PUBLIC REVIEW DRAFT

CHUGACH STATE PARK
TRAIL MANAGEMENT PLAN

September 2009

ALASKA DEPARTMENT OF NATURAL RESOURCES

Alaska
State Parks

PUBLIC REVIEW DRAFT

Note: To receive full consideration, and to be able to request reconsiderations of a plan adopted by the commissioner, written comments must be received by:

5:00pm AST, Friday, October 16, 2009

Send comments to:
Monica Alvarez
Department of Natural Resources
550 West 7th Avenue, Suite 1050
Anchorage, AK 99501-3579
Phone: 907-269-8145
Fax: 907-269-8915
Email: monica.alvarez@alaska.gov

CHUGACH STATE PARK TRAIL MANAGEMENT PLAN

September 2009

Alaska Department of Natural Resources
Division of Parks and Outdoor Recreation

Table of Contents

Appendices

Table of Figures

Table of Maps

Chapter 1: INTRODUCTION

Background

Much of the trail management effort in Chugach State Park until recently has been directed to the management of trails that were inherited when the park was established or trails that emerged through use. While the previous 1986 trail plan was comprehensive and provided general trail management direction, little funding was available to implement it and so the basic trail network in the park has generally remained the same. Since then, the thinking on overall trail construction and management philosophy has evolved nationwide as most trail management agencies, like State Parks, have struggled to keep trails in acceptable condition. In order to provide good trail experiences, it became clear that best management practices needed to be upgraded to create a system where trails could be managed to enhance recreational opportunities, provide greater resource protection and most importantly given the availability of trail resources, require minimal maintenance.

In March 2009 the Division of Parks and Outdoor Recreation finalized a Trail Management Policy that provides direction on how the Division will manage, develop, maintain and assess the condition of state park trails. The policy provides goals and trail management concepts for sustainable and responsible trail development and management. This trail plan was developed consistent with the concepts in the Trail Management Policy and will serve as the framework for management and trail development within Chugach State Park. The use of sustainable design will create important long-term benefits, principally a reduced need for regular maintenance and repairs into the future. The use of the recently developed interagency trail classification system will enable the Division to better coordinate with partners, share resources and allow for greater efficiency and seamless trail connectivity.

Accommodating a variety of recreational uses and trail user groups is a challenge within the park because topography influences use patterns and park users are frequently competing with each other to use the “best” areas. Under this Plan, sustainable construction and trail maintenance practices will be utilized on all future trail management activities including both trail-related project work and regular trail maintenance. The trail system will remain multi-use in nature but will abide by the standards in the new Trail Classification System. This system defines trail standards and design parameters by a trail’s designed and managed uses.

Plan Purpose

The Chugach State Park Trail Management Plan is needed as a strategic tool to plot the course of trail management in the coming years. It is based on an analysis of existing access points, trails, the park environment and resources, land ownership and status, and current and anticipated trends in recreational use. The plan identifies management objectives and establishes guidelines for the future use and development of trails in Chugach State Park. The primary purposes of this plan are to provide:

1. A trail system which allows for optimum recreational use of the area while protecting the natural resources of the park.
2. A consistent set of principles and policies for trail management.
3. A basis for future funding.
4. A roadmap for the trail building and maintenance efforts.

Planning Process

The Department of Natural Resources (DNR) began the planning process to revise the 1986 Chugach State Park Trail Plan in April of 2008. Public scoping workshops were held in Anchorage, Indian and Eagle River to gather information and identify issues and concerns. Many comments were received during the scoping phase of the process that focused on trails and trail maintenance. To learn more specific details about how people use the park and would like to use the park, additional focus group meetings were held throughout the remainder of the year with a variety of user groups. The information gathered was used to prepare and evaluate management alternatives. Analysis of this information and public comments provided the direction needed to recommend new trails and trailheads, improvements or upgrading, and trails that should possibly be closed or relocated. With the help of the Chugach State Park Citizens Advisory Board, the planning team drafted this plan for public review and comment. Once the public comment period is over, DNR staff will review comments and revise the plan as needed. A final plan is then prepared and approved that will guide trail management decisions within the park.

Trail Inventory Process

In the Spring of 2007, a Trail Inventory and Assessment Project began as a pilot program in Chugach State Park that has proven to be a major asset in the development of this plan. The pilot program was initiated by the Chugach State Park Citizens Advisory Board using the National Park Service's (NPS) River Trails and Conservation Assistance Program resources. It was a collaborative effort between State Parks, the US Forest Service (USFS), and the Alaska Department of Natural Resources' Land Records Information Section. The project objective was to demonstrate the feasibility of a comprehensive trail assessment and condition survey for a subset of Chugach State Park (CSP) front-range trails, provide project data and maps, and ultimately evaluate applicability as a management tool for use in all State Park units with trails.

The project plan was to map existing CSP front-range trail centerlines as accurately as possible while recording basic trail condition and associated constructed features found directly adjacent to the trail using Global Positioning System (GPS) receivers, and processing and archiving these data in a Geographical Information System (GIS). Over two summers the field mapping crew used GPS units with sub-meter accuracy and basic trail inventory equipment to collect data for approximately 265 miles of trails. The crew collected information based on uniform standards similar to those adopted by the USFS and utilized by the NPS and the Municipality of Anchorage. The data included trail centerlines; trail

condition information such as amount of brush, erosion, trail width, grade, and surface type; trail structures such as bridges, culverts, boardwalks, and signs; trailheads and associated features including gates, kiosks, parking, fee stations, and toilets; physical features such as ford sites and viewpoints; and photographs with spatial coordinates to create photo links.

For the first time, accurate trail alignments and distances are known for a large portion of the trails within the park and the condition of the trails and associated structures are documented. In the future this information can be used to make further assessments and prescription decisions, to generate maps and trail websites, to help in securing grant funding, and for further planning purposes.

Use and Users

Perhaps the most heavily used resource within Chugach State Park is the trail system. Park trails offer a wide variety of recreational opportunities year-round for residents and out-of-state visitors alike. Summer uses include hiking, mountaineering, bicycling, trapping, fishing, running, horseback riding, orienteering, kayaking, rafting, canoeing, packrafting, riding ATVs, paragliding, berry picking, nature walking, sightseeing, and hunting. Winter activities include skiing, snowboarding, snowshoeing, snowmobiling, dog mushing, skijoring, winter biking, and ice-boating. Demands for organized events within the park such as bike races, mountain races, fund raisers and other gatherings continue to grow as does commercial use of the park. The differing skill levels of park users and the multitude of competing interests and uses often overlap seasonally and geographically. This plan seeks to lay the framework for a network of trails that over time will provide diverse trail opportunities and experiences for a wide variety of park users.

Chapter 2: GENERAL TRAIL POLICIES

There is a tremendous amount of work needed to transform the Chugach State Park trail system into a sustainable and functional trail system that meets the needs of user groups while simultaneously providing for the protection of natural resources. Through the use of a green infrastructure approach, the new interagency trail classification system, sustainable trail design and proper maintenance, improvements will be made over time to create a functional, high-quality trail system. The following general trail management policies and management concepts apply to trails in the park in conjunction with the trail specific recommendations provided later in this plan.

Green Infrastructure Approach

This plan promotes a green infrastructure approach to trail planning in order to better accommodate development, reduce infrastructure costs and maintain the park's character. Green Infrastructure is defined as an interconnected network of green space (hubs + corridors) that conserves natural ecosystem values and functions and provides benefits to human populations. It refers to an integration and interaction of different functions or activities on the same piece of land. In using a green infrastructure approach, recreation areas, and important environmental features and processes are identified and considered in the planning of park trails and future land management actions. This approach is particularly important in Chugach State Park because of its unique and intrinsic natural features and proximity to Alaska's densest population centers and the State's primary international transportation hub. This approach links communities to landscapes with the goal to maximize the benefits to both. Green Infrastructure is the key to sustainable use of land especially in the front country areas of the park that experience high use and are seeing the resulting effects on facilities and resources.

Sustainable Trail Framework

In keeping with the Division of Parks and Outdoor Recreation's Trail Management Policy, this plan implements a Sustainable Design Framework to create a trail system that has minimum impact on natural systems and low maintenance costs. A Sustainable Trail is defined as a trail that conforms to its terrain and environment, is capable of handling its intended use without serious resource degradation, and requires minimal maintenance. Sustainable Trails focus on initial trail design to minimize resource degradation and maximize the user experience. This involves the use of integrated water control, curvilinear layout, grade control and full bench construction. While initial construction costs may be more, reduced future maintenance costs should compensate for those initial investments.

The following guidelines will be considered and integrated when building or improving trails within the park. At times, certain circumstances may make the use of some of these guidelines difficult or impossible to fully implement. In these cases reasonable measures should be taken while maintaining the spirit of the guidelines. Some segments of the existing park trails do not yet meet the sustainable standards. Where this is the case, a higher level of maintenance is required to keep the trail tread in reasonably good condition while minimizing impacts on park resources. The ultimate result will create a park resource that provides transportation alternatives, recreational opportunities, environmental aesthetics, open space preservation, and increased adjacent property values.

The Six Essential Elements of Sustainable Trails[1]

1. *The Half Rule*: Trail grade should not exceed ½ the sideslope that the trail traverses, if so, it becomes a Fall-line Trail.

2. *The 10% Average Guideline*: The average trail grade, or overall trail grade should not exceed 10% along the alignment of the trail. In many cases, keeping trail grades at about 10% will assure longer term sustainability, and this should be an objective for all trail projects, unless specifically designed at greater grades.

3. *Maximum Sustainable Grade*: A defined maximum tread grade that can be constructed along the trail. Typically restricted to runs of less than 50 feet, and no more than 5% of total length of the trail. Determining the Maximum Sustainable Grade for a trail involves many variables that are specific to a region or trail section. For example, soils that have a very high organic content will be less stable than those that are composed of weathered granite. Variables influencing the Maximum Sustainable Grade include:
    - Soil type
    - Presence of surface rock or bedrock
    - Annual rainfall / intensity
    - Type and spacing of integrated water control features
    - Types of users
    - Numbers of users
    - Desired level of difficulty

4. *Grade Reversals*: A spot at which a climbing trail levels out and then changes direction, dropping subtly a short distance (6-12 feet) before rising again. Ideally, Grade Reversals are incorporated into a trail's initial design as part of its Curvilinear Layout. Water control features such as Rolling Grade Dips and Knicks can be integrated into an existing trail as a maintenance item. Water bars are not recommended due to their higher maintenance requirements.

[1] Derived from Alaska Trails Curriculum

5. *Outslope*: As the trail contours across a hillside, the downhill or outer edge of the tread should tilt slightly downhill and away from the uphill trail edge. Under typical circumstances, this "Outslope" should be less than 5%. Anything greater will usually lead to tread creep and user discomfort. Outslope is influenced by the forces of compaction, displacement, and erosion, which collectively reduce the effectiveness of the design element. Even on trails that are constructed with proper outslope, it will often deform through time and routine maintenance is needed to restore a trail tread to its designed Outslope with these forces in mind. The integration of Grade Reversals and Rolling Grade Dips insure that water is managed along the trail if Outslope is compromised.

6. *Durable Tread Surface*: Surfacing should take into consideration special characteristics of the soils such as the presence of permafrost, organic/muskeg soils, volcanic ash, saturated soils, or some other environmental challenge. Many trails in Alaska are not sustainable due to flat terrain or the soil characteristics noted above. In these cases tread surfaces require trail hardening to ensure sustainability. Trail hardening includes techniques such as gravel capping, boardwalk and planking decking, the use of geotextile surfaces and other means to provide a sustainable tread.

Avoid Flat Terrain Trails when Possible

The premise of Trail Sustainability is built around integrated water control. Flat terrain (<3% surface slope) represents a great challenge since often when trails are constructed in these situations, there is no provision for drainage – the trail tread becomes the lowest point and thus collects water. These situations include: valley floors, glacial plains, deltas, and wetlands. This is especially problematic in Alaska where many historic trails which were originally intended for winter use were built across wetlands, but are now being used in the summer.

Common Trail Practices or Structures to Avoid when Possible

- Fall-Line Trails (exceeding the half rule)
- Waterbars (difficult to properly construct, high-maintenance)
- Culverts – installing too small of diameter (difficult to maintain, fish passage issues)
- Grades too steep for sustainability (exceeding 10% average grade)
- Improper bridge location
- Lack of Grade Control along alignment (highly variable grades)
- Improper trail location (or non-curvilinear layout)
- Improper outslope (entrenched tread, <3% or >7%, poorly maintained)
- Failure to identify critical control points during layout
- Improper or failure to acquire proper permits (poor planning)
- Construction in a flood zone (poor planning)
- Construction in a sensitive habitat (poor planning)
- Construction on flat terrain (valley bottoms, ridgelines, etc.)

Visitor Experience

Many elements contribute to a visitor's experience while traveling on a trail. Every effort shall be made throughout the trail planning and construction process to consider the visitor's experience. It is important to keep trails interesting, appreciated, and respected to engender stewardship among users. Understanding core values is the key to being able to provide a good visitor experience. There are basic values associated with safety and convenience and recreational values associated with fitness and various transportation methods. Human values are important to recognize, understand and consider. These values include how trails and their surroundings are perceived, and how their shape affects people. An individual perception of how safe and appropriate the trail is to use must be balanced with the reality that a certain amount of risk is also a trail attractor in the context of the trail's designed and managed uses. Humans have a desire for efficiency that translates to making sure a trail is easier to use than to bypass, shortcut, or avoid. The notion that nature's randomness has a playful quality should be represented in the trail experience while considering the concept of harmony that is felt when all the core values work together to support a desired trail experience.

Trail Design and Development

There are a number of different philosophies and thought processes that need to be considered during the development and design phase for any functional trail. This plan puts forth new direction in the way trails will be designed and managed. Below you will find trail direction by different categories.

Trail Design Process

Achieving a sustainable trail begins with establishing an integrated design process, which relies on a multidisciplinary team working collaboratively from the pre-design phase through construction to ensure that a site is developed in keeping with the spirit of the trail design. A typical design process entails finding the really interesting features that currently exist along a proposed trail alignment. These features become positive control points that are incorporated into the trail design, effectively connecting all the interesting features in a linear fashion.

Trail Layout

While destination trails will always be a major trail type in Chugach State Park, users have indicated a desire to see more loop trails incorporated within the trail system. Loop trails provide a more diverse experience for park users and can be an important trail management tool when different elevations and terrain configurations are incorporated to take advantage of superior park features. Additionally, greater use can be accommodated using loops in the park's development zones without placing greater impact in backcountry areas or wilderness zones. Where appropriate, construction of connecting links with existing trails or connecting other loops should be incorporated in future trail design to create more loop options within the existing trail infrastructure.

Re-Vegetation

Native and/or self-sustaining plant materials should be used for re-vegetation of disturbed areas. Re-vegetation can be used to provide screening and help to stabilize slopes. Construction techniques to preserve vegetation and trail routing techniques should be used to minimize visual intrusion. Where possible, plants that are removed from the trail corridor for clearance should be transplanted to other locations where re-vegetation is necessary.

Clearing

Clearing widths and heights shall conform to the trail class and design parameter specifications assigned to a particular trail or trail segment. Deviations to the design parameters may occur only when the deviation is documented in the trail management objective form for a particular trail or trail segment. Additional clearing may be done to remove fire or falling hazard trees adjacent to developed areas or to improve views as guided by park zoning and a trail's classification.

Natural Considerations

Where significant wildlife or other natural features exist, special trail routing, construction methods and trail use should be used. Trails should have a natural flow and rhythm that avoids long, straight alignments. Where hazards are present, special trail construction techniques or locations should be used to mitigate the hazard. Hazardous areas, such as steep slopes, avalanche prone areas and rockslide areas should either be avoided or be closed seasonally when hazardous conditions are a problem.

Historic and Cultural Resource Considerations

Like natural resources, cultural resources must be considered when planning and constructing trails. Cultural resource identification and evaluation should occur early in any trail project and possible impacts assessed. As needed and in consultation with the Office of History and Archaeology, special trail routing and construction techniques should be used to reduce adverse impacts to cultural resources.

Environmentally Sensitive Sites

Special location or construction methods may be necessary to reduce impacts and minimize disturbance in environmentally sensitive areas. Examples of environmentally sensitive sites include: wetlands, highly visible hillsides, significant vegetation areas, threatened and endangered species habitat, highly erodible soils, unstable slopes, and ridgelines. Techniques, such as site specific trail routing, erosion control measures, site specific adjustment of construction standards, and site specific construction practices should be implemented to minimize environmental, visual or construction impacts. Construction methods that should reduce impacts include installing retaining walls to reduce cut and fill slopes on a visually prominent hillside, hand construction of the trail, or stabilizing a hazard that is located within or adjacent to a trail corridor.

Special care should be taken in areas close to streams or wetlands. Trails that cross or are located adjacent to wetlands should be designed for minimal impact. Boardwalks or other techniques may be necessary to impose minimal construction impacts. Wildlife needs should

also be considered when setting trails near wetlands. Consider decommissioning underutilized trails in sensitive areas to minimize erosion of sediment into streams. Connectivity between drainage ditches and streams should be minimized to reduce sediment delivery potential.

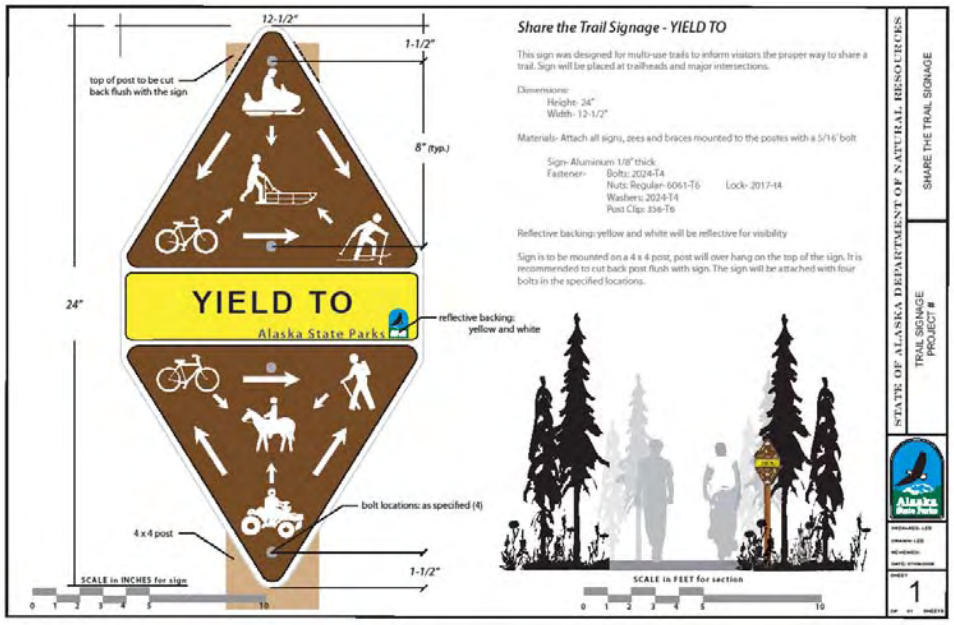
Climatic Trail Use Opportunities

Locate the trails for both summer and winter activities, where possible, given the terrain and climatic considerations. Identify snow retention areas for possible cross-country ski trails. In open areas, place trail alignment to take advantage of wind protection and shaded canyon areas.

Signage

Sign standards will vary according to park zoning and trail classification. Generally, all trail signage should be kept to a minimum and include only that needed to convey necessary information. Highly developed trails will typically include more directional signage and interpretive information. Locations of signs need to be evaluated on a case-by-case basis and signs should only be posted where necessary to avoid visual pollution. Yield hierarchy signs (see sample figure 2.1) should be placed at all major access points of multiple use trails where it is clearly visible and where it does not impede trail use or present a hazard to trail users.

Figure 2.1: Yield Hierarchy Sign Example



Trail Closures

Closing trails to use is an important management tool that will be utilized as needed within the park. Trails may be temporarily closed throughout the year due to construction or trail restoration projects, because of increased wildlife activity, to protect trail tread from

damage during wet or spring break up conditions, or for other hazardous conditions that may threaten visitor safety and park resources. Trail conditions will be closely monitored by staff and when appropriate, closures will be lifted. Trail closures and openings will be public noticed and well signed.

