East Kootenay Climbing Association

BEST PRACTICES GUIDE TO ROUTE DEVELOPMENT

Introduction

EKCA is a grassroots, local climber's organization dedicated to preserving access to the climbing areas in East Kootenays. Since well before the establishment of the East Kootenay Climbing Association, individuals within the climbing community have independently initiated the development and maintenance of rock climbs for the general public's enjoyment and recreation.

Rock climbs are essentially manicured vertical trails. These trails are built and maintained pro bono and add considerable recreational value to the local climbing community. This Best Practices Guide and Section 57 access trails, are initiatives between Recreation Sites and Trails BC and climbers, which evolved from shared concerns and interests on Crown Land.

This Best Practices Guide offers tools to assist individuals reach the objective of sustainable route development. Sustainable development is reached when climbers are cleaning and developing new routes without compromising the ability to protect the natural and cultural resources—and promote both public safety and recreational opportunities on crown land. This Best Practices Guide is just that—a document outlining the existing, accepted standards within the climbing community of the East Kootenays, it is not intended to create new standards but simply to explain existing standards of conduct.

1.1 Phase 1:

Public Consultation

EKCA provided a draft Best Practices Guide to Route Development to Recreation Sites and Trails BC for consultation. EKCA also approached prominent members of the climbing community directly for feedback. Furthermore, at the EKCA AGM held on May 12, 2018 there will be an opportunity to elicit input and suggestions from the climbing public/members.

1.2 EKCA Role

EKCA's role is to work with other access groups in "on the ground" initiatives and engages with local and provincial government and the private sector on behalf of climbers.

1.3 Recreation Sites and Trails BC Role

Rec Sites and Trails BC to provide feedback.

1.4 Core Principles

Warning! Rock climbing and route development are hazardous activities with inherent risks of personal injury and death.

Rock climbing and route development safety requires your personal judgment and ability. The safety of a rock climbing venue is never guaranteed. EKCA tried to ensure the information in this document is accurate. However, this information must not be relied upon in any way, as any form of guarantee for your personal safety. The core principles behind this document aim to:

- safeguard the security of persons;
- preserve the natural ecosystem;
- ensure climber and hiker access;
- promote route development; and
- protect cultural assets.

Route developers having read and abided by this document are not relieved, protected, or indemnified from their personal responsibility and liability for any harm or loss caused as a result of their route development.

1.5 Scope of Best Practices

The scope of the guidelines is primarily concerned with issues of security of the persons within, and the ecological preservation of the natural environment. Other considerations, such as how to spot a route worth developing, are beyond the scope of this document. This document is not a “how to” guide to route development. It is not intended to replace climbing courses, hands on experience, and other applicable skills and knowledge.

2 Considerations for New Route Development

2.1 General

Routes should be planned out before any physical effort is put into the construction of the proposed route. Consider the following before beginning route development:

- Consider whether the route development compromises the ecological and cultural values of the area. Keep in mind that if a new or re-cleaned route doesn't become a resource to the climbing community, the killing of vegetation was for nothing.
- Consider how the new route will contribute to the future growth of climbing in the area. Many developed routes end up growing over. Will your route stay clean naturally? Or, will it be popular enough to remain clean due to traffic? Is it likely to help alleviate pressure on other popular routes? Is the route in an area that is already a destination? If not, even quality routes can lack much traffic if they are lone routes away from any destination. A basic amount of route density seems to bring traffic.
- Consider whether the route development process will irrevocably harm or impact the character of an already established and valued route. See section 3.2 “Existing Routes”.
- Consider the impact on other recreational users within the area, such as hikers on established trails. If the route will involve fixed protection, consider the best practices on bolts, anchors, and other forms of fixed protection in section 4 “Fixed Protection: Materials”.

- Consider that route cleaning poses risks for both the route developer and for any hikers and climbers below. Anyone performing route development is completely responsible for his/her actions, regardless of the risk mitigation they may have used. See section 5. “Liability and Due Diligence”. Can the hazards posed by cleaning a proposed new route be safely mitigated? See section 7 “Mitigation Options”. The above questions and considerations are described in more detail in the sections following.
- ***Consider the location of the proposed new crag or route and how this could affect long term viability of the development. Is it located on private, park or crown land? Is it an ecologically sensitive area? Can it negatively affect wildlife (ie. Goat habitat, bird nesting sites)? Will it conflict with existing land users (Ie. Hikers, bikers, hunters etc)? If unsure, contact East Kootenay Climbing Association and or Recreation Sites and Trails BC for more information.

