a public road or public facility as a result of expenditures during the term or any renewal thereof; and

(b) in the event the Owner in the future seeks subdivision or development approval of its Lands, the presence of the Trail System or its prior availability to the Permitted Users shall not require that Owner to dedicate same as a public facility or agree to maintain public access to the Trail System but neither shall the existence of this Agreement or this term herein preclude such a requirement if it may lawfully be required.

14. Governing Law. This License will be governed by and interpreted in accordance with the laws of the Province of British Columbia, which is the proper law hereof, and the courts of British Columbia will have the exclusive jurisdiction with respect to all matters arising under or in respect of this License.

15. Time of the Essence. Time is of the essence of this License and will remain of the essence notwithstanding any extension of time given under or in connection with this License.

16. Notices. All notices under this License must be given in writing and delivered in accordance with this provision. The parties agree that:

(a) any notice to the Owner may be sent to the Owner's address set out in page 1 of this License or such other address as the Owner may notify the District from time to time; and

(b) any notice to the District may be sent to the address set out on page 1 of this License or such other address as the District may notify the Owner from time to time.

Notices will be sent by personal delivery, electronic transmission (including by fax) or by registered mail. Notices will be deemed to have been delivered (i) upon delivery, if delivered by hand, (ii) upon receipt, if sent by electronic transmission, or (iii) on the fifth Business Day after the mailing thereof, if sent by registered mail from a post office in British Columbia.

17. Binding Effect. This License is binding on the Owner but shall not bind its successors or assigns unless such successors or assigns agree in writing with the District to be bound by this License.

18. Early Termination. Either party may terminate this Agreement for any reason whatsoever upon thirty (30) days written notice to the other party and this Agreement will terminate at the end of such thirty-day period, provided that the Owner shall not act unreasonably in terminating this Agreement.

IN WITNESS WHEREOF the Owner and the District hereto have executed this License as of the day first above written.

(the "Owner")

_____

Authorized Signatory

_____

Authorized Signatory

Appendix I J

Trail right of way Agreement

THIS AGREEMENT MADE THIS _____ day of _____, 20__

BETWEEN:

,having an address

(hereinafter called the "Grantor")

AND:

THE DISTRICT OF SQUAMISH, having an address of 37955 2nd Avenue, Squamish, BC V8B 0A3

(hereinafter called the "Grantee")

WHEREAS:

A. The Grantor is the owner in fee simple of all and singular that certain parcel or tract of land and premises in the District of Squamish, in the Province of British Columbia, more particularly known and described as:

Lot 22, Section 14, Township 50, New Westminster District, Plan BCP25251

(hereinafter call the "Lands").

B. The Grantor has agreed to grant to the Grantee a Statutory Right of Way along, over, upon and under the said Lands for the purposes hereinafter set forth.

C. The Grantee requires and the Grantor wishes to grant to the Grantee a Statutory Right of Way for public pedestrian access over portions of the Lands, and for the construction, installation, removal, repair, maintenance and replacement of walkways, paths, passages, bicycle paths and all associated surfaces, drainage works and other facilities and appurtenances necessary or convenient for the passage of the public and use as a public trail and way; (collectively "the Works") and

D. The Statutory Right of Way is necessary for the operation and maintenance of the Grantee's undertaking.

NOW THEREFORE THIS INDENTURE WITNESSETH AS FOLLOWS:

1. In consideration of the sum of One ($1.00) Dollar of lawful money of Canada and other good and valuable consideration now paid by the Grantee to the Grantor (the receipt and adequacy of which hereby acknowledged by the Grantor), and of the covenants and conditions agreed to be observed and performed by the parties and for other valuable consideration, the Grantor HEREBY GRANTS and conveys unto the Grantee in perpetuity the full, free, unrestricted and uninterrupted right, liberty,

privilege, right of way and easement for the Grantee, its servants, employees and agents, from time to time and at all times:

FIRSTLY:

For the Grantee, its servants, employees, agents, contractors and all other licensees of the Grantee, together with machinery, vehicles and equipment and materials from time to time and at all times to

(a) enter, go, return, pass and repass along over and upon that portion of the Lands as shown on the Reference Plan prepared by_____, B.C. Land Surveyors, a copy of which is attached hereto as Schedule "A" (the Statutory Right of Way);

(b) with or without motor vehicles, equipment and machinery;

(i) for the purposes of the construction, installation, removal, repair, maintenance and replacement of the Works;

(ii) to store temporarily on the Right of Way area all personal property (including equipment) necessary for installation, maintenance, repair, or replacement of the Works, and

(iii) to alter the Right of Way as necessary for the purposes for which the Right of Way is hereby granted, including by the removal or deposit of soil, the removal of trees, vegetation, buildings, structures or obstructions of any kind;

(c) to do all acts which in the opinion of the Grantee are necessary and incidental to the use of the Right of Way area for the purposes for which the Right of Way is hereby granted.