Health and Fitness

The health benefits of exercise derived from recreational activities, such as bicycling and walking lessen health-related problems and reduce health care costs. Regular, moderate exercise has been proven to reduce the risks of many health problems, such as coronary heart disease, diabetes, certain kinds of cancers, and obesity. Regular exercise can also protect against injury and disability because its builds muscular strength and flexibility. In addition to the health benefits that bicycling and walking offer, the improvement of physical health reduces health care costs. Trails and greenbelt connecting trails offer adults and children alternative transportation networks that provide an opportunity to integrate moderate, individualized exercise with daily trips to work or school. Health and fitness shall be encouraged throughout the park by looking for opportunities to connect with other trail networks that may offer alternatives to vehicular transportation for day-to-day activities and through the consideration of trail design and trail-related facilities that enhance health and fitness.

Americans with Disabilities Act

In 1990, Congress passed the Americans with Disabilities Act. Among other provisions, the act prohibits state and local governments from discriminating on the basis of disability and requires government services, programs, and activities to be accessible to people with disabilities. This act attempts to remove the physical and social barriers facing over 43 million Americans with disabilities. The Access Board is developing new guidelines covering access to trails, beaches, and picnic and camping areas. The guidelines will supplement those the Board has issued for the built environment and will address unique constraints specific to outdoor developed areas. Until that time every effort will be made to maximize the accessibility of trails while at the same time recognizing and protecting the unique characteristics of the park. While it is clearly not practical for all types of trails in a mountainous environment to be fully accessible, where appropriate, the trail system should comply with the standards set forth in this law. In addition, not all ADA accessible trails will be of the same difficulty. Information on trail grade, cross-slope, width, and surface will allow individuals with disabilities to decide if they have the ability and interest to use that segment of the trail. Appendix B provides additional information and technical provisions for accessible trails and outdoor access routes.

National Trails

The National Trails System Act of 1968 made it Federal policy to recognize and promote trails by providing financial assistance, support of volunteers, coordination with States, and other authorities. Under this Act, trails that meet certain criteria can be nominated for inclusion in the National Trails System. The system is made up of National Scenic Trails, National Historic Trails, and National Recreation Trails. These trails provide for outdoor recreation needs; promote the enjoyment, appreciation, and preservation of open-air, outdoor

areas and historic resources; and encourage public access and citizen involvement. Only Congress can authorize National Historic or Scenic Trails and to date, 11 national scenic trails and 19 national historic trails have been established by law. National Recreation Trails can be designated by the Secretary of Interior or Agriculture and over 1000 national recreation trails have been recognized. Chugach State Park has two National Trails within its system: the Iditarod National Historic Trail and Indian to Girdwood National Recreation Trail. Management of these areas shall be consistent with the provisions of the National Trails Program.

Trail Access

Access to Chugach State Park has long been challenging with established trailheads being the principal access points into the park. As the park's popularity grows and residential development adjacent to the park boundary continues, trailheads are being used beyond capacity and park facilities are suffering from overuse. For example, the Glen Alps trailhead provides access to the network of Anchorage Hillside trails and the parking lot capacity there is 165 cars. On an average day regardless of the season, that lot is easily half to mostly full while on nice sunny summer days, the lot is completely full and over a 130 cars have been observed parking along the road adjacent to the lot. While Glen Alps is probably the most popular access point, this kind of public demand is still being experienced in many areas along the park boundary and the impacts on park resources and neighboring communities are problematic. Access has become enough of an issue that an entire plan is being developed to address these concerns. As a result this plan defers to the Chugach Access Plan for guidance with these access-related issues. This plan also defers to the Chugach State Park Management Plan for guidance related to trailhead facility development.

Land Acquisitions and Park Additions

Occasionally lands are purchased or donated for addition to the park. These additions are typically important to provide access or protect areas with special features. Many trails begin outside of the park boundary and link to trails within the park or provide access to the park boundary. Should these trails or the land they cross be acquired, the trail classification and design parameter of the adjoining trail within the park should be applied. Trail development in newly acquired areas may need to go through a site-specific planning process if these areas are not addressed in this plan. Trail development in newly acquired areas shall also consider management recommendations provided in the Chugach State Park Management Plan.

Chapter 3: TRAIL CLASSIFICATION SYSTEM

The Division of Parks and Outdoor Recreation through the Trail Management Policy has adopted a new Trail Classification System. The Trail Classification System is a close adaptation of the National Trail Classification System that has been formally adopted by most federal land management agencies. Using this system is an important step towards enhancing partnerships with organizations and agencies that border the park and developing resource efficiencies with the use of consistent trail management terminology and standards. The Trail Classification System is similar to systems used in the past in that the scale of trail development is defined by a particular trail class that identifies applicable design parameters and provides management intent for what maintenance standards apply. This new system differs in that the design parameters for a particular class are further refined by the trail type and designed use of the trail. The new system allows for more thorough assessments of trail conditions, an expanded means to record and communicate intended design and management guidelines, and better planning for trail management and maintenance. Below is a brief description of how the Trail Classification System is organized and functions.

Trail Type

There are three types of trail types and all are used in this plan:

1. Terra Trail
2. Snow Trail
3. Water Trail

Since only one trail type may be used for each trail or trail segment, you may see multiple entries for the same physical location of a trail. For example: trail "X" may have specifications for terra type and different specifications for snow type. The trail is in the same physical location but is described differently for seasonal purposes.

Trail Class

Five trail classes ranging from least developed (Class 1) to highly developed (Class 5) will uniformly apply to all trail types however some trail classes may not be applicable to a trail type (such as Class 5 water trail). The actively managed uses, user preferences, setting, protection of sensitive resources and other management activities were taken into account to determine which trail class to apply. Trail classes describe the typical attributes but exceptions may occur. The trail class that most closely matches the managed objective for a trail is applied. Only one trail class may be applied to a trail or trail segment. See figures 3.1 for the general trail class criteria and figure 3.2 for photo examples of each trail class.

Figure 3.1: General Trail Criteria

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/ Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Tread & Traffic Flow	-Tread intermittent & often indistinct -May require route finding -Native materials only	-Tread discernible & continuous, but narrow and rough -Few or no allowances constructed for passing -Native materials	-Tread obvious & continuous -Width accommodates unhindered one-lane travel, occasional allowances constructed for passing -Typically native materials	-Tread wide & relatively smooth with few irregularities -Width may consistently accommodate two-lane travel -Native or imported materials -May be hardened	-Width generally accommodates two-lane and two-directional travel, or provides frequent passing turnarounds -Commonly hardened with asphalt or other imported material
Obstacles	-Obstacles common -Narrow passages; brush, steep grades, rocks and logs present	-Obstacles occasionally present -Blockages cleared to define route and protect resources -Vegetation may encroach into trailway	-Obstacles infrequent -Vegetation cleared outside of trailway	-Few or no obstacles exist -Grades typically <12% -Vegetation cleared outside of trailway	-No obstacles -Grades typically <8%
Constructed Features & Trail Elements	-Minimal to non-existent -Drainage is functional -No constructed bridges or foot crossings	-Structures are of limited size, scale and number -Drainage is functional -Structures adequate to protect trail infrastructure and resources -Primitive foot crossings and fords	-Trail structures (walls, steps, drainage, raised trail) may be common & substantial -Trail bridges as needed for resources protection and appropriate access -Generally native materials	-Structures frequent and substantial -Substantial trail bridges are appropriate at water crossings -Trailside amenities may be present	-Structures frequent or continuous; may include curbs, handrails, trailside amenities and boardwalks -Drainage structures frequent; may include culverts and road-like designs
Signs	-Minimum required -Generally limited to regulation and resource protection -No destination signs present	-Minimum required for basic direction -Generally limited to regulation and resource protection -Typically very few or no destination signs present	-Regulation, resource protection, user reassurance -Directional signs at junctions, or when confusion is likely -Informational and interpretative signs may be present	-Wide variety of signs likely and present -Informational signs likely -Interpretive signs possible	Wide variety of signage is present -Information and interpretive signs likely

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/ Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Typical Recreation Environs & Experience	-Natural, unmodified -Primitive setting	-Natural, essentially unmodified -Primitive to Semi-primitive	-Natural, primarily unmodified -Semi-primitive to roaded natural setting -Transition	-May be modified -Typically roaded natural to rural setting -Transition, rarely present in wilderness	-Can be highly modified -Typically rural to urban setting -Commonly associated with visitor centers or high-use recreation sites -Not present in wilderness
Trail Management Typically managed to accommodate:	-Low level use -Highly skilled users, comfortable off trail -Users with high degree of orienteering skill -Some travel modes & ability levels may be impractical or impossible -Water trail users require high level of navigation/orientation and paddling skills	-Low-to-moderate use levels -Mid-to-highly skilled users, capable of traveling over awkward conditions/ obstacles -Users with moderate orienteering skill -Trail Suitable for many user types but challenging and involves advanced skills -Water trails: moderate to high level of navigation/orientation and paddling/piloting skills required	-Moderate to heavy use -Users with intermediate skill level and experience -Users with minimal orienteering skills -Moderately easy travel by managed use types -Random potential for accessible use -Water trails: Basic to moderate navigation and paddling/piloting skills required	-Very heavy use -Users with minimal skills and experience -Users with minimal to no orienteering skills -Easy/ comfortable travel by managed use types -Maybe or has the potential to be made accessible -Water trails: Basic navigation and paddling/piloting skills required	-Intensive use -Users with limited trail skills and experience -Trail typically meets agency requirements for accessibility

General Trail Criteria					
Trail Attributes	**Trail Class 1** Minimal/ Undeveloped	**Trail Class 2** Simple/Minor Development	**Trail Class 3** Developed/Improved	**Trail Class 4** Highly Developed	**Trail Class 5** Fully Developed
Maintenance Indicators & Intensity	-Resource protection or safety commensurate with targeted recreational experience -Infrequent or no scheduled maintenance, usually in response to reports of unusual resource problems requiring repair	-Resource protection or safety commensurate with targeted recreational experience -Maintenance scheduled to preserve trail facility & route location or in response to reports of unusual resource problems	-User convenience -Resource protection or safety commensurate with targeted recreational experience -Trail cleared to make available for use early in use season and to preserve trail integrity -Maintenance typically in response to trail or resource damage or significant obstacles to managed use type and experience level	-User comfort and ease -Resource protection or safety commensurate with targeted recreational experience -Trail cleared to make available for use at earliest opportunity in use season -Maintenance typically performed at least annually	-User comfort and ease -Targeted high level of accessibility to key recreational opportunities -Safety commensurate with targeted recreational experience -Maintenance performed at least annually or as needed to meet posted conditions, major damage or safety concerns typically corrected or posted within 24 hours of notice
Additional Criteria	-Typically not managed for Pack and Saddle and Motorized Trails				-Not managed for Pack and Saddle stock, Watercraft or Motorized use.

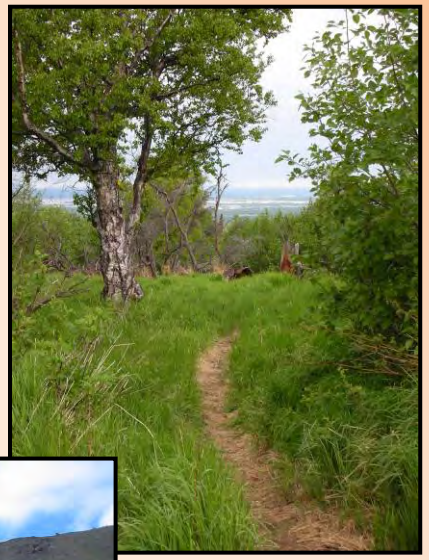
Figure 3.2: Trail Class Photo Examples

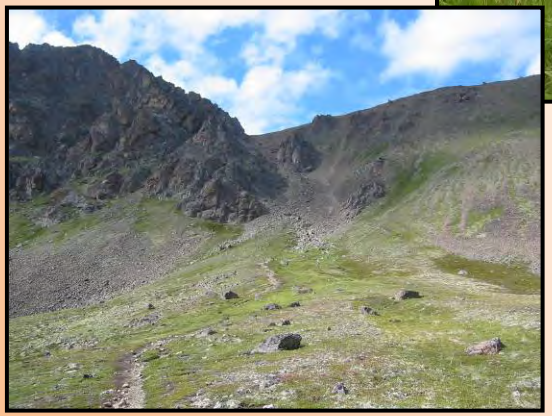
Trail Class 1

- Low level use
- Highly skilled users, comfortable off trail with high degree of orienteering skill
- Some travel modes may be impractical or impossible

Trail Class 2

- Low or moderate use levels
- Mid-to-highly skilled users, capable of traveling over awkward conditions/obstacles
- Trail suitable for many types but challenging, involving advanced skills



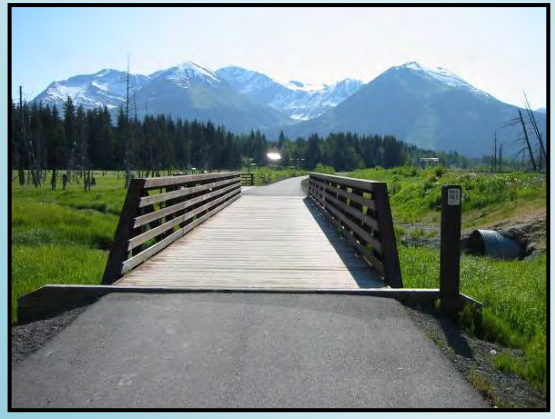


Trail Class 3

- Moderate to heavy use
- Users with intermediate skill level and trail experience
- Moderately easy travel by managed use types

Trail Class 5

- Intensive use
- Users with limited skills and trail experience
- Trail typically meets agency requirements for accessibility



Trail Class 4

- Very heavy use
- Users with minimal skills and trail experience
- Easy/comfortable travel by managed use types

Managed Use

Managed Use is a term that is used to describe the modes of travel that are actively managed and appropriate on a trail considering the design of the trail. There can be many managed uses per trail or trail segment. Managed Use is applied to indicate a management decision or intent to accommodate or encourage a specific type of use but it does not necessarily mean that other uses are prohibited.

Designed Use

Designed Use is the intended use that controls the desired design of the trail and determines the subsequent maintenance parameters for a trail. There can only be one Designed Use per trail or trail segment. Eight different designed uses are applied in this plan. They are:

1. Hiker/Pedestrian
2. Bicycle
3. Pack and Saddle
4. All-Terrain Vehicle
5. Snowmobile
6. Cross Country Ski (Classical/Diagonal)
7. Nordic Ski (Skate)
8. Non-motorized Watercraft

Design Parameters

Design parameters provide guidance for the assessment, survey, design, construction, repair and maintenance of trails. While the five trail classes apply, the specific design parameters vary under each trail class depending on the designed use. Site-specific circumstances may demand some exceptions or variances to the Design Parameters based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable trail class. Trail design parameters are provided in figures 3.3 – 3.10 for the designed uses used in this plan.

Trail Management Objectives

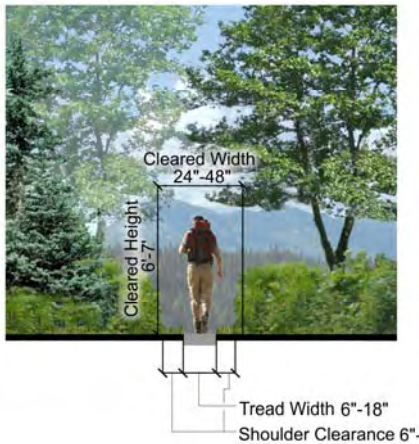
Trail Management Objectives (TMOs) are the mechanisms that link the Trail Classification System and direction given in this plan to on-the-ground trail management. TMOs synthesize and document in one form the management intention for the trail while providing basic reference information for any subsequent trail planning, management, condition surveys, and reporting. A TMO is required for each trail or trail segment as a pre-requisite for completing trail condition assessment surveys and subsequent prescriptions for work needed to meet standard. Each TMO is approved by management staff to ensure that the objectives for the trail are consistent with this plan and anticipated future land management actions. After approval, the TMOs provide the mechanism for trail maintenance staff and volunteers to know how to maintain and bring a particular trail or trail segment up to standard as needed. A sample TMO is provided in Appendix A.

Figure 3.3: Hiker/Pedestrian Design Parameters

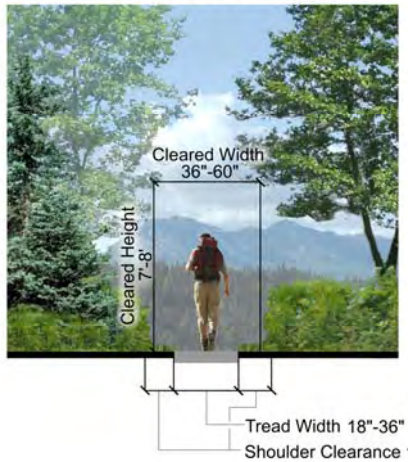
Designed Use HIKER/PEDESTRIAN		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Tread Width	**Single Lane**	0” – 12”	6” – 18”	18” – 36”	24” – 60”	36” – 72”
	Double Lane	36”	36”	36” – 60”	48” – 72”	72” – 120”
	Structures (Minimum Width)	18”	18”	18”	36”	36”
Design Surface	**Type**	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native with improved sections of borrow or imported material, and routine grading Minor roughness	Likely imported material, and routine grading Uniform, firm, and stable
	Protrusions	≤ 24” Likely common and continuous	≤ 6” May be common and continuous	≤ 3” May be common, not continuous	≤ 3” Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24”	14”	10”	8”	No obstacles
Design Grade	**Target Grade**	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% – 12%
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail
Design Cross Slope	**Target Cross Slope**	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	**Height**	6’	6’ – 7’	7’ – 8’	8’ – 10’	8’ – 10’
	Width	≥ 24” Some vegetation may encroach into clearing area	24” – 48” Some light vegetation may encroach into clearing area	36” – 60”	48” – 72”	60” – 72”
	Shoulder Clearance	3” – 6”	6” – 12”	12” – 18”	12” – 18”	12” – 24”
Design Turn	**Radius**	No minimum	2’ – 3’	3’ – 6’	4’ – 8’	6’ – 8’

Class 1

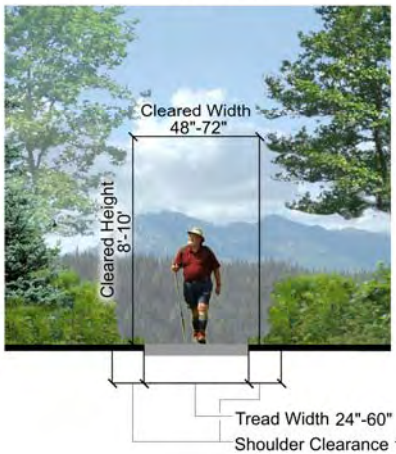
Class 2



Class 3



Class 4



Class 5

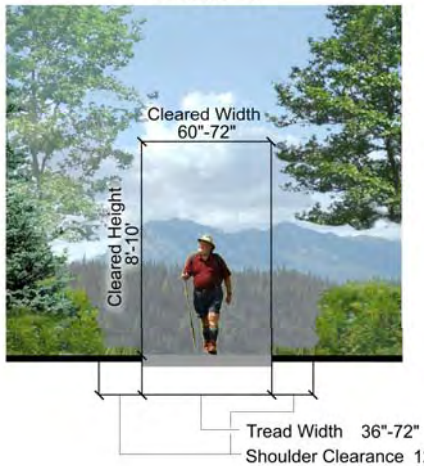
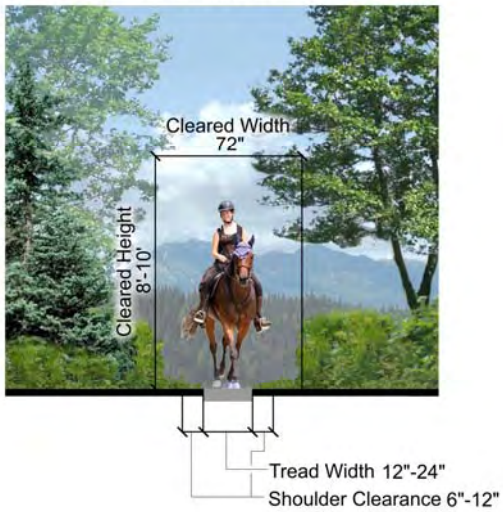