Route developers should consider altering or abandoning their project if, after careful consideration, they do not believe their route will satisfy these considerations.

3 Ecological and Cultural Considerations

Route developers should carefully consider the potential for ecological and cultural damage in the process of route development. Furthermore, route developers should minimize their impact on other user groups, such as hikers, bikers etc.

3.1 Vegetation Removal

3.1.1 General

Route development usually involves removing organic material, including, but not limited to, moss, lichen, soil, bushes, and trees. Vegetation removal tends to be most needed on moderate, lower angle routes. These new routes serve an important purpose—to alleviate pressure on existing, popular moderate climbs. However, there are other factors to consider with larger scale vegetation removal—exposing loose rock; creating an aesthetic liability; stirring up controversy within the climbing community—many of these factors can lead to disapproval from the general public. Removal / dispersal of debris from the base of a recently cleaned route needs to be considered on a case-by-case basis, as many factors impact what can and cannot be done with the debris.

3.1.2 Best Practices

Route developers are encouraged to think carefully about the level of vegetation removal. On the one hand, some tree removal will be required to make the climb safe and enjoyable. When in doubt, consult with more experienced route developers on finding the balance between enough and too much before undertaking large-scale vegetation removal projects.

As a guiding principle, the least amount of material should be removed while still ensuring that a climb is safe, aesthetic, and offers an appropriate climbing experience.

3.2 Existing Routes

The character of existing routes should be maintained after a new route is introduced.

3.3.1 Dirt and Debris

As the number of climbs in and around local crags increase, the proximity of route development projects to existing routes will generally increase. In developing a route, removed debris can fall onto existing routes, leaving them dirty. Route developers should (a) avoid affecting existing routes at times of the year when climbers are likely to want to climb them, and (b) re-clean these affected routes after they are finished cleaning their route him or herself.

3.3.2 Damage to Holds and Fixed Protection

Avoid damaging existing holds on nearby routes from rockfall during cleaning. Once cleaning is finished, all permanent anchors on affected existing routes should be carefully inspected for possible damage. If damage has occurred, the route developer should contact the first ascensionist (if possible) and offer to pay for and repair the damage. If the first ascensionist is not available, the new route developer should restore damaged permanent anchors.

3.4 Impact on Recreational Opportunities within the crag area

Route developers must minimize impact on other users' recreational experience and safety. Because other recreational users may not understand route cleaning practices, avoid cleaning in high visibility areas during times when many users may be present.

At the end of cleaning, ensure that all debris which has landed on hiking/access trails is cleared away and visual aesthetics are maintained. For other impacts of route development, such as hazards, see section *8 "Mitigation Options".*

4 Fixed Protection: Materials

4.1 General

Fixed protection is defined as hardware that is deliberately left in place. Removing fixed protection can damage or otherwise permanently alter the rock. It should not be treated lightly. This applies to equipping new routes or altering existing ones. Careful consideration and thoughtful contemplation of your actions is warranted whenever considering placing fixed protection. When in doubt, seek opinions of other climbers including seasoned route developers before you take action. Keep in mind, opinion on these matters vary widely and individuals who disagree with what you have done may take action and remove your work.

The climbing community in the East Kootenays does recognize and uphold certain general standards and best practises concerning the type of fixed protection used, which are discussed below.

4.2 Materials

These guidelines address issues related to the type and quality of hardware used.

4.2.1 Slings/Webbing

Slings and webbing degrade quickly in an outdoor climate; this may compromise the strength of the material itself. Moreover, old worn slings are unsightly and considered by many as litter. Where slings accumulate, a permanent rappel anchor should be considered as a more appropriate solution.

4.2.2 Pitons

Although popular as anchors in other areas, they are not ideal and are not recommended for crags or routes that are suspected of being well used other than the developer.

4.2.3 Bolts and Hangers

All fixed protection should be made of stainless steel. The recommended best practice is that bolts be a minimum of ⅜ inches (10 mm) diameter and 3 inches (76.2mm) long, made of stainless steel, and designed or certified by the manufacturer with a minimum breaking strength of 22 kN (~5000 lbs).

Hangers should also be stainless steel and designed and certified by the manufacturer for climbing with a minimum breaking strength of 22 kN (~5000 lbs). Stainless steel and non-stainless steel components should never be used together. Contamination of the stainless steel with non-stainless steel can lead to rusting of the stainless steel components, defeating the purpose of using stainless steel in the first place.