SECONDLY:

For members of the public to pass and repass without motor vehicles over the Statutory Right of Way for the purposes of a public trail and way open to the public;

2. THE GRANTOR COVENANTS AND AGREES WITH THE GRANTEE:

(a) that the Grantor will not excavate, drill, install, erect, maintain or permit to be excavated, drilled, installed, erected, or maintained any obstruction, pit well, foundation, pile of material, embankment, fill pavement, building, or other structure or installation of every nature or kind, upon, over or under the Statutory Right of Way without first obtaining the written consent of the Grantee;

(b) that the Grantor will not permit to be done any act or thing which in the reasonable opinion of the Grantee might injure or interfere with the use of the Right of Way areas as contemplated by this Agreement;

(c) that the Grantee shall and may peaceably hold and enjoy the rights, liberties, rights of way and easements hereby granted without hindrance, molestation or interruption on the part of the Grantor or any person, firm or corporation, or any of them claiming by, through, under, or in trust for the Grantor;

(d) that the Grantee, in the exercise of its powers hereunder, may remove anything placed or situated on the Statutory Right of Way and, without restricting the generality of the foregoing, the Grantee may remove shrubs, plants or trees at the expense of the Grantee.

3. IT IS MUTUALLY UNDERSTOOD, AGREED AND DECLARED BY AND BETWEEN THE GRANTOR AND THE GRANTEE:

   (a) THAT notwithstanding anything herein contained there are hereby reserved to the Grantee all its right and powers of expropriation or other powers reserved and granted to the Grantee or enjoyed by it or under any Act of the Legislature of the Province of British Columbia.

   (b) That this Indenture shall be construed as running with the Lands, that no part of the fee of the soil thereof shall pass to or be vested in the Transferee under or by these presents.

   (c) THAT in this Indenture the singular includes the plural and vice-versa; the masculine includes the feminine and vice-versa. Any reference to a party includes the party's heirs, executors, administrators and assigns, and in the case of a corporation, its successors and assigns. Any covenant, provision, condition or agreement made by two or more persons shall be constructed as several as well as joint.

4. Right of Way runs with the Land – Every obligation and covenant of the Grantor in this Agreement constitutes both a contractual obligation and a statutory right of way granted under Section 218 of the Land Title Act in respect of the Right of Way Area, and this Agreement burdens the Right of Way Area and runs with and binds the Grantor's successors in title to the Right of Way Area. This Agreement burdens and charges all of the Right of Way Area notwithstanding any subdivision thereof or consolidation with other land by any means.

5. The Grantee shall at all times indemnify and save harmless the Grantor from and against all manner of actions, causes of action, claims, debts, suits, damages, demands and promises whatsoever, at law, or in equity, whether known or unknown, including without limitation for injury to persons or property including death of any person, directly or indirectly arising or resulting from, or attributable to:

   (a) any use of the Right of Way area by the Grantee or any of its employees, agents, contractors, licensees or invitees, save and except to the extent caused by any wilful misconduct, negligence or default of the Grantor or its employees, agents, contractors, licensees or invitees; or

   (b) any wilful misconduct, negligence or default of the Grantee or its employees, agents, contractors, licensees or invitees in connection with or in consequence of this Agreement.

6. Amendment – This Agreement may be amended or affected only by an Instrument duly executed by both the Grantor and the Grantee, and may be discharged only by an instrument duly executed by the Grantee.

7. Waiver – A waiver of any breach of this Agreement is binding only if given in an Instrument executed by the party giving the waiver and only if the waiver is an express waiver of the breach in question. A Waiver of a breach of this Agreement operates to waive only the breach in respect of which is has expressly been given.

8. Further Acts – The parties shall do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.

9. Reference – Every reference to a party is deemed to include the heirs, executors, administrators, successors and assigns of such party wherever the context so requires or allows.

AS EVIDENCE to their agreement to the above terms, the Grantor and the Grantee each have executed and delivered this Agreement by executing the Land Title Act Form C to which this Agreement is attached and which forms part of this Agreement.

K

Appendix K

FUTURE MAPS

This document does not imply or consent that the trails discussed herein are established, legal, or authorised unless explicitly stated. All trails are presented in the greater context of a network for discussion purposes. This includes all attachments and appendices which are consolidated for convenience only. Trails fall within different governmental jurisdictions. Ownership may be private or public, and users should ensure that they are not in trespass while using, building or maintaining trails within the District of Squamish. To verify accuracy and currency of this information please contact the District of Squamish.

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FUTURE MAPS

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