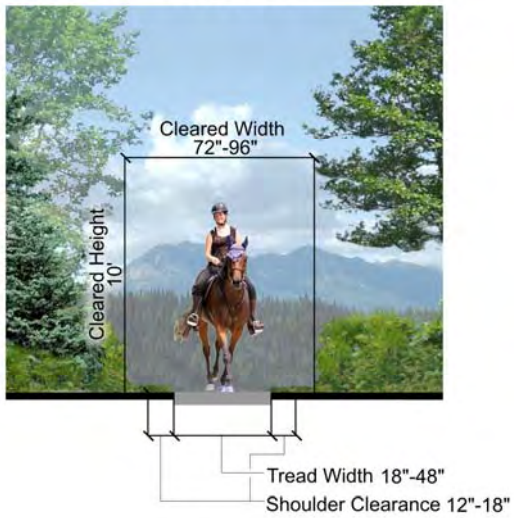
Figure 3.4: Pack and Saddle Design Parameters

Designed Use PACK AND SADDLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for equestrians, although use may be allowed	12” – 24” May be up to 48” along steep side slopes 48” – 60” or greater along precipices	18” – 48” 48” – 60” or greater along precipices	24” – 96” 48” – 60” or greater along precipices	Typically not designed or actively managed for equestrians, although use may be allowed
	Double Lane		60”	60” – 84”	84” – 120”	
	Structures (Minimum Width)		Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	Other than bridges: 36” Bridges without handrails: 60” Bridges with handrails: 84” clear width	
Design Surface	**Type**		Native, with limited grading May be frequently rough	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native, with improved sections of borrow or imported material and routine grading Minor roughness	
	Protrusions		≤ 6” May be common and continuous	≤ 3” May be common, not continuous	≤ 3” Uncommon, not continuous	
	Obstacles (Maximum Height)		12”	6”	3”	
Design Grade	**Target Grade**		5% – 20%	3% – 12%	2% – 10%	
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		15% – 20% of trail	5% – 15% of trail	5% – 10% of trail	
Design Clearing	**Height**		8’ – 10’	10’	10’ – 12’	
	Width		72” Some light vegetation may encroach into clearing area	72” – 96”	96”	
	Shoulder Clearance		6” – 12” Pack clearance: 36” x 36”	12” – 18” Pack clearance: 36” x 36”	12” – 18” Pack clearance: 36” x 36”	
Design Turn	**Radius**		4’ – 5’	5’ – 8’	6’ – 10’	

Class 2



Class 3



Class 4

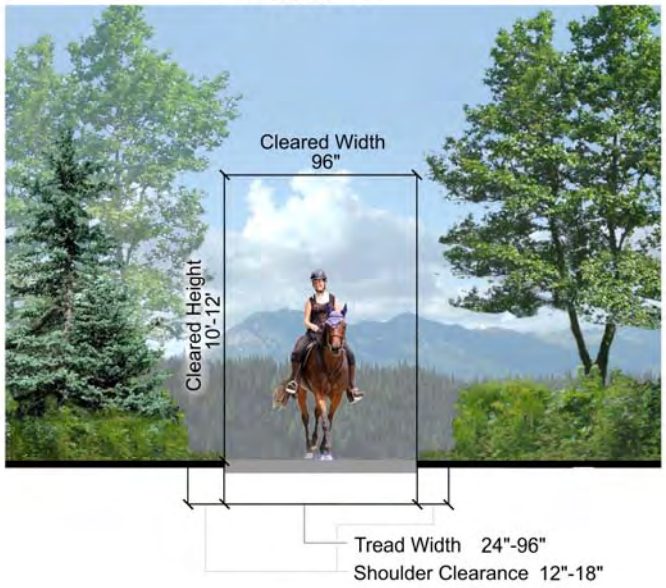


Figure 3.5: Bicycle Design Parameters

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	6” – 12”	12” – 24”	18” – 36”	24” – 48”	36” – 60”
	Double Lane	36” – 48”	36” – 48”	36” – 48”	48” – 84”	72” – 120”
	Structures (Minimum Width)	18”	18”	36”	48”	60”
Design Surface	**Type**	Native, ungraded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, with improved sections of borrow or imported materials and routine grading Stable, with minor roughness	Likely imported material and routine grading Uniform, firm, and stable
	Protrusions	≤ 24” Likely common and continuous	≤ 6” May be common and continuous	≤ 3” May be common, but not continuous	≤ 3” Uncommon and not continuous	No protrusions
	Obstacles (Maximum Height)	24”	12”	10”	8”	No obstacles
Design Grade	**Target Grade**	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill segments only	25% 35% on downhill segments only	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail
Design Cross Slope	**Target Cross Slope**	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	**Height**	6’	6’ – 8’	8’	8’ - 9’	8’ - 9’
	Width	24” – 36” Some vegetation may encroach into clearing area	36” – 48” Some light vegetation may encroach into clearing area	60” – 72”	72” – 96”	72” – 96”
	Shoulder Clearance	0” – 12”	6” – 12”	6” – 12”	6” – 18”	12” – 18”
Design Turn	**Radius**	2’ – 3’	3’ – 6’	4’ – 8’	8’ – 10’	8’ - 12’

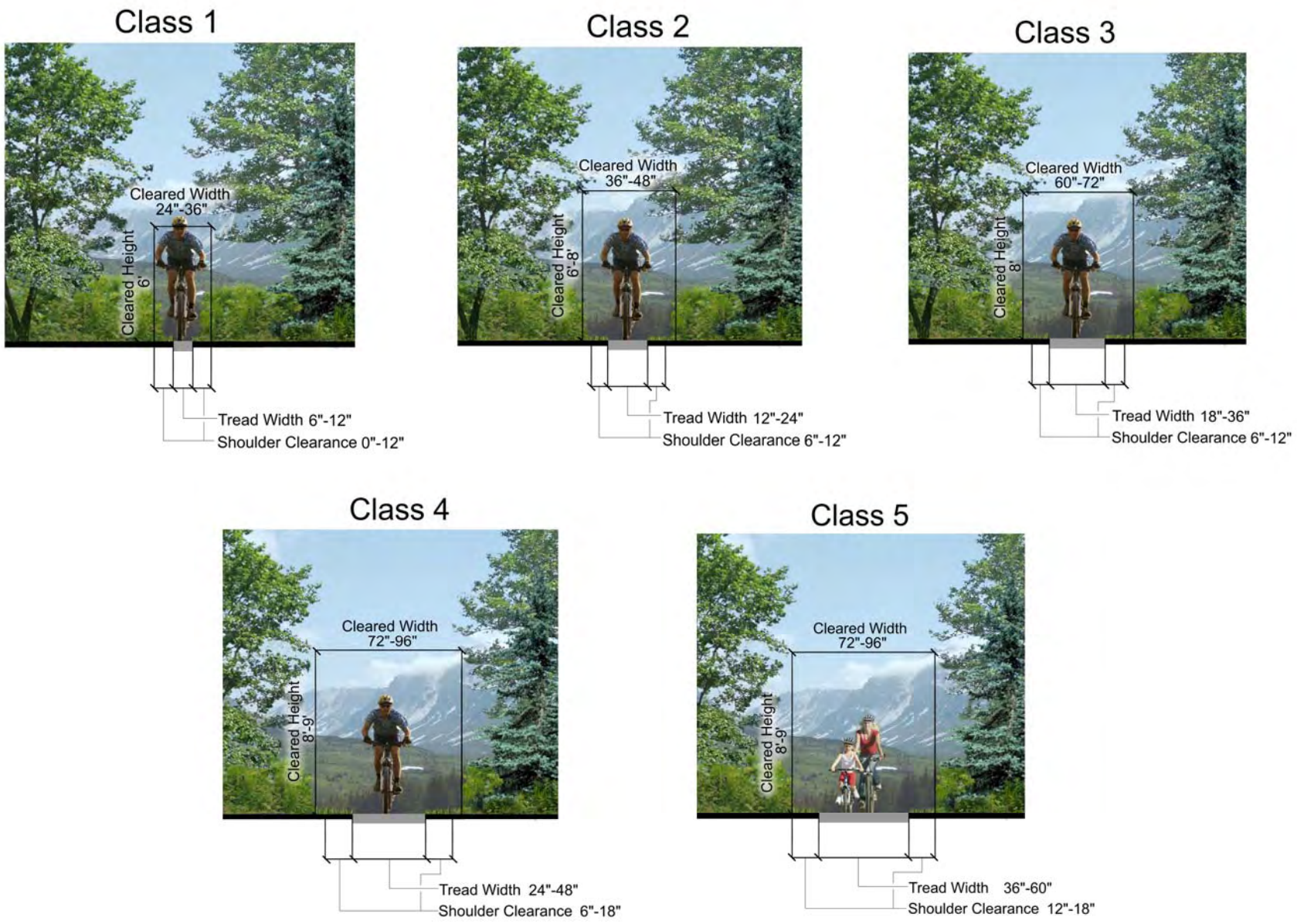
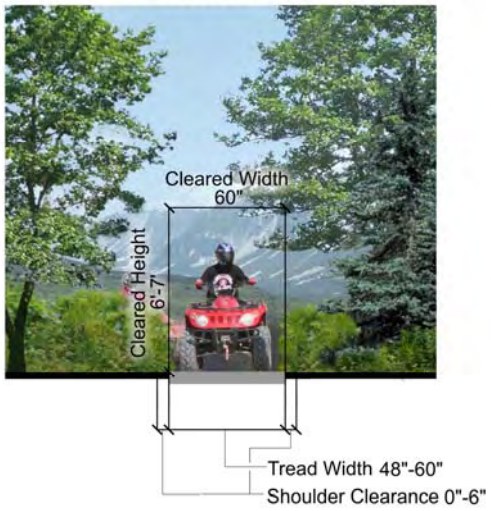

Class 1
Cleared Width
24"-36"
Cleared Height
6'
Tread Width 6"-12"
Shoulder Clearance 0"-12"
Class 2
Cleared Width
36"-48"
Cleared Height
6'-8'
Tread Width 12"-24"
Shoulder Clearance 6"-12"
Class 3
Cleared Width
60"-72"
Cleared Height
8'
Tread Width 18"-36"
Shoulder Clearance 6"-12"
Class 4
Cleared Width
72"-96"
Cleared Height
8'-9'
Tread Width 24"-48"
Shoulder Clearance 6"-18"
Class 5
Cleared Width
72"-96"
Cleared Height
8'-9'
Tread Width 36"-60"
Shoulder Clearance 12"-18"

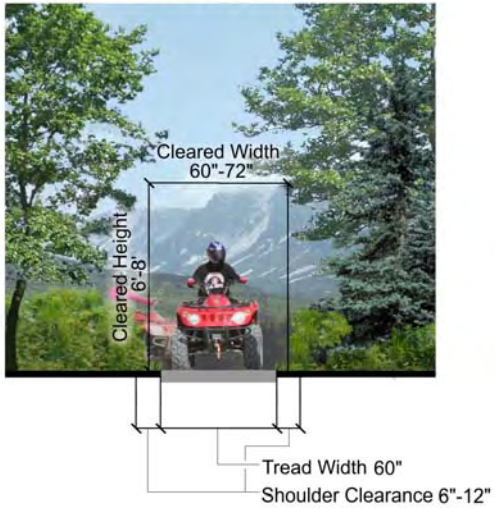
Figure 3.6: All-Terrain Vehicle Design Parameters

Designed Use ALL-TERRAIN VEHICLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for ATVs, although use may be allowed	48” – 60”	60”	60” – 72”	Typically not designed or actively managed for ATVs, although use may be allowed
	Double Lane		96”	96” – 108”	96” – 120”	
	Structures (Minimum Width)		60”	60”	60”	
Design Surface	**Type**		Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present	Native, with imported materials for tread stabilization likely and routine grading Minor roughness Sections of soft tread uncommon	
	Protrusions		≤ 6” May be common and continuous	≤ 3” May be common, but not continuous	≤ 3” Uncommon and not continuous	
	Obstacles (Maximum Height)		12” May be common or placed for increased challenge	6” May be common and left for increased challenge	3” Uncommon	
Design Grade	**Target Grade**		10% – 25%	5% – 15%	3% – 10%	
	Short Pitch Maximum		35%	25%	15%	
	Maximum Pitch Density		20% – 40% of trail	15% – 30% of trail	10% – 20% of trail	
Design Cross Slope	**Target Cross Slope**		5% – 10%	3% – 8%	3% – 5%	
	Maximum Cross Slope		15%	10%	8%	
Design Clearing	**Height**		6’ – 7’	6’ – 8’	8’ – 10’	
	Width (On steep side hills, increase clearing on uphill side by 6” – 12”)		60” Some light vegetation may encroach into clearing area	60” – 72”	72” - 96”	
	Shoulder Clearance		0” – 6”	6” – 12”	12” – 18”	
Design Turn	**Radius**		6’ – 8’	8’ – 10’	8’ – 12’	

Class 2



Class 3



Class 4

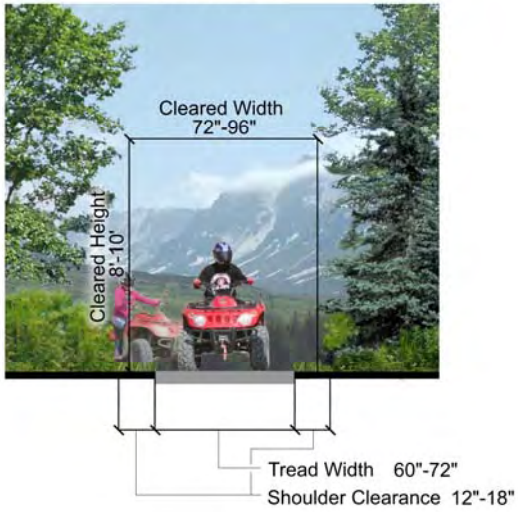
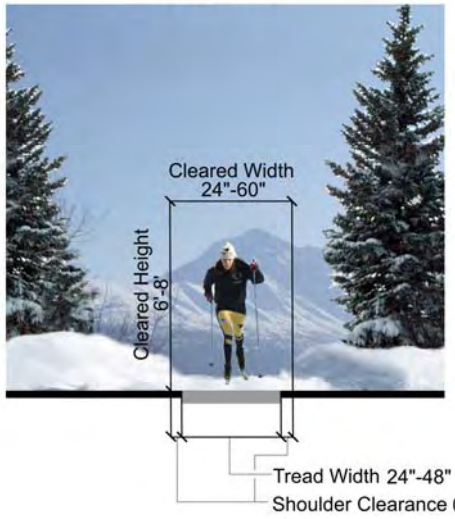


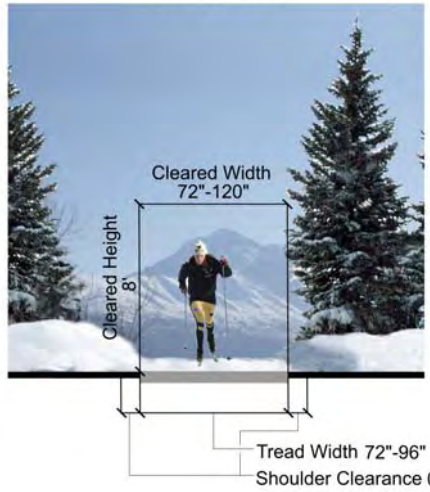
Figure 3.7: Cross-Country Ski (Diagonal/Classical) Design Parameters

Designed Use CROSS-COUNTRY SKI (Diagonal/Classic ski)		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for cross-country skiing, although use may be allowed	24” – 48” Typically not groomed	72” – 96” Or width of grooming equipment	96” – 120” Or width of grooming equipment	Typically not designed or actively managed for cross-country skiing, although use may be allowed
	Double Lane		72” – 96”	96” – 144”	144” – 192”	
	Structures (Minimum Width)		36”	36”	36”	
Design Grooming and Surface	**Type**		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12” Uncommon	8” Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade	**Target Grade**		5% – 15%	2% – 10%	0% – 8%	
	Short Pitch Maximum		25%	20%	12%	
	Maximum Pitch Density		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope (For up to 50’)		20%	15%	10%	
Design Clearing	**Height** (Above normal maximum snow level)		6’ – 8’	8’ Or height of grooming equipment	8’ – 10’	
	Width		24” – 60” Light vegetation may encroach into clearing area	72” – 120” Light vegetation may encroach into clearing area	96” – 168” Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		0” – 6”	0” - 12”	0” – 24”	
Design Turn	**Radius**		8’ – 10’	15’ – 20’ Or to accommodate grooming equipment	≥ 25’	

Class 2



Class 3



Class 4

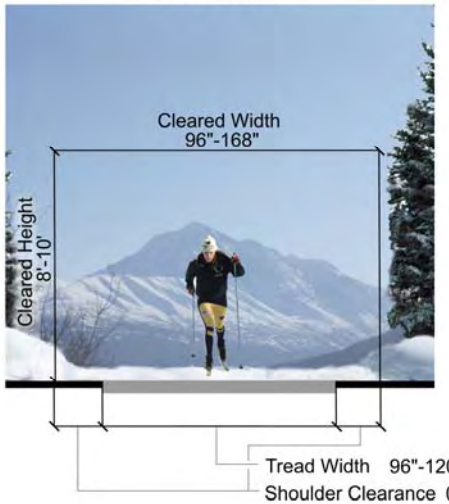
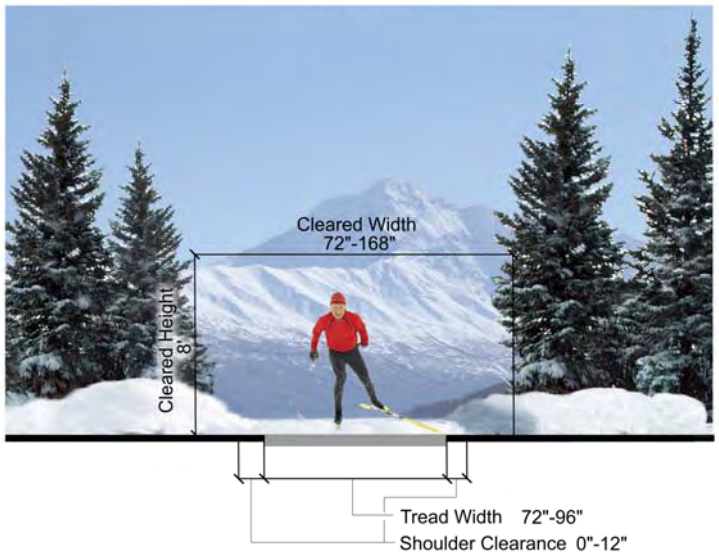


Figure 3.8: Nordic Ski (Skate) Design Parameters

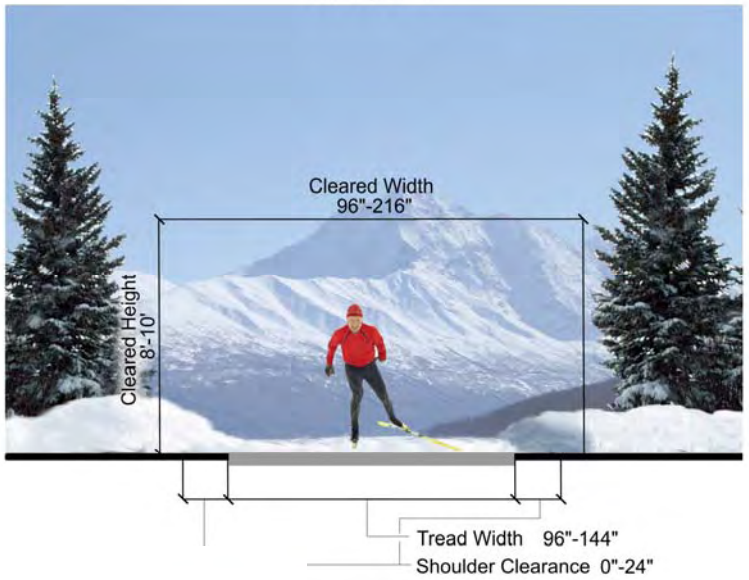
Designed Use NORDIC SKI (Skate Ski)		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for skate skiing, although use may be allowed	Typically not designed or actively managed for skate skiing, although use may be allowed	72” – 96” Or width of grooming equipment	96” – 144” Or width of grooming equipment	144” - 192” Or width of grooming equipment
	Double Lane[1]			96” – 144”	144” – 192”	168” - 288”
	Structures (Minimum Width)			36”	36”	36”
Design Grooming and Surface	**Type**			May receive occasional machine grooming for snow compaction and track setting	Smooth compaction using implements designed for creating skate lanes.	Smooth compaction using implements designed for creating skate lanes.
	Protrusions			No protrusions	No protrusions	No protrusions
	Obstacles (Maximum Height)			8” Uncommon (no obstacles if machine groomed)	No obstacles	No obstacles
Design Grade	**Target Grade**			2% – 10%	0% – 8%	0% – 6%
	Short Pitch Maximum			20%	20%	20%
	Maximum Pitch Density			5% – 15% of trail	5% - 10% of trail	5 - 8% of trail
Design Cross Slope	**Target Cross Slope**			0% – 5%	0% – 5%	0% – 5%
	Maximum Cross Slope (For up to 50’)			15%	12% Minimum cross-slope (crowned or one side) should be 2% to promote drainage	10% Minimum cross-slope (crowned or one side) should be 2% to promote drainage
Design Clearing	**Height** (Above normal maximum snow level)			8’ Or height of grooming equipment	8’ – 10’ Or height of grooming equipment	At least 10’ Or height of grooming equipment
	Width			72” – 168” Light vegetation may encroach into clearing area	96” – 216” Widen clearing at turns or if increased sight distance needed	96” – 312” Widen clearing at turns or if increased sight distance needed
	Shoulder Clearance			0” - 12”	0” – 24”	0” – 24”
Design Turn	**Radius**			15’ – 20’ Or to accommodate grooming equipment	≥ 25’ Or to accommodate grooming equipment	25’ - 30’ Or to accommodate grooming equipment

[1] Double lane may accommodate a combination of diagonal and skate ski lanes with room to pass.