Glue-in bolts are more commonly used in areas with softer, porous rock. The adhesive used to secure this type of bolt to the rock works because it penetrates into the rock. Granite, gneiss, quartzite and other dense rock is much less porous than softer rock such as sandstone. Proper installation of glue-in bolts require strict adherence to the manufacturer's specifications. Once installed, it is very difficult for others to determine if the correct adhesive was used and the proper installation procedures were followed.

4.2.4 Belay/Rappel Anchors

The generally accepted minimum standard for a fixed belay anchor is a 2-bolt configuration. Rock competency is a key factor in determining distance between bolts.

One recommended configuration for rappel stations is two independent anchors linked to a load sharing focal point through which ropes can be easily threaded and retrieved. All of the components in this system should be certified to a minimum breaking strength of 22 kN (~5000 lbs). Other commercially available anchor sets, designed and certified for this purpose provide suitable alternatives. Ideally, all of the rappel anchor components should be replaceable and made of stainless steel.

The commercially available (e.g., Fixe brand) stainless steel ring bolt rappel anchors meet all of these recommended best practises for permanent rappel anchors.

5 Liability and Due Diligence

If route development activity directly harms a person below, criminal or civil charges may be laid. The Best Practices Guide is not meant to relieve or exempt involved parties of liability.

As individuals, everyone has the responsibility to conduct a reasonable level of due diligence or standard of care to ensure the risk or risks associated with their activities are at a level acceptable to society and the rule of law.

5.1 Route Developer

This document is meant to suggest the standard of care for route developers. With time, the standard is likely to change. Anyone performing route development is completely responsible for his or her actions, regardless of the risk mitigation they may have used. The goal of any route developer must first and foremost be to do, or cause, no harm or loss to any persons below. The route developer is always obligated to ensure that no person is below when debris is trundled. A number of mitigation options are available to the route developer, and are described in section 7 “Mitigation Options”.

5.2 Hiker

Wilderness activities are undertaken at one’s own risk as there are environmental and human safety risks associated with these activities – especially at the base of cliff faces where rock fall occurs. Individuals need to ensure they are safe in their conduct and that their conduct will not harm themselves or others.

6 Rockfall

6.1 General

Route cleaning involves liability considerations for anchor placements and harm or loss caused to persons as a direct result of trundled debris from route cleaning – particularly in the debris run out zone. Debris run out zones are the areas wherein debris may move through or stop after being set in motion.

The length of the route will have an impact on the scale of hazard mitigation required during the cleaning of the line. When the run out zone is entirely within view to the route cleaner (i.e., most likely when within one pitch of the ground), hazard mitigation is less complex than when some part of the run out zone is obscured. When the route cleaner can see clear to the ground through the entire run out zone, less exhaustive risk management strategies are required.

When the entire run out zone is not clearly visible, more exhaustive risk management strategies are required.

6.2 Run Out Zone

The process of identifying the maximum extents of debris run out zones is beyond the scope of this document. Route developers should determine the run out zone, and err on the side of caution. A

review of the base of the slope may help determine if any natural barriers may stop debris, or conversely, if any natural ground features may extend the run out zone.

7 Mitigation Options

> **Anyone purposefully causing rocks or debris to be dropped from height during route development, retro fitting or cleaning, that results in bodily harm to individuals is completely responsible for their actions – regardless of precautions they may undertake to prevent it.**

This section outlines several options for mitigating the risk of harming persons below route development activities. Because every route development situation is unique, the guidelines offered here are general and should be used together to effectively mitigate risk.

7.1 Types of Route Development Activities

The sort of material that a route developer drops is an important factor. Dusting, scrubbing moss and lichen, and brushing off debris no larger than sand may safely be performed under dry conditions. Fewer precautions are needed to ensure public safety when the mass of individual particles of debris are tiny. Ensuring public safety becomes immediately more complex when debris is even pebble-sized. Beyond pebble-sized debris, dropping larger debris greatly increases the complexity of ensuring public safety compared to smaller debris.

7.2 Lookouts and Sentries

Having lookouts and sentries is an effective measure if there is doubt about the effectiveness of signage. Lookouts and sentries are persons assisting a route developer by occupying a trail or other popular area outside the run out zone and maintain communication (often by radios or cell phones) with the route developer. The job of a lookout/sentry is to intercept and inform persons walking by of the dangers, and to tell the route developer to stop work if the need arises.