Class 3



Class 4



Class 5

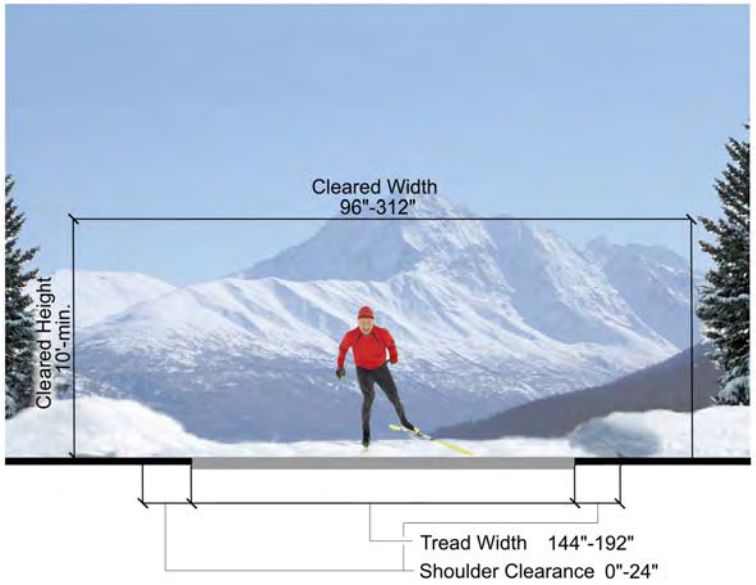
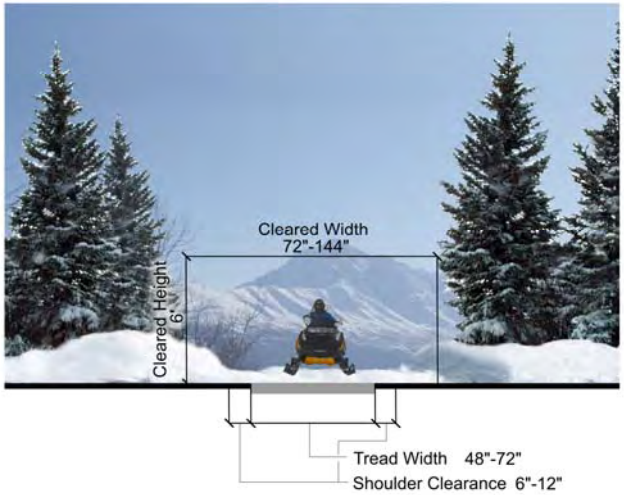


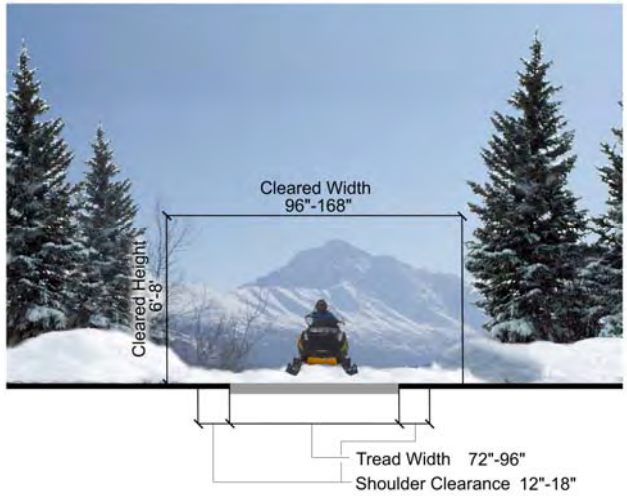
Figure 3.9: Snowmobile Design Parameters

Designed Use SNOWMOBILE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for snowmobiles, although use may be allowed	48" – 72" Typically not groomed	72" – 96" Or width of grooming equipment. On turns with tight radius, increase groomed width to ≥ 10'	96" – 120" Or width of grooming equipment. On turns with tight radius, increase groomed width to ≥ 12'	Typically not designed or actively managed for snowmobiles, although use may be allowed
	Double Lane		120" Typically not groomed	120" – 144"	144" – 240"	
	Structures (Minimum Width)		72"	144"	216"	
Design Surface	**Type**		Generally no machine grooming Commonly rough and bumpy	May receive occasional machine grooming for snow compaction and conditioning Frequently rough and bumpy	Regular machine grooming for snow compaction and conditioning Commonly smooth	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	6" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade	**Target Grade**		0% – 12%	0% – 10%	0% – 8%	
	Short Pitch Maximum		35%	25%	20%	
	Maximum Pitch Density		15% – 30% of trail	10% – 20% of trail	5% – 10% of trail	
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0%	
	Maximum Cross Slope		15%	10%	5%	
Design Clearing	**Height** (Above normal maximum snow level)		6'	6' – 8' Provide sufficient clearance for grooming equipment	8' – 12' Provide sufficient clearance for grooming equipment	
	Width		72" – 144" Some light vegetation may encroach into clearing area	96" – 168" Light vegetation may encroach into clearing area	120" – 264" Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		6" – 12"	12" – 18"	12" – 24"	
Design Turn	**Radius**		8' – 10'	15' – 20' Or to accommodate grooming equipment	25' – 50'	

Class 2



Class 3



Class 4

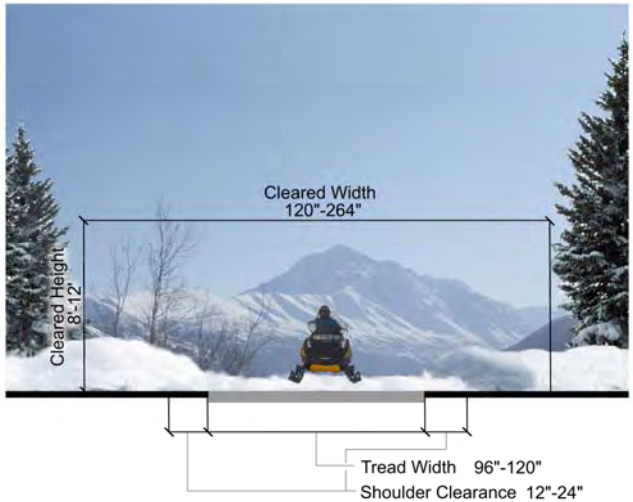


Figure 3.10: Non-Motorized Watercraft Design Parameters

Designed Use NON-MOTORIZED WATERCRAFT*		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Structures**	Water route shown on maps and used to access other trails or portages, but with no trail structures, facilities, signs, or recurring maintenance needs along route. Signs and/or parking facilities at initial access points only, and likely associated with other trails or sites.	Few markers or route designators. Low profile structures or facilities occasionally present; primarily to reduce beach and bank impacts. Structures typically consist of native material hardening of portage/water entry points. Signs and/or parking facilities at initial access points only, and likely associated with other trails or sites.	Buoys or markers possible to identify route Typically, facilities provide for improved access and to reduce beach and bank impacts. Well-developed parking and launch facilities at primary access points, but facilities and structures rare along the trail. Interpretive and informational displays typically present at primary access points	Buoys or markers are high profile and may be inter-visible and or route is readily followed. Highly developed launch facilities, docks, and amenities typically proved for user convenience. Well-marked approaches to facilities and portages. Interpretative displays, maps, information kiosks and signs typically present at access points and along route	Typically not designed or actively managed for watercraft, although use may be allowed
Design Surface	**Protrusions**	May be common and continuous	May be common and continuous	May be common, but not continuous	Uncommon and not continuous	
	Obstacles	May be common or placed for increased challenge	May be common or placed for increased challenge	May be common and left for increased challenge	Uncommon	
Design Clearing		In densely vegetated areas, users will commonly need to lift vessels over logs, shoals, or matted vegetation.	Path is typically narrow, shallow, and may occasionally require user to lift over obstacles or break path through some vegetation and duck under overhanging branches	Path is typically cleared wide enough for ready passage and maneuvering of at least one vessel, and usually two-way vessel passage, with only occasional low overhanging vegetation	Path is consistently cleared wide enough for unhindered, easy passage of two or more vessels.	

* For Portage sections of Water Trails see the "General Criteria" section. Additional design parameters will have to be developed for areas with extensive portages requiring maintenance and attention. Water Trail design parameters are primarily given to provide guidance in applying the appropriate Trail Class. It is important to note that the classes provided here are given for trail purposes only and do not correlate with white water classes assigned to rivers for other purposes.

Class 1

Class 2

Class 3

Class 4

Chapter 4: TRAIL MANAGEMENT RECOMMENDATIONS

In the Chugach State Park Management Plan, the park has been divided into five planning units which correspond roughly with important geographic regions. The recommendations of this plan will be made within these same planning units. They are Eklutna-Peters Creek, Eagle River, Ship Creek, Hillside, and Turnagain Arm. Map 4.1 depicts the planning units and the plan study area. Each unit will have a brief description and a trail matrix that will describe the specific management intent for each trail or trail segment within the unit. It is important to realize that the recommendations in the matrices describe the desired future condition for the trails within the park and not necessarily a trail's current condition.

Routes and Unmanaged Trails

The recommendations in the following trail matrices pertain to trails where the park has identified clear management intent for their future development. Some commonly used areas are not included in these matrices. These areas are typically social trails or routes that the park is consciously choosing not to commit resources to or manage for visitor use. This may be for resource protection purposes or to preserve a level of challenge or experience for those with the skills and desire to use these areas. Some of these routes are used enough to be considered class 1 trails. A map included in this plan as Appendix D shows the approximate location of some of these routes.

Trail Matrix Organization

The individual fields that make up the trail matrices are described below. The maps included with the trail matrices are provided to facilitate understanding of the management intent for a particular trail or trail segment and are not intended to be used for any other purpose. The trail alignments depicted on the maps are approximate and may vary as trails are improved and rerouted.

ID Number- Correlates the table description to a trail or trail segment depicted on the maps.

Map Number- Corresponds with the map depicting the trail.

Trail Name/Segment- The name of the trail is entered in this field. Where a trail is segmented for a specific reason (different trail class or design parameter), the name of the trail and trail segment will appear.

Trail Type- This field indicates what type of trail is being discussed. There will always be only one type per trail or trail segment so that managers can assign specific design parameters and management needs for a particular use or season. Where the same trail has various types, the trail will be listed individually for that type.

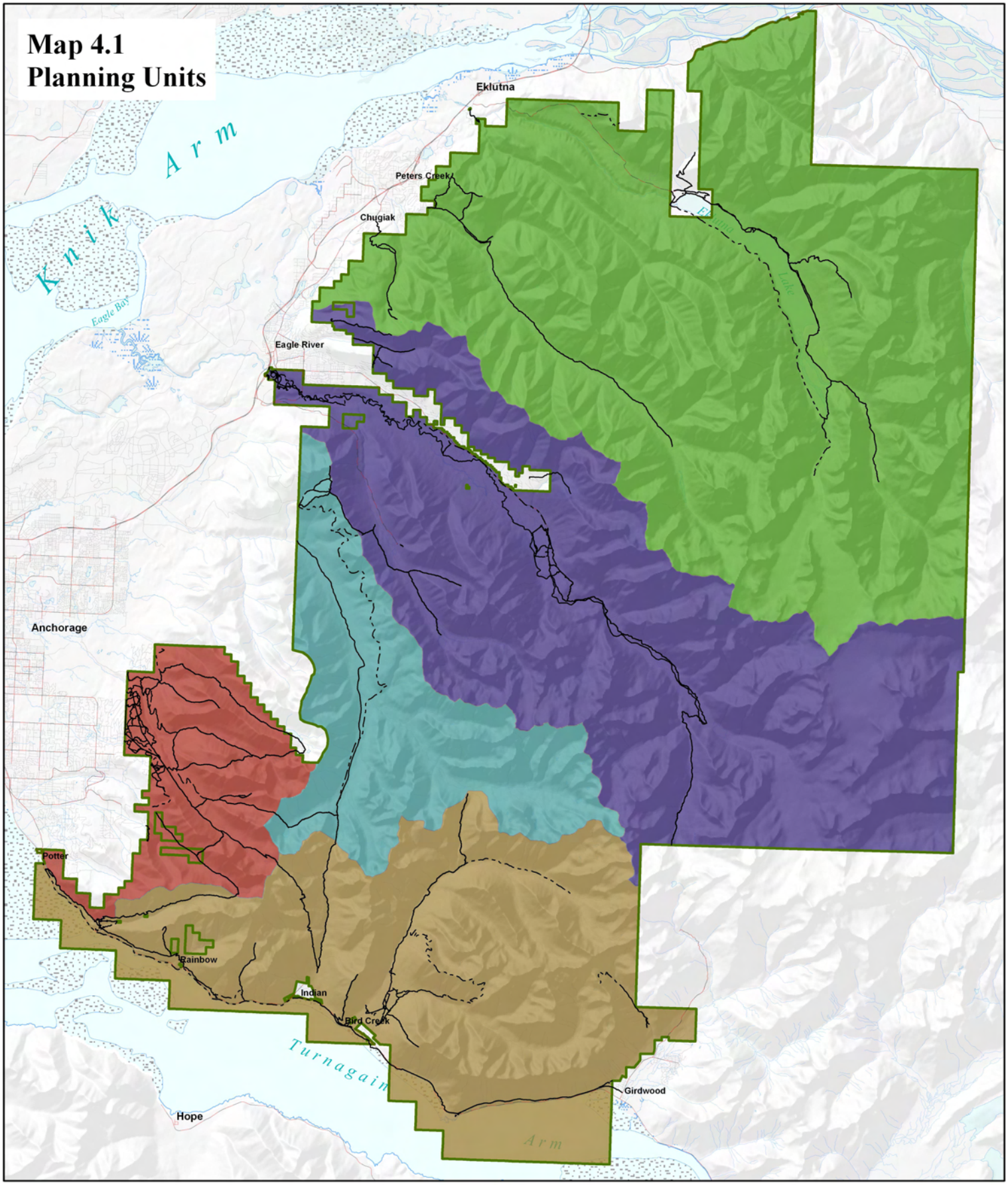
Designed Use- This describes the intended use that controls the geometric design of the trail and determines the subsequent maintenance parameters for the trail. There is only one designed use per trail or trail segment. A trail may be actively managed for more than one use and various uses may be permitted but it has only one design driver that determines the technical specifications for that trail.

Managed Use- This describes the modes of travel that are actively managed on a particular trail indicating the management decision or intent to accommodate and encourage those uses on a specific trail. Additional uses besides what is listed may be permitted on a trail but this field simply alerts users to the uses that are primarily intended on a trail.

Trail Class- The class describes the scale of trail development representing the intended design and management standards of a trail. There is only one trail class per trail or trail segment. They define a typical scenario or combined factors and exceptions within the class may occur but the class that most closely fits is chosen.

Approximate Distance- The approximate distance of a trail or trail segment will be entered in this field in miles.

Comments- Contains additional information about a trail.


Map 4.1
Planning Units
Eklutna
Peters Creek
Chugiak
Eagle River
Anchorage
Potter
Rainbow
Indian
Bird Creek
Girdwood
Hope
Knik Arm
Eagle Bay
Turnagain Arm
Planning Units
Eklutna-Peters Creek Unit
Eagle River Unit
Ship Creek Unit
Hillside Unit
Turnagain Arm Unit
CSP Legal Boundary (AS41.21.121)
Trail
Proposed Trail
CHUGACH
STATE PARK
0 2 4 8 Miles
N
Chugach State Park

Eklutna-Peters Creek Unit

This unit is in the northern most part of the study area encompassing several drainages including Eklutna River, Thunderbird Creek, Peters Creek, Little Peters Creek and portions of Hunter Creek. The terrain in the area is dominated by these five river valleys and the surrounding rugged mountain areas. The unit contains Eklutna Lake, the largest water body within Chugach State Park and a very popular recreation area.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
100	4.2	Mt. POW/MIA Trail (New Trail)	Terra	Hiker-Pedestrian	Hiker	2	1.9 Miles	
101a	4.2	Twin Peaks Trail- Eklutna Lakeside Trail junction to Scenic Overlook	Terra	Hiker-Pedestrian	Hiker	3	0.4 Miles	
101b	4.2	Twin Peaks Trail- Scenic Overlook to above tree line	Terra	Hiker-Pedestrian	Hiker	2	2.1 Miles	
102	4.2	Eydlu Bena Loop	Terra	Hiker-Pedestrian	Hiker	3	1.3 Miles	
103	4.2	Eklutna Lake Boat Launch	Terra	Hiker-Pedestrian	Hiker	4	160 Feet	
104	4.2	Eklutna Lake Spillway Trail	Terra	Bicycle	Bicycle; Hiker	4	0.7 Miles	Requires a regulation change to allow bicycles.
105	4.2	Eklutna Spillway and Lakeside Loop ATV Access Trail (New Trail)	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	0.3 Miles	Requires a regulation change to allow off-road vehicles and bicycles.
106	4.2	Eklutna Lake Spillway and Lakeside Loop Access Trail	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	0.4 Miles	Trail should be managed for Bicycle Class 4 until the Loop Trail (ID# 107) is constructed. Requires a regulation change to allow off-road vehicles and bicycles.
107	4.2	Eklutna Lakeside Loop Trail (New Trail)	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	10.5 Miles	Requires a regulation change to allow off-road vehicles and bicycles.
108a	4.2	Eklutna Lakeside ATV Access Trail	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	0.5 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
108b	4.3	Eklutna Lakeside ATV Access Trail	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	0.5 Miles	
109a	4.2	Eklutna Lakeside Access Trail	Terra	Bicycle	Bicycle; Hiker	4	120 Feet	
109b	4.3	Eklutna Lakeside Access Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	4	120 Feet	
110a	4.2	Eklutna Lakeside Trail	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	12.0 Miles	
110b	4.3	Eklutna Lakeside Trail	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	12.0 Miles	
111a	4.2	Eklutna Lower Lakeside Trail	Terra	Bicycle	Bicycle; Hiker	4	4.9 Miles	
111b	4.3	Eklutna Lower Lakeside Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	4.9 Miles	
112a	4.2	Bold Ridge Trail- Eklutna Lakeside Trail along old roadbed	Terra	Hiker-Pedestrian	Hiker	3	1.8 Miles	
112b	4.2	Bold Ridge Trail- End of old roadbed to above tree line	Terra	Hiker-Pedestrian	Hiker	2	2.2 Miles	
113	4.2	East Fork Eklutna River Trail	Terra	Hiker-Pedestrian	Hiker	2	4.5 Miles	
114a	4.2	Eklutna Glacier Trail- Lakeside Trail junction to terminus of glacial moraine	Terra	Hiker-Pedestrian	Hiker	2	0.8 Miles	
114b	4.2	Eklutna Glacier Trail- Along moraine (New Trail)	Terra	Hiker-Pedestrian	Hiker	1	1.6 Miles	
115a	4.2	Thunderbird Falls Trail- Trailhead to Viewing Platform	Terra	Hiker-Pedestrian	Hiker	5	0.7 Miles	Trail is intended to meet ADA standards and should be improved to maintain that standard with better viewing platform, interpretive signing and parking.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
115b	4.2	Thunderbird Falls Trail- Side trail to Falls	Terra	Hiker-Pedestrian	Hiker	3	0.2 Miles	
116	4.2	Bear Point-Mt. Eklutna Loop Trail	Terra	Hiker-Pedestrian	Hiker	2	4.6 Miles	Reroute the beginning of the trail onto state land.
117a	4.2	Peters Creek Valley Trail- Trailhead to Six Mile Creek	Terra	Bicycle	Bicycle; Hiker; Pack & Saddle	4	4.3 Miles	
117b	4.2	Peters Creek Valley Trail- Six Mile Creek to Wall Street Creek	Terra	Pack & Saddle	Pack & Saddle; Hiker; Bicycle	2	9.5 Miles	Requires a regulation change to allow bicycles.
117c	4.3	Peters Creek Valley Trail- Trailhead to Wall Street Creek/wilderness boundary	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	3	13.8 Miles	
118a	4.2	Four Mile Creek Loop Trail	Terra	Pack & Saddle	Pack & Saddle; Hiker; Bicycle	3	1.4 Miles	
118b	4.3	Four Mile Creek Loop Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	2	1.4 Miles	
119a	4.2	Ptarmigan Valley Trail	Terra	Pack & Saddle	Pack & Saddle; Hiker; Bicycle	3	5.4 Miles	Requires a regulation change to allow bicycles.
119b	4.3	Ptarmigan Valley Trail	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	3	5.3 Miles	

Eagle River Unit

This unit sits in the broad U-shaped valley of Eagle River and its many tributaries. Since the unit lies only 10 miles north of Anchorage, it is easily reached by recreational users wanting to access the park and has also become a popular place to live as the housing inventory in Anchorage decreases. The Eagle River Nature Center and its associated trail system is a main attraction to school groups and residents of the municipality. Access in this unit is particularly challenging due to the steep-sided mountain terrain, associated avalanche concern, and increased development.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
200a	4.4	Mt. Baldy– Parking area to trail junction to Baldy	Terra	Hiker-Pedestrian	Hiker	4	0.1 Miles	Trail starts on Municipality of Anchorage (MOA) land. Coordinate trail reroute and management with MOA.
200b	4.4	Mt. Baldy– Trail junction to summit	Terra	Hiker-Pedestrian	Hiker	3	1.9 Miles	Trail starts on MOA land. Coordinate trail reroute and management with MOA.
201	4.4	Blacktail Ptarmigan Rocks Trail- Mt. Baldy summit to Blacktail Ptarmigan Rocks	Terra	Hiker-Pedestrian	Hiker	2	0.6 Miles	
202	4.4	Meadow Creek Trail- Park boundary to headwaters	Terra	Pack & Saddle	Pack & Saddle; Hiker	2	2.4 Miles	Requires a regulation change to allow horses. Trail starts on private property.
203a	4.4	Mile High Saddle Trail- Mile Hi Trailhead to saddle	Terra	Hiker-Pedestrian	Hiker	3	0.5 Miles	
203b	4.4	Mile High Saddle Trail- Saddle to Meadow Creek Trail junction	Terra	Hiker-Pedestrian	Hiker	2	0.5 Miles	
204	4.4	Mile High Ridge- Mile High Saddle Trail junction to park boundary	Terra	Hiker-Pedestrian	Hiker	2	0.2 Miles	
205	4.4	Mount Magnificent Trail	Terra	Hiker-Pedestrian	Hiker	2	0.8 Miles	
206a	4.4	North Fork Eagle River Boat Launch	Terra	Hiker-Pedestrian	Hiker	4	250 Feet	
206b	4.5	North Fork Eagle River Boat Launch	Snow	Snowmobile	Snowmobile; Ski; Hiker	4	250 Feet	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
207	4.4	North Fork Eagle River Access Trail	Terra	Hiker-Pedestrian	Hiker	3	0.5 Miles	
208	4.4	Eagle River- Crow Pass Trail river ford to Eagle River Campground	Water	Watercraft	Non-motorized Watercraft	2*	28.3 Miles	Sign Echo Bend, Rapids Camp, and Campground Rapid take-out. Trail incorporates the portage trail around Campground Rapid. *Note: Trail class does not refer to river difficulty rating scale
209	4.6	Ram Valley Trail	Terra	Hiker-Pedestrian	Hiker	2	2.1 Miles	Acquisition of a 300 ft trail easement across private property is needed for a portion of the trail.
210a	4.6	Rodak Nature Loop Trail	Terra	Hiker-Pedestrian	Hiker	5	0.8 Miles	Trail provides ADA access to educational facility and large viewing platforms.
210b	4.7	Rodak Nature Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	4	0.7 Miles	
211a	4.6	Albert Loop Trail	Terra	Hiker-Pedestrian	Hiker	4	2.6 Miles	
211b	4.7	Albert Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	4	2.1 Miles	
211c	4.7	Albert Loop Trail- Parking Area to Eagle River	Snow	Snowmobile	Snowmobile; Ski; Hiker	4	0.5 Miles	
212	4.6	Albert Loop Eagle River Access	Terra	Hiker-Pedestrian	Hiker	3	0.1 Miles	
213a	4.6	River Loop Trail	Terra	Hiker-Pedestrian	Hiker	3	0.2 Miles	
213b	4.7	River Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	3	0.2 Miles	
214a	4.6	River Loop Yurt Trail	Terra	Hiker-Pedestrian	Hiker	4	0.2 Miles	
214b	4.7	River Loop Yurt Trail	Snow	Cross-Country Ski	Ski; Hiker	4	0.2 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
215a	4.6	Crow Pass/Iditarod Trail- Four Corners to Rapids Camp	Terra	Hiker-Pedestrian	Hiker	4	1.0 Miles	
215b	4.7	Crow Pass/Iditarod Trail- Four Corners to Rapids Camp	Snow	Cross-Country Ski	Ski; Hiker	4	1.0 Miles	
216a	4.6	Cabin Trail	Terra	Hiker-Pedestrian	Hiker	4	0.1 Miles	
216b	4.7	Cabin Trail	Snow	Cross-Country Ski	Ski; Hiker	4	0.1 Miles	
217a	4.6	Four Corners-Albert Reroute Trail (New Trail)	Terra	Hiker-Pedestrian	Hiker	4	0.5 Miles	Trail provides an alternative to the segment of the Albert Loop Trail that is closed seasonally due to bear activity.
217b	4.7	Four Corners-Albert Reroute Trail (New Trail)	Snow	Cross-Country Ski	Ski; Hiker	4	0.5 Miles	
218a	4.6	Four Corners Loop Trail	Terra	Hiker-Pedestrian	Hiker	4	0.1 Miles	
218b	4.7	Four Corners Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.1 Miles	
219a	4.6	Crow Pass/Iditarod Trail- Rapids Camp to Park Boundary near Pass	Terra	Hiker-Pedestrian	Hiker	3	16.3 Miles	Trail from park boundary to Crow Pass Trailhead is on US Forest Service land.
219b	4.7	Crow Pass/Iditarod Trail-Rapids Camp to Echo Bend	Snow	Cross-Country Ski	Ski; Hiker	3	1.2 Miles	
220a	4.6	Dew Mound Trail	Terra	Hiker-Pedestrian	Hiker	3	3.1 Miles	
220b	4.7	Dew Mound Trail	Snow	Cross-Country Ski	Ski; Hiker	2	3.1 Miles	
221a	4.6	Mountain Meadow Trail	Terra	Hiker-Pedestrian	Hiker	2	0.3 Miles	
221b	4.7	Mountain Meadow Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.3 Miles	
222a	4.6	Rapids Camp Loop	Terra	Hiker-Pedestrian	Hiker	2	0.5 Miles	
222b	4.7	Rapids Camp Loop	Snow	Cross-Country Ski	Ski; Hiker	2	0.5 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
223a	4.4 4.6	Eagle River Greenbelt Pathway–Glenn Highway to ERNC (New Trail)	Terra	Bicycle	Bicycle; Hiker	5	14.5 Miles	Requires a regulation change to allow bicycles.
223b	4.5	Eagle River Greenbelt Pathway–Glenn Highway to Briggs Bridge (New Trail)	Snow	Nordic Ski	Ski; Hiker	5	5.3 Miles	
224a	4.4	Eagle River Campground Trail System (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	0.5 Miles	
224b	4.5	Eagle River Campground Trail System	Snow	Nordic Ski	Ski; Hiker	5	1.5 Miles	
224c	4.5	Eagle River Campground Trail System (New Trail)	Snow	Nordic Ski	Ski; Hiker	5	1.7 Miles	
224d	4.4	Eagle River Campground Trail System- Kids Bike Skills Course (New Trail)	Terra	Bicycle	Bicycle	4	0.9 Miles	Includes a separated bike path paralleling a portion of the campground road.
225a	4.4	Eagle River Boat Launch	Terra	Hiker-Pedestrian	Hiker	4	310 Feet	
225b	4.5	Eagle River Boat Launch	Snow	Snowmobile	Snowmobile; Ski; Hiker	4	310 Feet	
226	4.4	Briggs Bridge Eagle River Access Trail	Terra	Hiker-Pedestrian	Hiker	3	0.1 Miles	
227a	4.8	South Fork Eagle River Trail-Trailhead to Hunter Pass Trail junction	Terra	Pack & Saddle	Pack & Saddle; Hiker; Bicycle	3	0.2 Miles	Requires a regulation change to allow bicycles.
227b	4.8	South Fork Eagle River Trail-Hunter Pass Trail junction to footbridge over South Fork	Terra	Bicycle	Bicycle; Pack & Saddle; Hiker	3	1.8 Miles	Requires a regulation change to allow bicycles.
227c	4.8	South Fork Eagle River Trail-Footbridge over South Fork to Eagle Lake	Terra	Bicycle	Pack & Saddle; Hiker; Bicycle	2	2.5 Miles	Requires a regulation change to allow bicycles.
227d	4.8	South Fork Eagle River Trail-Eagle Lake to Symphony Lake	Terra	Hiker-Pedestrian	Hiker	2	0.6 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
228	4.8	Hunter Pass Trail- South Fork Eagle River Trail junction to pass	Terra	Pack & Saddle	Pack & Saddle; Hiker; Bicycle	3	0.5 Miles	Requires a regulation change to allow bicycles.
229	4.8	Hanging Valley Trail- South Fork Eagle River Trail to top of hill	Terra	Hiker-Pedestrian	Hiker	2	2.0 Miles	
230	4.8	Harp Mountain Trail (New Trail)	Terra	Hiker-Pedestrian	Hiker	2	0.3 Miles	This trail reroutes use onto state land.
231	4.6	Raven Creek-Heidi's Knob Trail	Terra	Hiker-Pedestrian	Hiker	2	0.6 Miles	

Ship Creek Unit

The Ship Creek Unit has two main valleys, the main fork and north forks of Ship Creek that contain numerous lakes and small tributaries. The unit, surrounded by the peaks of the South Fork of Eagle River, Hillside and Turnagain Arm areas, is zoned "watershed" by the Municipality of Anchorage and is a major source of water for Anchorage. Currently, the main way to access the unit is via a military road that takes you to the Arctic Valley Ski Area. The unit receives most of its use in the winter. Access to and activities within this unit will be carefully controlled to protect its value as a watershed.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
300	4.8	Muktuk Marston Memorial Overlook Trail	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	4	0.4 Miles	Requires a regulation change to allow bicycles.
301	4.8	Muktuk Marston Trail (New Trail)	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	3	3.6 Miles	Requires a regulation change to allow bicycles.
302a	4.8	Rendezvous Peak Trail- Trailhead to saddle between Rendezvous and Mt. Gordon Lyon	Terra	Hiker	Bicycle; Hiker	3	1.2 Miles	Requires a regulation change to allow bicycles.
302b	4.8	Rendezvous Peak Trail- Saddle to Rendezvous Peak loop back to main trail	Terra	Hiker-Pedestrian	Hiker	2	1.2 Miles	
302c	4.8	Rendezvous Peak Trail- Saddle to Mt. Gordon Lyon	Terra	Hiker-Pedestrian	Hiker	2	0.5 Miles	
303	4.8	Rendezvous Ridge Trail- Muktuk Marston Overlook Trail to Rendezvous Peak to Hunter Pass Trail junction	Terra	Bicycle	Bicycle; Hiker	2	3.5 Miles	Requires a regulation change to allow bicycles.
304a	4.8	Ship Creek Trail- Muktuk Marston Trail junction to Ship Lake Trail junction (New Trail)	Terra	Pack & Saddle	Pack & Saddle; Hiker	2	13.5 Miles	
304b	4.8	Ship Creek Trail- Ship Lake Trail junction to Indian Creek Pass	Terra	Pack & Saddle	Pack & Saddle; Hiker	2	1.0 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
305	4.14	Arctic Valley to Indian Creek Pass Traverse	Snow	Cross-Country Ski	Ski; Hiker	2	11.0 Miles	The first 3 miles of trail is on military land. Trail includes a portion of the Arctic to Indian Traverse.
306	4.8	Ship Lake Trail	Terra	Hiker-Pedestrian	Hiker	1	2.7 Miles	

Hillside Unit

This unit is one of the most popular recreational areas in the study area and receives a great deal of recreational pressure along its western edge. It contains the drainages of Campbell and Rabbit Creeks, and numerous lakes. The Campbell Creek drainage is an important watershed area that feeds underground aquifers that are a major source of water for Anchorage via deep wells. Because of the area's popularity for recreation and desirability for development, access in this unit will always be an issue.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
400a	4.10	Lost Cabin Valley Trail	Terra	Bicycle	Bicycle; Hiker	2	1.7 Miles	Requires a regulation change to allow bicycles.
400b	4.11	Lost Cabin Valley Trail	Snow	Cross-Country Ski	Ski; Hiker	2	1.7 Miles	
401a	4.9 4.10	Near Point Trail- Near Point Knoll Trailhead to junction with existing Near Point Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	1.1 Miles	The Near Point Knoll Trailhead will be located on the Campbell Canyon property if it is acquired. Requires a regulation change to allow bicycles.
401b	4.10	Near Point Trail- Wolverine Peak Trail junction to end of old homestead road	Terra	Bicycle	Bicycle; Hiker	3	0.4 Miles	
401c	4.11	Near Point Trail- Wolverine Peak Trail junction to end of old homestead road	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	2	0.4 Miles	
401d	4.10	Near Point Trail- End of old homestead road to summit	Terra	Hiker-Pedestrian	Hiker	3	1.3 Miles	
402	4.9 4.10	Campbell Creek Canyon-Long Lake Trail	Terra	Hiker-Pedestrian	Hiker	2	5.9 Miles	
403	4.9 4.10	Wolverine Peak Trail- Near Point Trail junction to summit	Terra	Hiker-Pedestrian	Hiker	3	2.8 Miles	
404a	4.10	Wolverine Bowl Trail	Terra	Bicycle	Bicycle; Hiker	3	1.9 Miles	
404b	4.11	Wolverine Bowl Trail	Snow	Cross-Country Ski	Ski; Bicycle; Hiker	3	1.9 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
405a	4.10	Wolverine Bowl Ski Loop Trail	Terra	Hiker-Pedestrian	Hiker	3	0.5 Miles	
405b	4.11	Wolverine Bowl Ski Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.5 Miles	
406a	4.10	Middle Fork Connector Trail - Wolverine Bowl Trail junction to Middle Fork Loop Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	0.7 Miles	Requires a regulation change to allow bicycles
406b	4.11	Middle Fork Connector Trail - Wolverine Bowl Trail junction to Middle Fork Loop Trail (New Trail)	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	0.7 Miles	Requires a regulation change to allow bicycles
406c	4.10	Middle Fork Loop Trail	Terra	Bicycle	Bicycle; Hiker	3	5.1 Miles	Requires a regulation change to allow bicycles on entire trail
406d	4.11	Middle Fork Loop Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	5.1 Miles	Requires a regulation change to allow bicycles on entire trail
406e	4.9 4.10	Middle Fork Loop Extension – Middle Fork Loop Trail to Hidden Lake Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	1.9 Miles	Requires a regulation change to allow bicycles
406f	4.11	Middle Fork Loop Extension – Middle Fork Loop Trail to Hidden Lake Trail (New Trail)	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	1.9 Miles	Requires a regulation change to allow bicycles
407a	4.10	Little Loop Trail	Terra	Hiker-Pedestrian	Hiker	3	0.3 Miles	
407b	4.11	Little Loop Trail	Snow	Cross-Country Ski	Ski; Hiker	3	0.3 Miles	
408	4.9 4.10	Williwaw Lakes Trail	Terra	Hiker-Pedestrian	Hiker	2	5.7 Miles	
409a	4.10	Spencer Loop Connector Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	0.3 Miles	Requires a regulation change to allow bicycles
409b	4.11	Spencer Loop Connector Trail (New Trail)	Snow	Nordic Ski	Ski; Skijor; Hiker	4	0.3 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
410a	4.10	Llama Trail	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	2	0.3 Miles	
410b	4.11	Llama Trail	Snow	Nordic Ski	Ski, Skijor; Hiker	3	0.3 Miles	
411	4.10	Golden Grass Trail	Terra	Hiker-Pedestrian	Hiker	2	0.8 Miles	
412a	4.10	South Fork Rim Trail	Terra	Bicycle	Bicycle; Hiker	3	2.2 Miles	
412b	4.11	South Fork Rim Trail	Snow	Cross-Country Ski	Ski; Bicycle; Hiker	3	2.2 Miles	
413a	4.10	Panorama View Trail	Terra	Hiker-Pedestrian	Hiker	2	0.7 Miles	
413b	4.11	Panorama View Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.7 Miles	
414	4.10	Denali View Trail	Terra	Hiker-Pedestrian	Hiker	2	1.1 Miles	
415a	4.10	Alder Trail- Powerline Trail junction to Denali View Trail junction	Terra	Bicycle	Bicycle; Hiker	3	0.3 Miles	Requires a regulation change to allow bicycles. Abandon lower Alder Trail.
415b	4.10	Alder Trail- Denali View Trail junction to Hemlock Knob Trail near Gasline Trail junction (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	1.1 Miles	Requires a regulation change to allow bicycles.
415c	4.11	Alder Trail- Powerline Trail junction to Denali View Trail junction	Snow	Nordic Ski	Ski, Skijor; Hiker	3	0.3 Miles	
415d	4.11	Alder Trail- Denali View Trail junction to Hemlock Knob Trail near Gasline Trail junction (New Trail)	Snow	Nordic Ski	Ski, Skijor; Hiker	3	1.1 Miles	
416a	4.10	White Spruce Trail	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	3	0.7 Miles	
416b	4.11	White Spruce Trail	Snow	Cross-Country Ski	Ski; Hiker	3	0.7 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
417a	4.10	Blueberry Hollow Trail	Terra	Hiker-Pedestrian	Hiker	2	1.3 Miles	
417b	4.11	Blueberry Hollow Trail	Snow	Cross-Country Ski	Ski; Hiker	2	1.3 Miles	
418a	4.10	Hemlock Knob Trail	Terra	Hiker-Pedestrian	Hiker	2	0.8 Miles	
418b	4.11	Hemlock Knob Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.8 Miles	
419a	4.10	Gasline Trail- Prospect Heights Trailhead to Powerline Trail at Y junction	Terra	Bicycle	Bicycle; Hiker	4	3.0 Miles	
419b	4.11	Gasline Trail- Prospect Heights Trailhead to Upper O'Malley Trailhead	Snow	Cross-Country Ski	Ski; Hiker	2	1.5 Miles	
419c	4.11	Gasline Trail- Upper O'Malley Trailhead to Snowmobile Entrance/Exit Trail junction	Snow	Cross-Country Ski	Ski; Hiker	4	0.9 Miles	
419d	4.11	Gasline Trail- Snowmobile Entrance/Exit Trail junction to Powerline Pass Trail at Y junction	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	0.7 Miles	
420	4.10	Upper O'Malley Spur Trail	Terra	Hiker-Pedestrian	Hiker	3	170 Feet	
421a	4.10	Silver Fern Trail	Terra	Bicycle	Bicycle; Hiker	4	0.6 Miles	
421b	4.11	Silver Fern Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	0.6 Miles	
421c	4.10	Silver Fern Loop Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	0.2 Miles	
421d	4.11	Silver Fern Loop Trail (New Trail)	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	2	0.2 Miles	
422a	4.10	Shebanof Avenue Connector Trail	Terra	Bicycle	Bicycle; Hiker	2	0.2 Miles	Requires a regulation change to allow bicycles.
422b	4.11	Shebanof Avenue Connector Trail	Snow	Cross-Country Ski	Ski; Hiker	2	0.2 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
423a	4.11	Upper Huffman Snowmobile Two-way Entrance/Exit Trail	Snow	Snowmobile	Snowmobile	5	0.1 Miles	Reroute initial Snowmobile Entrance Trail out of trailhead.
423b	4.11	Upper Huffman Snowmobile Entrance Trail	Snow	Snowmobile	Snowmobile	2	0.5 Miles	
423c	4.11	Upper Huffman Snowmobile Exit Trail	Snow	Snowmobile	Snowmobile	2	0.4 Miles	
424a	4.10	Hemlock Spur Trail	Terra	Bicycle	Bicycle; Hiker	3	0.2 Miles	Requires a regulation change to allow bicycles.
424b	4.11	Hemlock Spur Trail	Snow	Nordic Ski	Ski, Skijor; Hiker	3	0.2 Miles	
424c	4.10	Hemlock Burn Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	3	2.1 Miles	Requires a regulation change to allow bicycles.
424d	4.11	Hemlock Burn Trail (New Trail)	Snow	Nordic Ski	Ski, Skijor; Hiker	3	2.1 Miles	
425a	4.9 4.10	Powerline Trail- Wolverine Bowl Trail junction to base of Powerline Pass near Green Lake	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	4	8.3 Miles	
425b	4.11	Powerline Trail- Wolverine Bowl Trail junction to Gasline Trail at Y junction	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	4	2.7 Miles	
425c	4.11	Powerline Trail- Gasline Trail at Y junction to seasonal snowmobile boundary markers	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	1.4 Miles	
425d	4.11	Powerline Trail- Seasonal snowmobile boundary markers to base of Powerline Pass	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	4.1 Miles	
425e	4.9	Powerline Pass Trail- Powerline Trail junction near Green Lake to Powerline Pass	Terra	Bicycle	Bicycle; Hiker	3	0.7 Miles	
426	4.10	Glen Alps Anchorage Overview Trail	Terra	Hiker-Pedestrian	Hiker	5	0.3 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
427a	4.10	Glen Alps Lower Powerline Access Trail	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	4	0.4 Miles	
427b	4.11	Glen Alps Lower Powerline Access Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	0.4 Miles	
428a	4.10	Glen Alps Middle Powerline Access Trail	Terra	Bicycle	Bicycle; Hiker	4	0.5 Miles	
428b	4.11	Glen Alps Middle Powerline Access Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	0.5 Miles	
429	4.10	Flattop Access Trail	Terra	Hiker-Pedestrian	Hiker	4	0.2 Miles	
430	4.10	Powerline Access and Flattop Access Trails Connector Loop	Terra	Hiker-Pedestrian	Hiker	4	0.2 Miles	
431	4.10	Powerline Access and Flattop Access Trails Short Connector	Terra	Hiker-Pedestrian	Hiker	2	0.1 Miles	
432	4.10	Glen Alps Upper Powerline Access Trail	Terra	Hiker-Pedestrian	Hiker	2	0.5 Miles	
433	4.10	Blueberry Loop Trail	Terra	Hiker-Pedestrian	Hiker	4	1.0 Miles	
434	4.9 4.10	Flattop Mountain Trail	Terra	Hiker-Pedestrian	Hiker	4	1.0 Miles	
436	4.10	Little O'Malley Peak Trail	Terra	Hiker-Pedestrian	Hiker	2	0.8 Miles	.
437	4.9	Ballfield Trail	Terra	Hiker-Pedestrian	Hiker	2	2.5 Miles	
438a	4.9	Hidden Lake Trail- Powerline Trail junction to Middle Fork Loop Extension trail junction	Terra	Bicycle	Bicycle; Hiker	3	0.6 Miles	Requires a regulation change to allow bicycles.
438b	4.9	Hidden Lake Trail- Middle Fork Loop Extension trail junction to Hidden Lake	Terra	Hiker-Pedestrian	Hiker	3	2.1 Miles	
438c	4.11	Hidden Lake Trail	Snow	Cross-Country Ski	Ski; Hiker; Bicycle	3	0.6 Miles	
439	4.9	Ship Lake Pass Trail	Terra	Hiker-Pedestrian	Hiker	2	2.3 Miles	
441	4.9	Backside Flattop Trail (New Trail)	Terra	Hiker-Pedestrian	Hiker	3	1.1 Miles	