7.3 Location and Height of Cleaning Activities

The location and height of route development has implications for levels of risk to persons below. Cleaning boulders on the floor of the forest tends to have different safety implications, compared to cleaning a route high on a mountain side. When cleaning near (e.g., within one pitch of) the ground, and when a clear line of site is available from the cleaning activity to the extent of the run out zone, the task of ensuring public safety is easier for the route developer. The higher the route development activity, the more complex ensuring safety becomes.

7.4 Signage and Flagging

Research is needed to determine the public safety risks associated with the route development process. This sort of research should include becoming thoroughly informed about all the trails (for all hiking,

roped climbing, and bouldering) in the area. The route developer may consult the EKCA for more information about trails.

After placing flagging and signs (before cleaning on a particular day), perform a ground sweep. This involves walking around the entire run out zone to ensure that no persons are present. During cleaning activities, have signage and flagging appropriately in place. Signs and flagging should be in place for the duration of cleaning activities, and should be taken down immediately after the day's cleaning. String brightly-coloured tape, clearly marked using strong language, "CAUTION" or "DANGER", across every trail that accesses the run out zone (i.e., the area that may be affected by falling rock). Signage should include:

- a written warning and explanation of what is transpiring;
- a non-verbal symbol of danger ahead; and
- the date of activity.

Signs should be able to withstand the elements of weather (e.g., water), and should be placed outside of the run out zone, typically at the beginning of each trail that accesses the run out zone. Be aware that multiple access points may exist for a given run out zone.

7.5 Timing

The timing of any route cleaning should coincide with a period where the area affected by the cleaning is expected to have few to no users. Following this general rule will make ensuring public safety easier and make it less likely that you will block public access to recreational opportunities.

The following factors tend to affect the number of persons below route cleaning activities. Route developers should interpret these timing factors together, combined with the location, to determine the likelihood of interacting/not interacting with other land users.

7.5.1 Month of the year

There are far more users during the summer months than in the spring and fall; these seasons have far more users than in the winter.

7.5.2 Day of the week

There are typically fewer users on weekdays than on weekends.

7.5.3 Time of day

There tend to be fewer users at night than during the day.

7.5.4 Weather

There are usually fewer users when it's raining or snowing, and the rock is wet or icy.

7.6 Auditory Warnings

In some circumstances, yelling “rock” or sounding an air horn can help alert persons on the ground of falling debris. This strategy is not sufficient on its own to ensure public safety, but should be used in conjunction with other safety measures.

7.7 Internet Presence

Posting notices of cleaning on internet forums (e.g.,EKCA Facebook and Website) is encouraged.

7.8 Hypothetical Examples of Successful Mitigation

What follows are theoretical cleaning projects for the purpose of illustrating core concepts. These examples are simply meant to illustrate what successful mitigation might entail; they are not meant to be suggestions for route development. This is not an exhaustive list of options. It is left to the route developer to design mitigation options for their particular activity.

- Low risk example. Lichen scrubbing on a slab route. For a lichen scrubbing project, where the route developer is certain that only tiny bits of lichen are being removed, cleaning can take place on a weekday in the spring or summer. Flagging tape, signs, and sentries are not necessary.
- Medium risk example. Rock, dirt, and vegetation removal at a crag. Anticipating that debris will be dropped that could cause bodily harm to someone on the ground, risk mitigation is needed. The entire run out zone is visible and the route development is within one pitch of the ground, but the cleaning is taking place at a popular crag. Trundling should take place when few or no people are around, either in the shoulder seasons, or on marginal days in summer. Flagging tape and signage are recommended but sentries are not necessary.
- High risk example. Rock, dirt, and vegetation removal on a multi-pitch route. For cleaning more than one pitch above the ground, cleaning should take place on marginal or wet days in the off-season, with flagging tape and signs blocking all the trails leaving the parking areas. A ground sweep is necessary. Sentries, if available, are recommended.
- High risk example. Debris from a mulit-pitch climb that would land directly on a popular trail. Route cleaners should remain sensitive to the rights of other land users, including pedestrian traffic. Cleaning should take place either in poor weather or at night, with sentries blocking either side of the trail entering the run out zone. Flagging tape and signage are also required. Hikers should be stopped to temporarily allow route cleaning.

8 References

Best Practices Guide For Rock Climbing Route Development in the Squamish Area Provincial Parks Stawamus Chief, Shannon Falls, and Murrin October, 2012