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
442	4.9	Rabbit Lake Trail	Terra	Bicycle	Bicycle; Hiker	3	4.0 Miles	Requires a regulation change to allow bicycles.
443	4.9	Ptarmigan Pass Trail	Terra	Hiker-Pedestrian	Hiker	2	1.7 Miles	
444	4.9	Grandview Trail	Terra	Hiker-Pedestrian	Hiker	2	0.9 Miles	
445	4.9	McHugh Peak Trail (New Trail)	Terra	Hiker-Pedestrian	Hiker	3	Unknown	This new trail will be developed to McHugh Peak from a trailhead within the bubble area shown on the map. Since the trail alignment is dependent on the trailhead location which is not known yet, it is not depicted on the map.

Turnagain Arm Unit

This is the most southern unit in the study area stretching along the tidelands of Turnagain Arm. Nearly all the creeks including Potter, McHugh, Rainbow, Falls, Indian and Bird flow in a southerly direction draining into Turnagain Arm. The Seward Highway stretches the length of this unit providing the primary means of access to the park.

ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
500	4.12	Turnagain Interpretative Trail	Terra	Hiker-Pedestrian	Hiker	4	0.4 Miles	
501a	4.12	Turnagain Arm Trail- Potter Creek Trailhead to Windy Corner Trailhead	Terra	Hiker-Pedestrian	Hiker	4	9.4 Miles	
501b	4.12	Turnagain Arm Trail- Windy Corner to Falls Creek (New Trail)	Terra	Hiker-Pedestrian	Hiker	3	1.3 Miles	
502	4.12	McHugh Creek Trail	Terra	Hiker-Pedestrian	Hiker	3	6.5 Miles	
503	4.12	McHugh Scenic Overlook	Terra	Hiker-Pedestrian	Hiker	5	0.1 Miles	
504	4.12	Boy Scout Rocks	Terra	Hiker-Pedestrian	Hiker	2	0.2 Miles	
505a	4.12	McHugh Loop Trail- West side	Terra	Hiker-Pedestrian	Hiker	2	1.5 Miles	
505b	4.12	McHugh Loop Trail- East side (New Trail)	Terra	Hiker-Pedestrian	Hiker	2	0.3 Miles	
506	4.12	Rainbow Peak Trail	Terra	Hiker-Pedestrian	Hiker	2	1.5 Miles	
507a	4.12	Falls Creek Trail- Trailhead to ridge	Terra	Hiker-Pedestrian	Hiker	3	1.9 Miles	
507b	4.12	Falls Creek Trail- Ridge to Falls Lake	Terra	Hiker-Pedestrian	Hiker	2	0.7 Miles	
508	4.12	Powerline Trail- Upper Indian Creek Trailhead to Powerline Pass	Terra	Bicycle	Bicycle; Hiker	2	5.0 Miles	
509a	4.12	Indian Valley Trail- Trailhead to Indian Creek Pass	Terra	Pack & Saddle	Pack & Saddle; Hiker	3	5.1 Miles	
509b	4.14	Indian Valley Trail- Trailhead to Indian Creek Pass	Snow	Cross-Country Ski	Ski; Hiker	2	6.1 Miles	Trail includes a portion of the Arctic to Indian Traverse.
510	4.12	Bird Ridge Trail	Terra	Hiker-Pedestrian	Hiker	2	2.4 Miles	

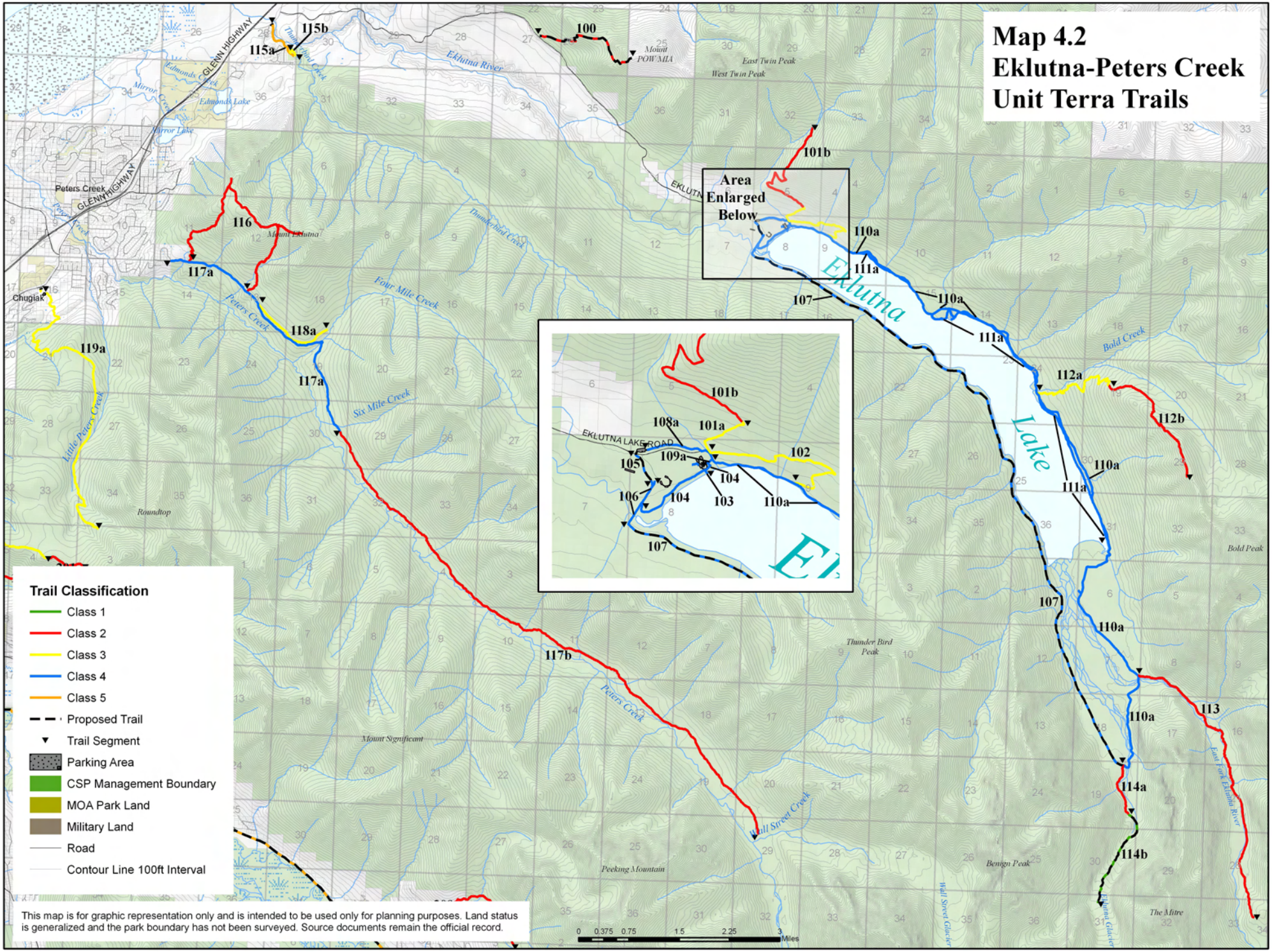
ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
511	4.12	Bird Ridge Interpretative Overlook Trail	Terra	Hiker-Pedestrian	Hiker	5	0.3 Miles	
512	4.12	Bird Ridge Access Trail	Terra	Hiker-Pedestrian	Hiker	4	0.1 Miles	
513	4.12	Bird Creek Access	Terra	Hiker-Pedestrian	Hiker	3	0.7 Miles	
514	4.12	Bird Creek Interpretative Trail	Terra	Hiker-Pedestrian	Hiker	3	0.2 Miles	
515a	4.13	Bird Creek Valley Trail System	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	11.7 Miles	This trail includes the valley segment of the Penguin Creek Trail up to the wilderness boundary.
515b	4.14	Bird Creek Valley Trail System	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	11.7 Miles	This trail includes the valley segment of the Penguin Creek Trail up to the wilderness boundary.
515c	4.13	Bird Creek Valley Trail System-Campground Access (New Trail)	Terra	All-Terrain Vehicle	ATV; Pack & Saddle; Hiker; Bicycle	4	0.5 Miles	Trail to access proposed Bird Valley Campground.
515d	4.14	Bird Creek Valley Trail System-Campground Access (New Trail)	Snow	Snowmobile	Snowmobile; Ski; Hiker; Bicycle	4	0.5 Miles	Trail to access proposed Bird Valley Campground.
516	4.13	Bird Valley Falls Trail	Terra	Hiker-Pedestrian	Hiker	3	0.5 Miles	
517	4.13	Bird Pass Trail	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	2	5.8 Miles	Trail begins at the wilderness boundary. Requires a regulation change to allow bicycles.
518	4.13	South Fork Bird Creek Trail (New Trail)	Terra	Pack & Saddle	Pack & Saddle; Bicycle; Hiker	2	4.2 Miles	Requires a regulation change to allow bicycles.
519a	4.13	Penguin Creek Trail	Terra	Bicycle	Bicycle; Hiker	2	0.7 Miles	Requires a regulation change to allow bicycles.
519b	4.13	Penguin Creek Trail (New Trail)	Terra	Bicycle	Bicycle; Hiker	2	7.6 Miles	Requires a regulation change to allow bicycles.
520	4.13	Penguin Peak Trail	Terra	Hiker-Pedestrian	Hiker	2	1.8 Miles	

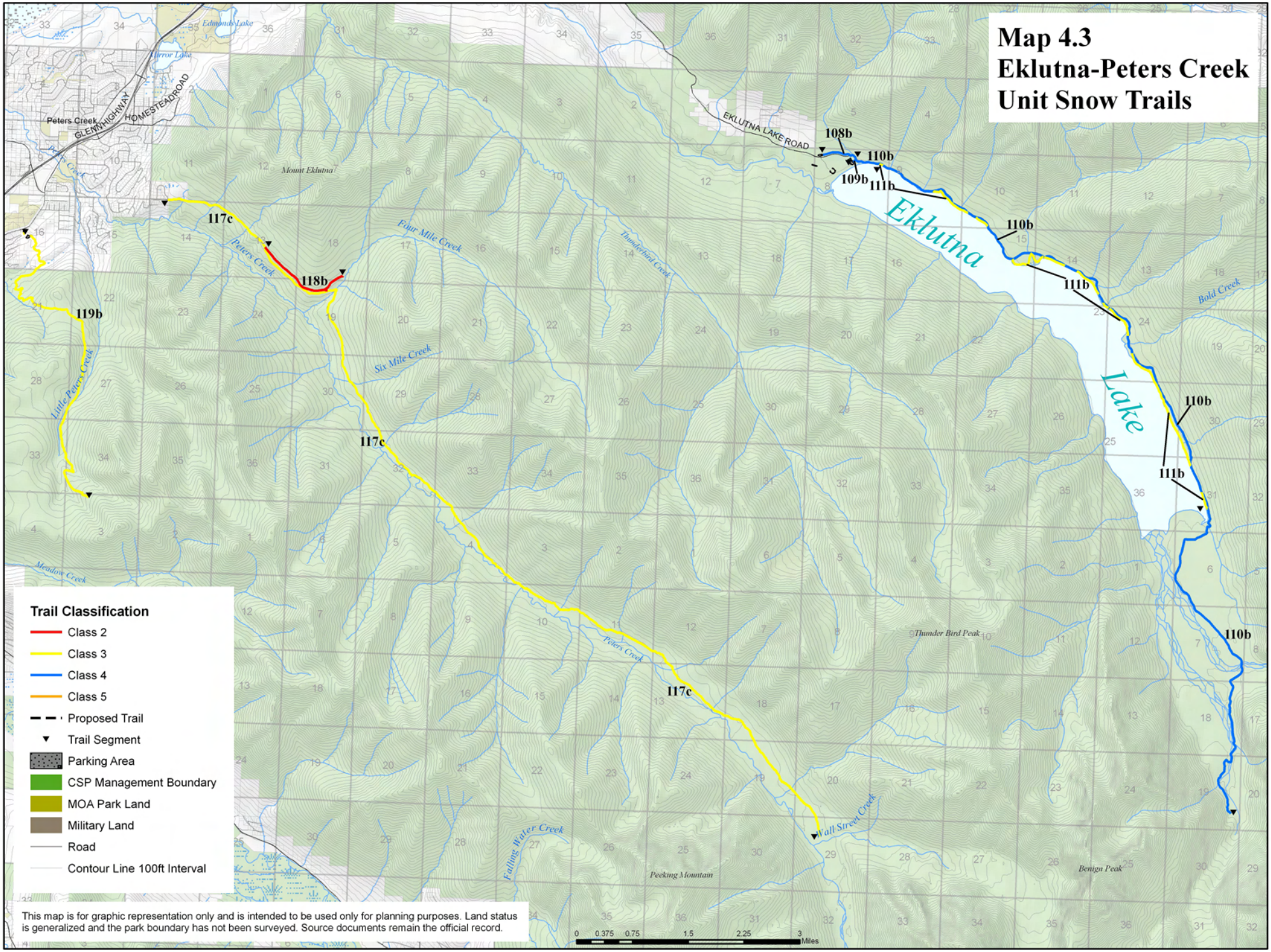
ID#	Map #	Trail Name/Segment	Trail Type (standard terra, snow, water)	Designed Use	Managed Use	Trail Class	Approx. Distance	Comments
521	4.13	Bird Point Interpretative Trail	Terra	Hiker-Pedestrian	Hiker	5	0.1 Miles	
522a	4.12	Coastal Trail- Indian to Potter (New Trail)	Terra	Bicycle	Bicycle; Hiker	5	12.1 Miles	This trail is an extension of the Bird to Girdwood Trail. Requires a regulation change to allow bicycles on the extension portion.
522b	4.12 4.13	Indian to Girdwood National Recreation Trail	Terra	Bicycle	Bicycle; Hiker	5	13.2 Miles	
523	4.13	Beaver Pond Trail- Park boundary to Indian to Girdwood Trail junction	Terra	Bicycle	Bicycle; Hiker	3	0.6 Miles	Requires a regulation change to allow bicycles. Majority of trail on MOA Land.
524a	4.13	California Creek- Park boundary to valley floor near California Peak	Terra	Hiker-Pedestrian	Hiker	2	2.0 Miles	Initial trail on MOA land.
524b	4.13	California Creek- Valley floor to ridge (New Trail)	Terra	Hiker-Pedestrian	Hiker	2	1.6 Miles	
525	4.13	Abes Trail- Park boundary to California Creek Trail junction	Terra	Hiker-Pedestrian	Hiker	2	0.4 Miles	Initial trail on MOA land.

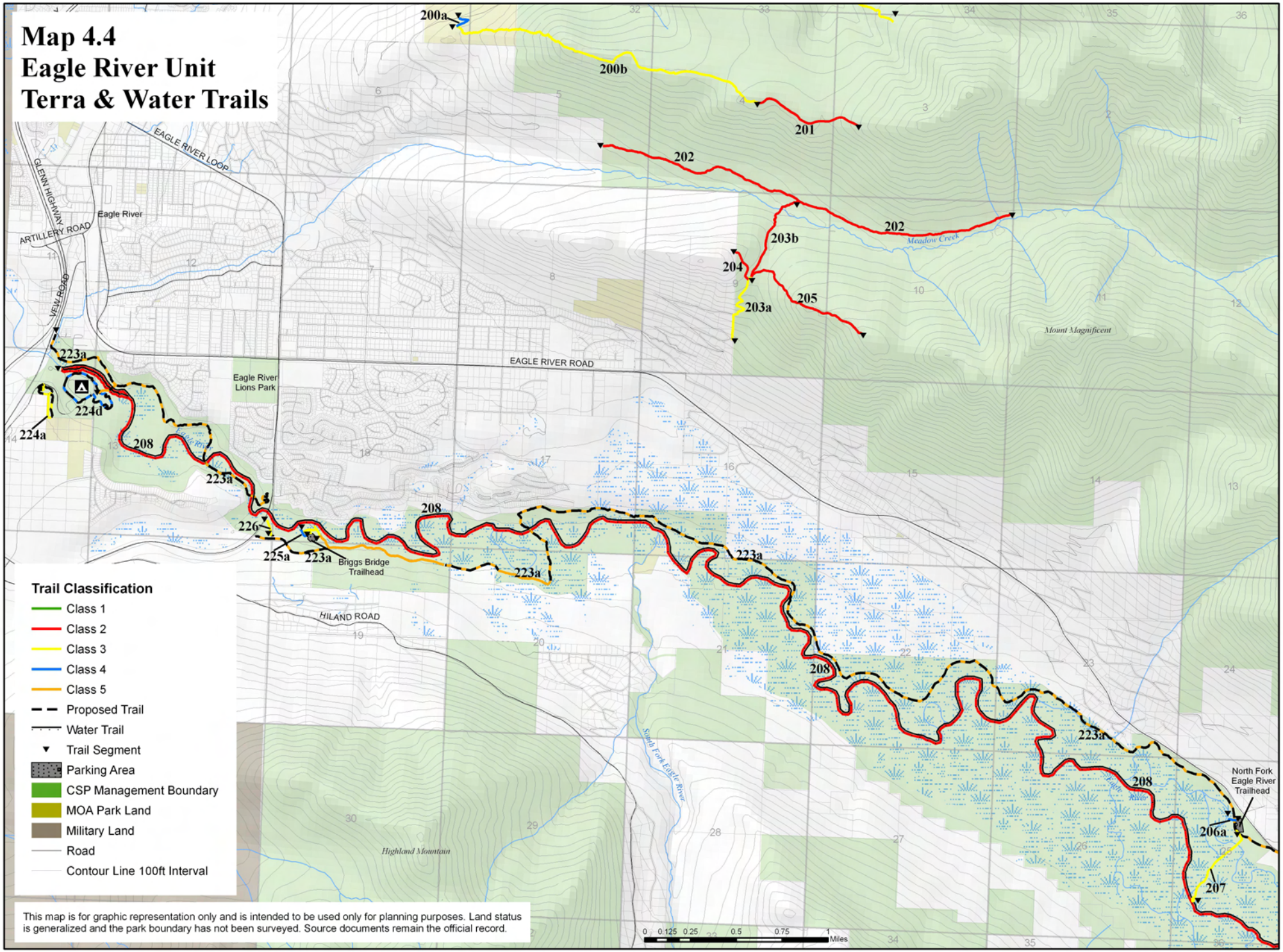
Trail Management Recommendations Summary

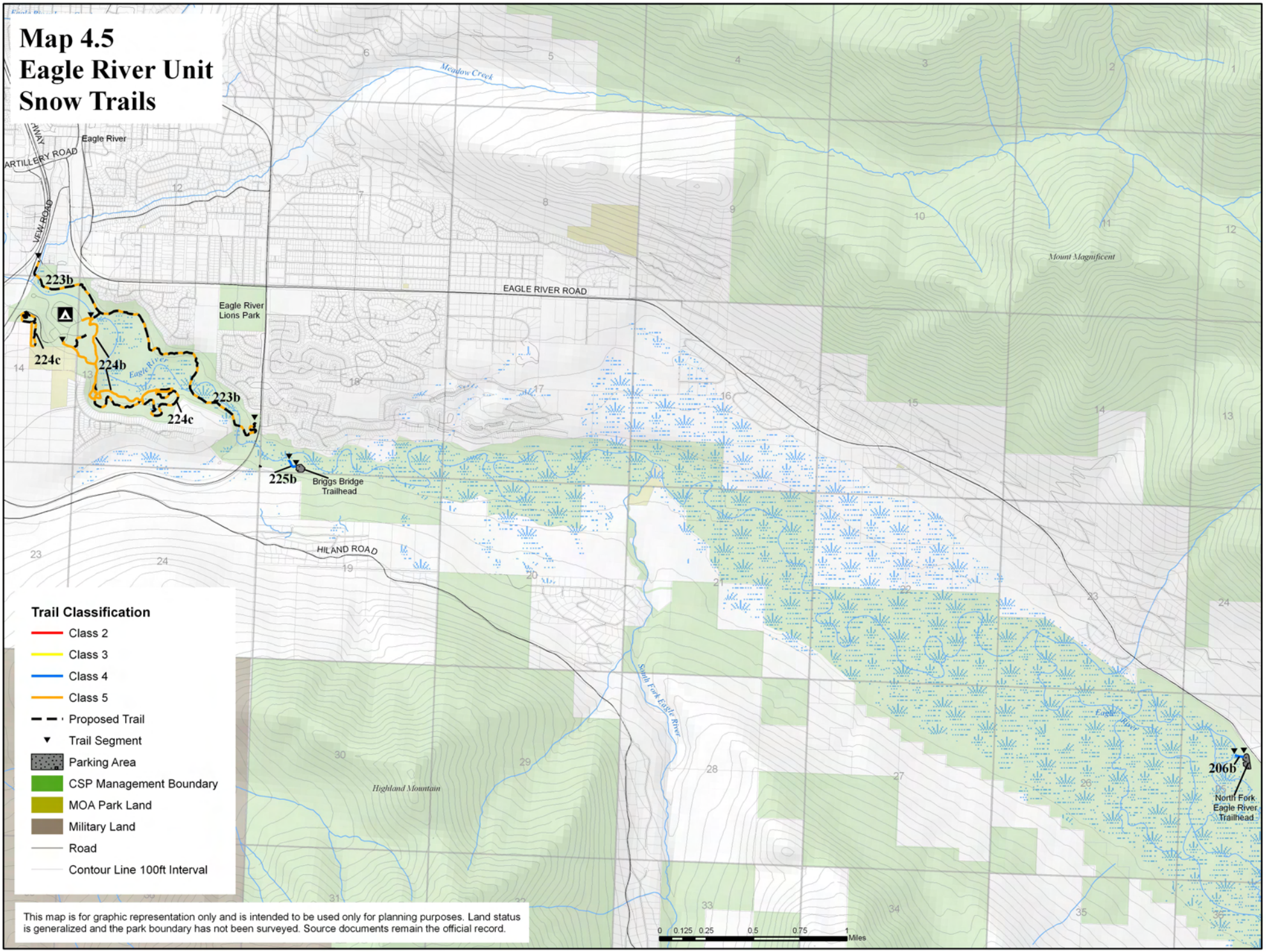
The following table contains a summary of the trail management recommendations broken down by planning unit and trail type.

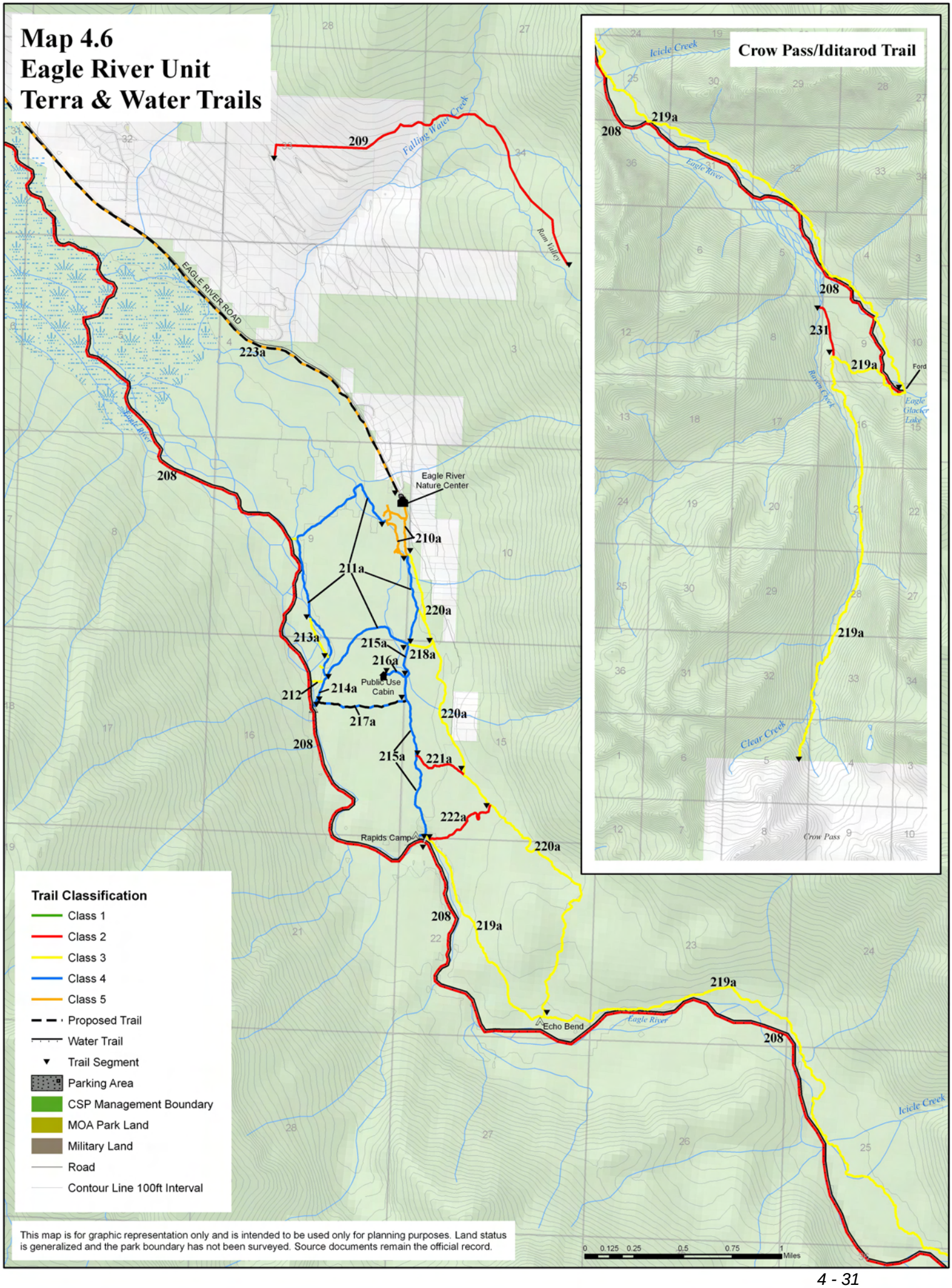
	Planning Unit:	Eklutna-Peters Creek	Eagle River	Ship Creek	Hillside	Turnagain Arm	**Total:**
Trail Type:							
Terra	Existing Trail Mileage	57.8	42.7	10.5	65.9	74.4	251.3
	New Trail Mileage	14.3	16.7	17.1	10.5	26.0	84.6
Snow	Existing Trail Mileage	37.9	11.6	11.0	31.0	17.8	109.3
	New Trail Mileage	0	7.5	0	6.3	0.5	14.3
Water	Existing Trail Mileage	0	28.3	0	0	0	28.3

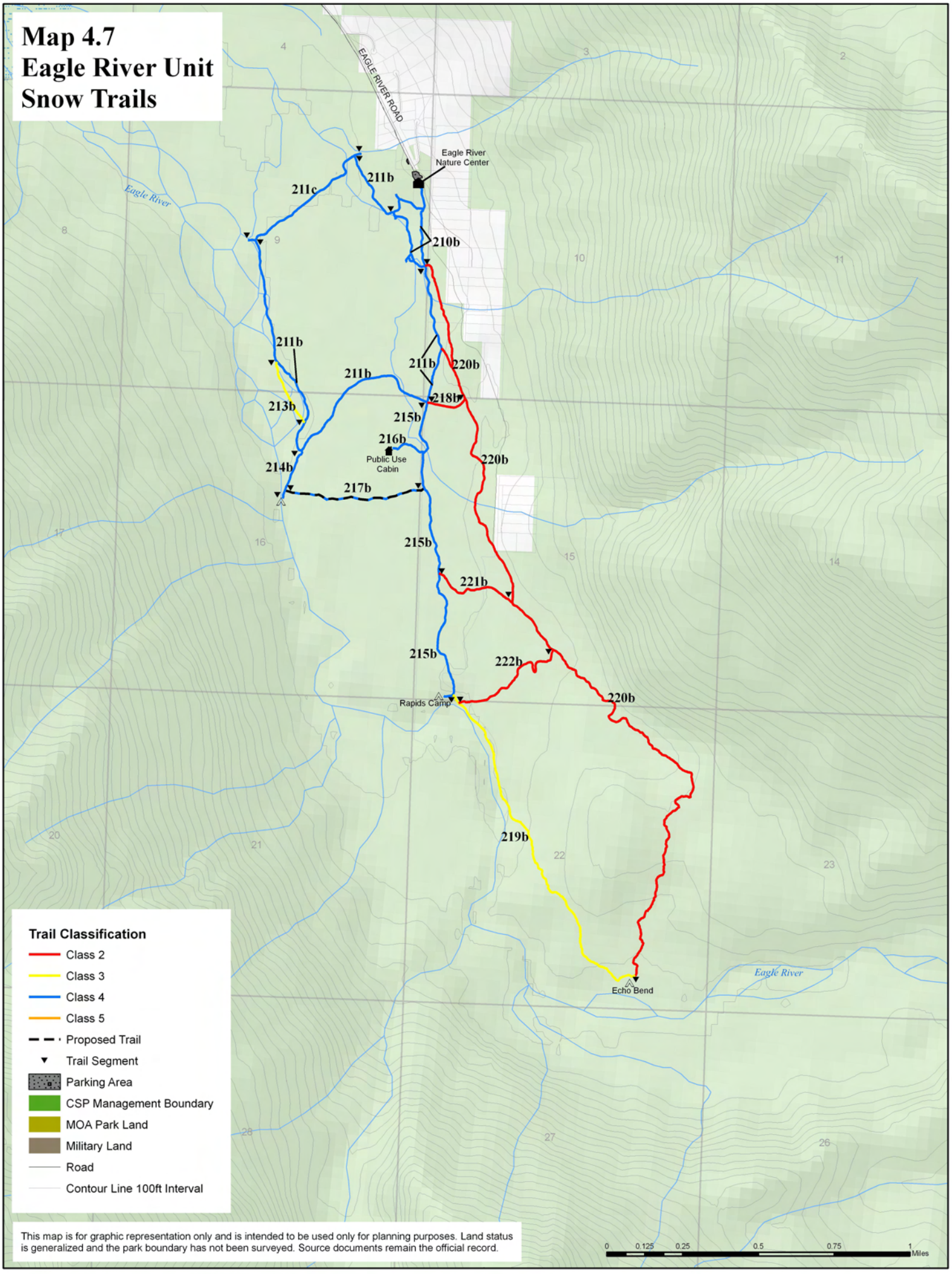

Map 4.2
Eklutna-Peters Creek
Unit Terra Trails
Area Enlarged Below
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.375 0.75 1.5 2.25 3 Miles
Eklutna Lake
Eklutna River
Peters Creek
Glenn Highway
Chugiak
Eklutna Lake Road
Mount POW MIA
East Twin Peak
West Twin Peak
Mount Eklutna
Roundtop
Mount Significant
Peeking Mountain
Thunder Bird Peak
Benign Peak
Bold Peak
The Mitre
Four Mile Creek
Six Mile Creek
Thunderbird Creek
Bold Creek
Wall Street Creek
Edmonds Creek
Edmonds Lake
Mirror Creek
Mirror Lake
Little Peters Creek
East Fork Eklutna River
Eklutna Glacier
Wall Street Glacier

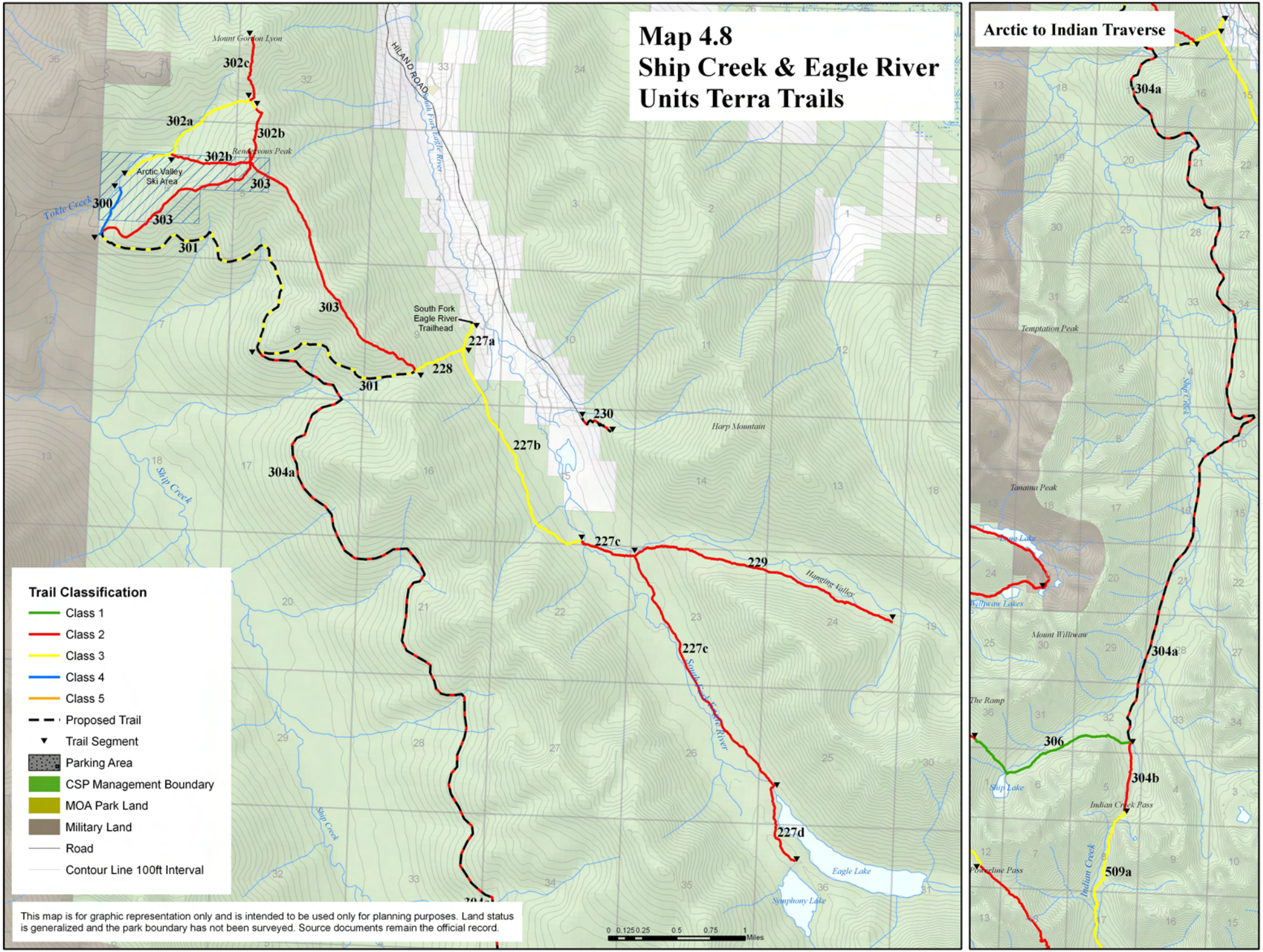

Map 4.3
Eklutna-Peters Creek
Unit Snow Trails
Trail Classification
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.375 0.75 1.5 2.25 3 Miles
Eklutna Lake
Peters Creek
GLENN HIGHWAY
HOMESTEAD ROAD
EKLUTNA LAKE ROAD
Edmonds Lake
Mirror Lake
Mount Eklutna
Four Mile Creek
Thunderbird Creek
Six Mile Creek
Little Peters Creek
Meadow Creek
Bold Creek
Thunder Bird Peak
Wall Street Creek
Falling Water Creek
Peeking Mountain
Benign Peak
108b
109b
110b
111b
117c
118b
119b

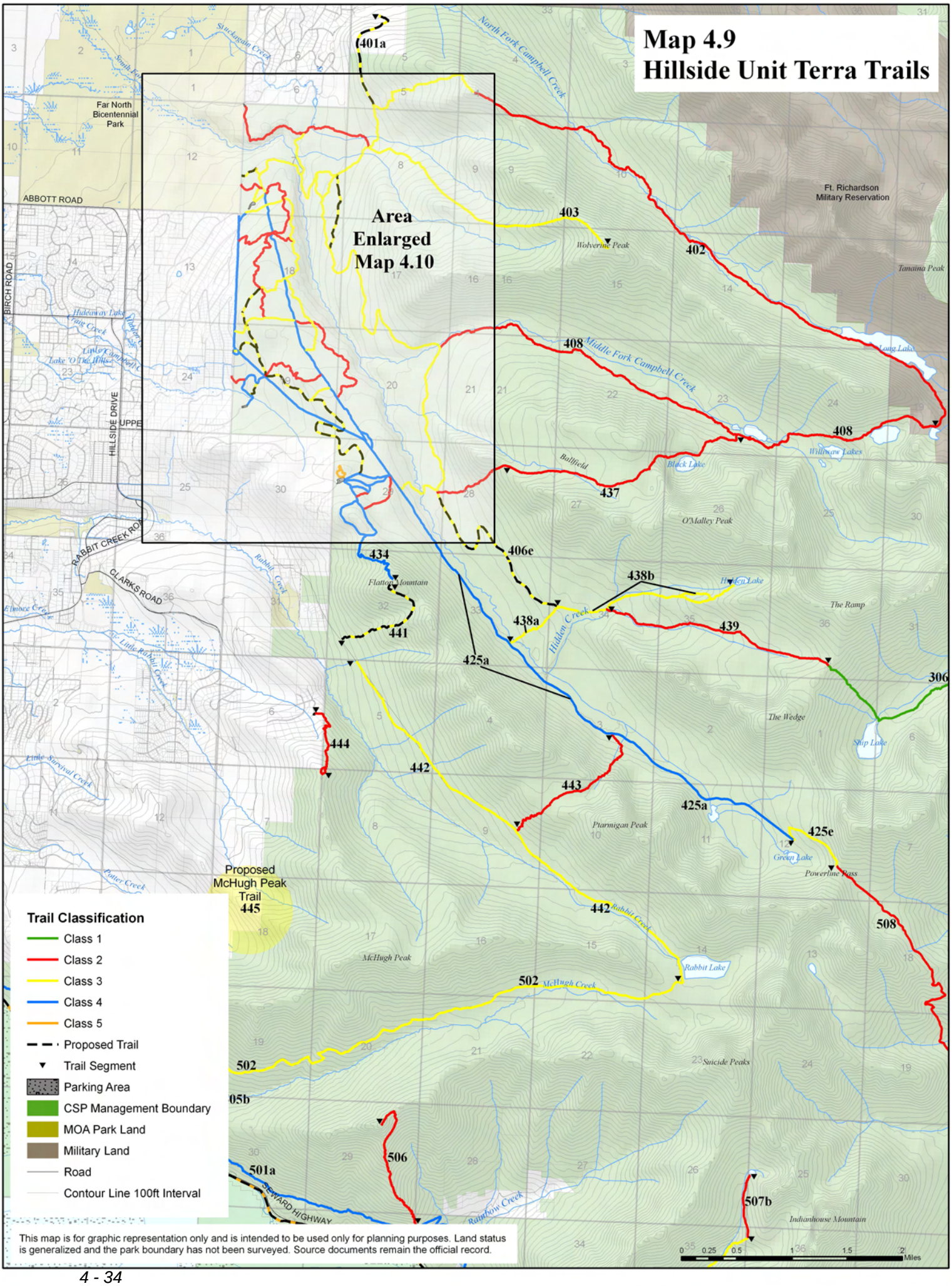

Map 4.4
Eagle River Unit
Terra & Water Trails
200a
200b
201
202
202
203b
204
205
203a
223a
224d
224a
208
223a
226
225a
223a
Briggs Bridge Trailhead
208
223a
208
223a
208
223a
208
206a
207
North Fork Eagle River Trailhead
EAGLE RIVER LOOP
GLENN HIGHWAY
ARTILLERY ROAD
VEW ROAD
Eagle River
EAGLE RIVER ROAD
Eagle River Lions Park
HILAND ROAD
Meadow Creek
Mount Magnificent
Highland Mountain
South Fork Eagle River
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Water Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles

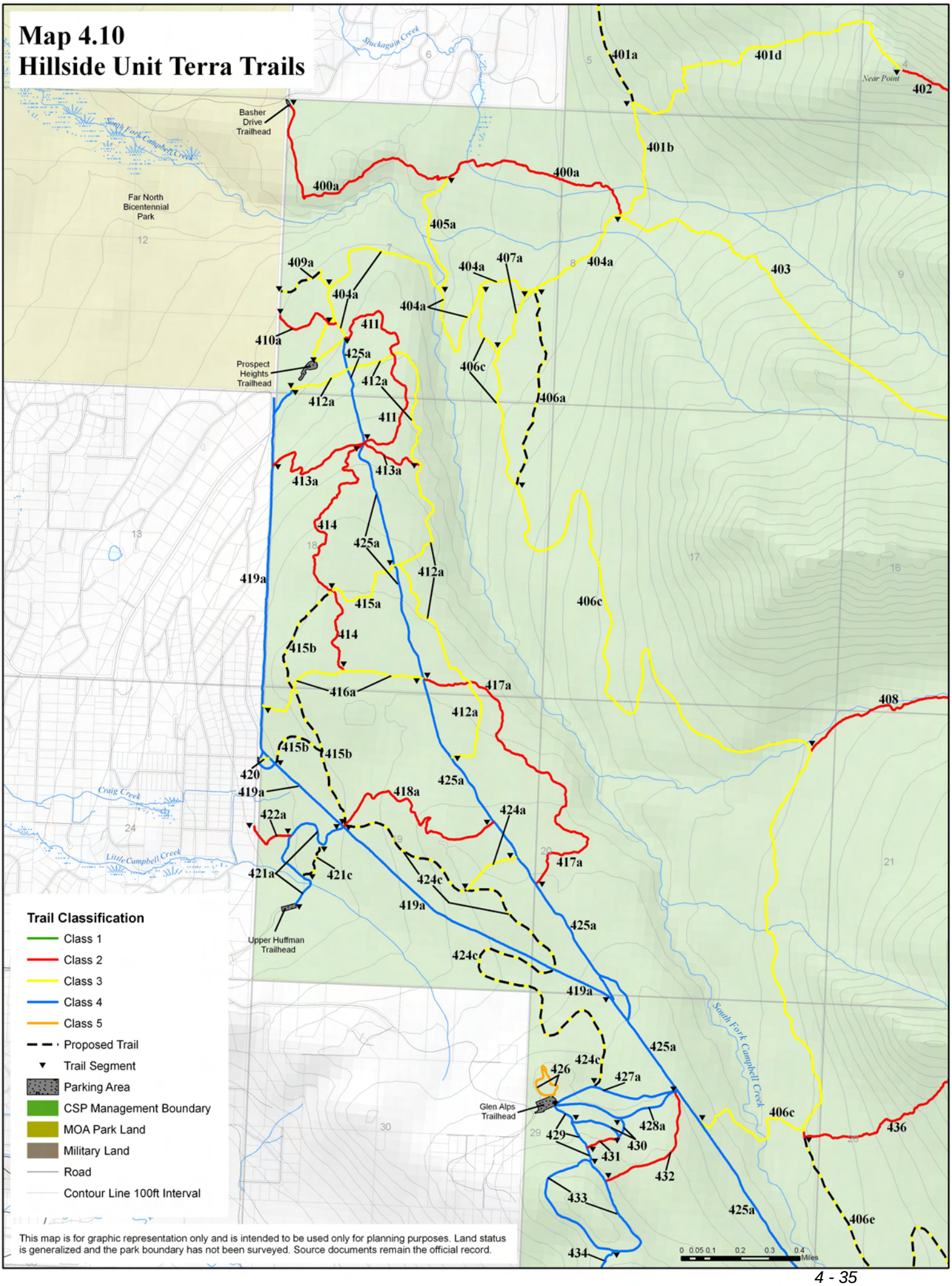

Map 4.5
Eagle River Unit
Snow Trails
Eagle River
ARTILLERY ROAD
VIEW ROAD
Meadow Creek
EAGLE RIVER ROAD
Eagle River Lions Park
Mount Magnificent
223b
224c
224b
223b
224c
225b
Briggs Bridge Trailhead
HILAND ROAD
Eagle River
South Fork Eagle River
Highland Mountain
206b
North Fork Eagle River Trailhead
Trail Classification
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles

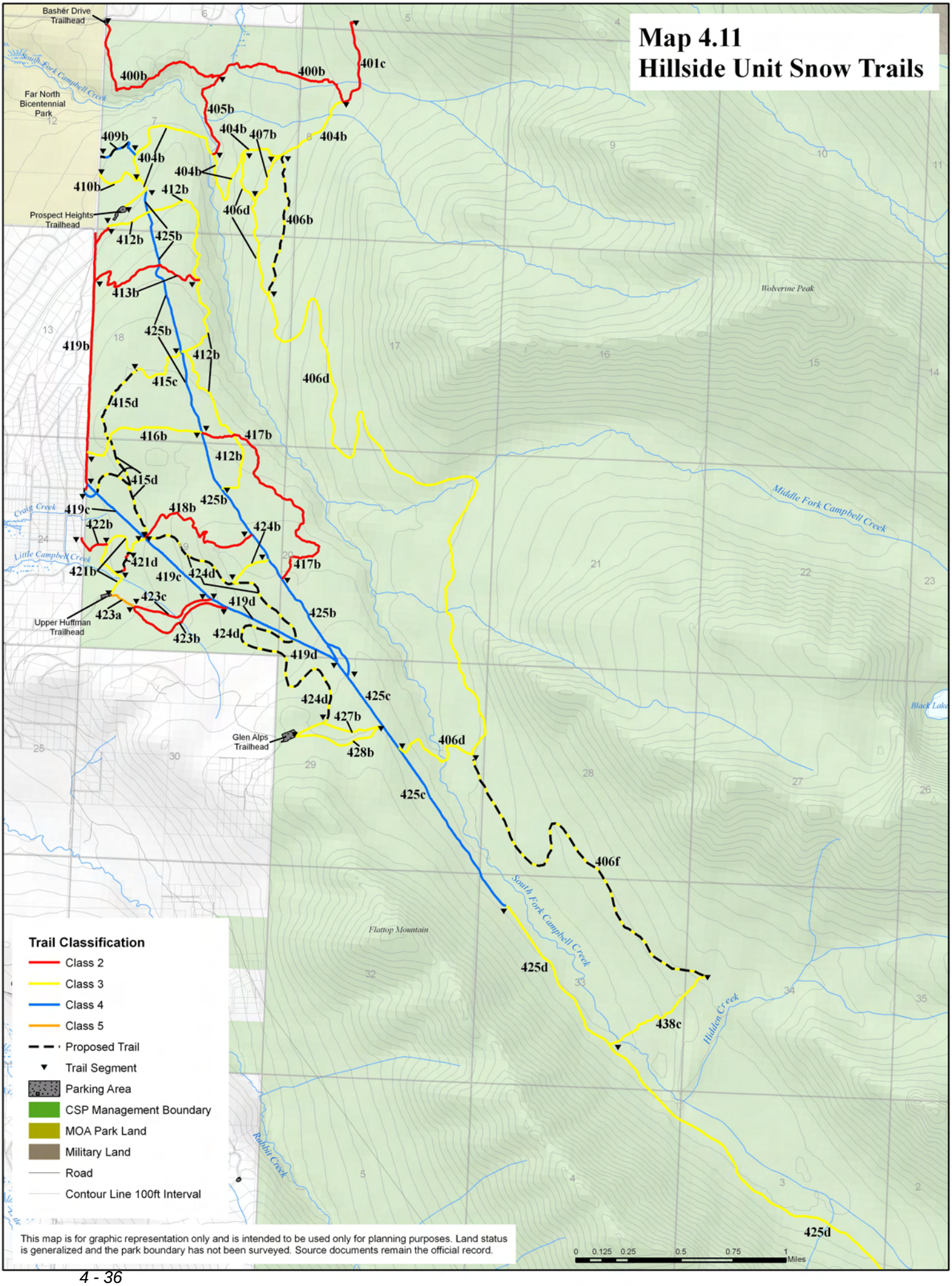

Map 4.6
Eagle River Unit
Terra & Water Trails
Crow Pass/Iditarod Trail
Icicle Creek
Eagle River
Falling Water Creek
Rain Valley
EAGLE RIVER ROAD
Eagle River Nature Center
Public Use Cabin
Rapids Camp
Echo Bend
Ford
Raven Creek
Eagle Glacier Lake
Clear Creek
Crow Pass
209
208
223a
210a
211a
220a
213a
215a
218a
216a
214a
212
217a
221a
222a
219a
231
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Water Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles

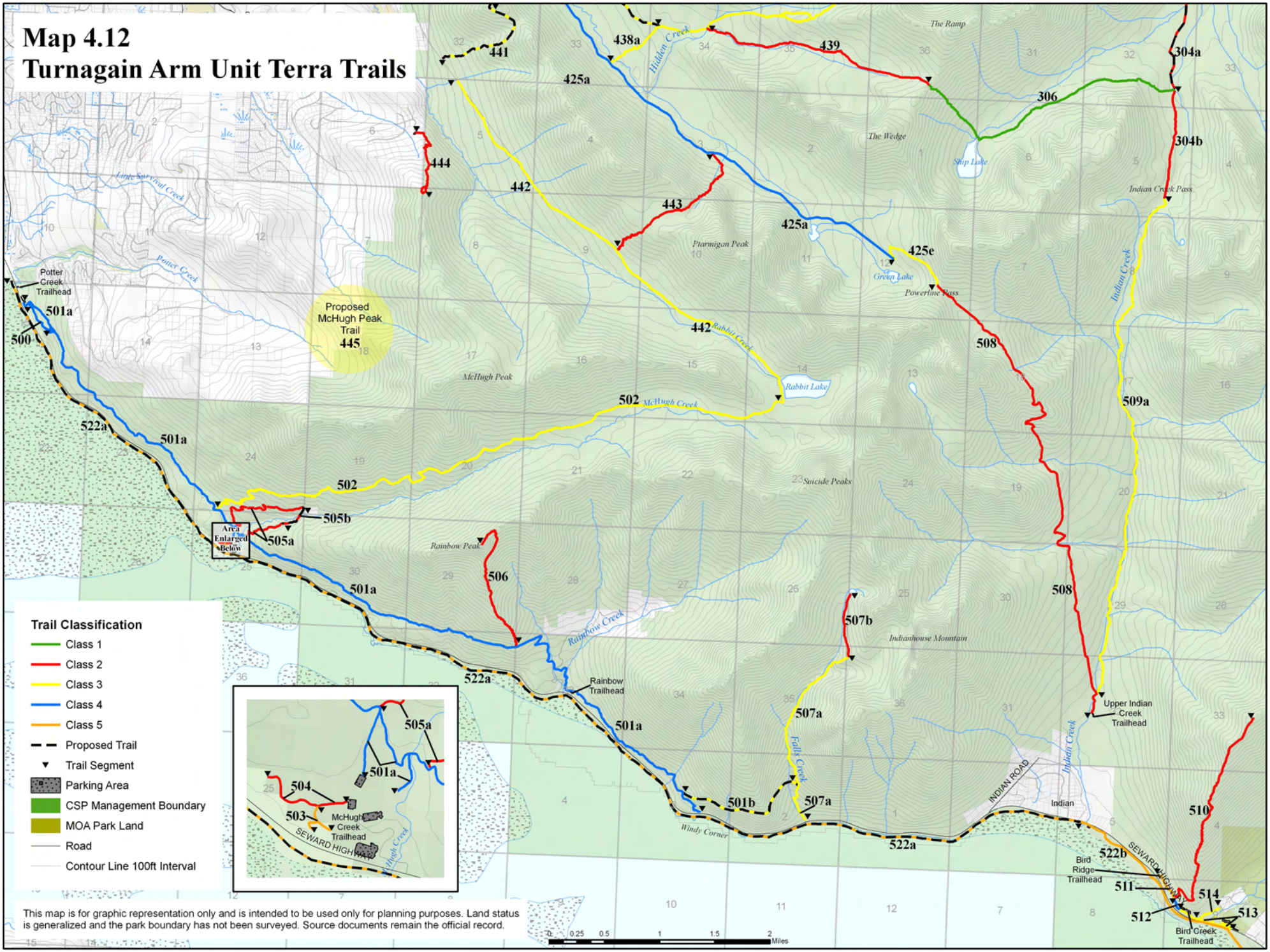

Map 4.7
Eagle River Unit
Snow Trails
EAGLE RIVER ROAD
Eagle River Nature Center
Eagle River
211b
211c
210b
211b
211b
211b
220b
218b
213b
215b
216b
Public Use Cabin
214b
217b
220b
215b
221b
215b
222b
220b
Rapids Camp
219b
Eagle River
Echo Bend
Trail Classification
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles

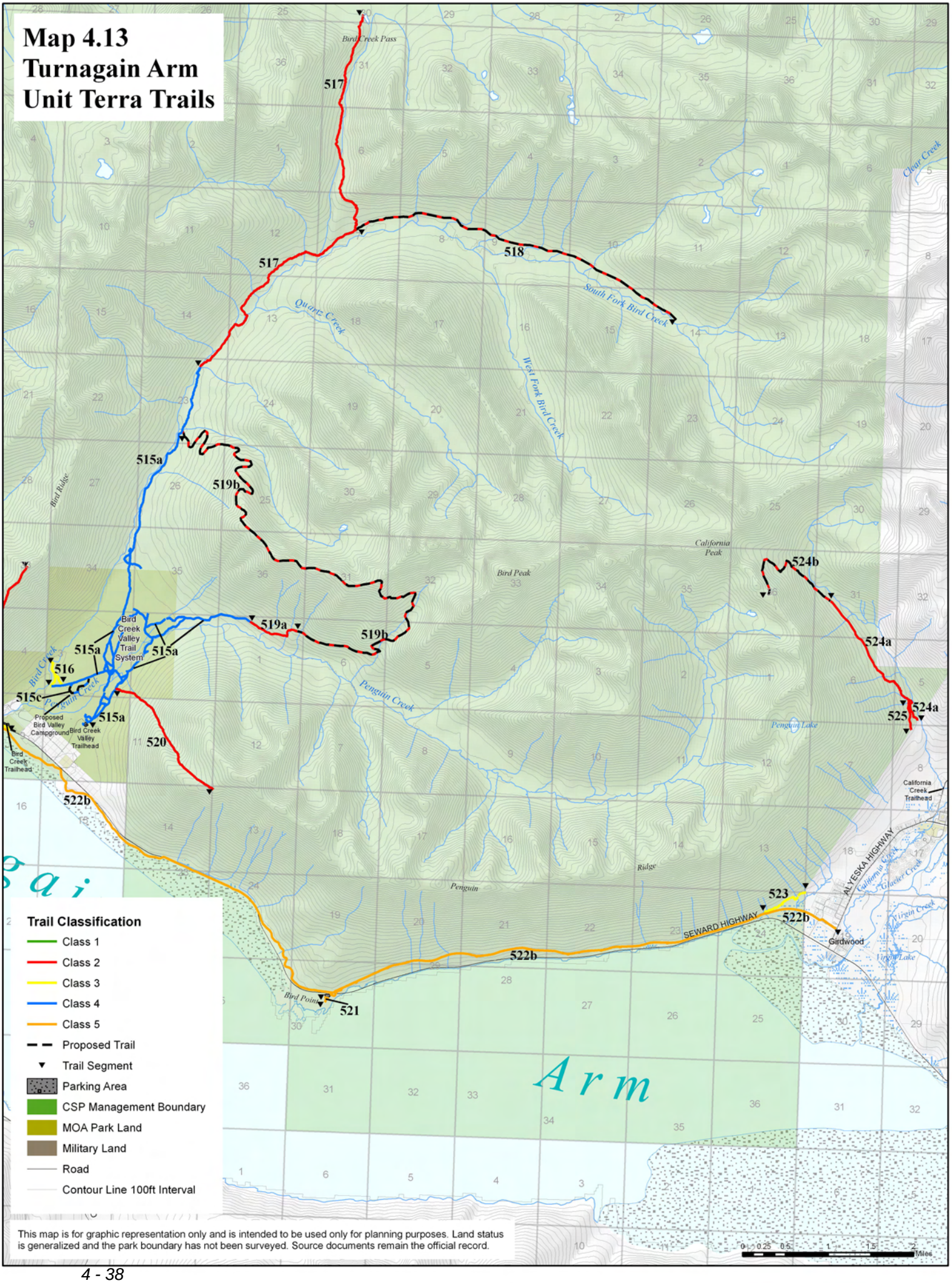

Map 4.8
Ship Creek & Eagle River
Units Terra Trails
Arctic to Indian Traverse
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles
Mount Gordon Lyon
Rendezvous Peak
Arctic Valley Ski Area
Tokle Creek
HILAND ROAD
South Fork Eagle River
South Fork Eagle River Trailhead
Harp Mountain
Ship Creek
Temptation Peak
Tanaina Peak
Hanging Valley
Mount Willoughby
Willoughby Lakes
The Ramp
Ship Lake
Indian Creek Pass
Indian Creek
Eagle Lake
Symphony Lake
302c
302a
302b
303
300
301
227a
228
230
227b
227c
229
227d
304a
306
304b
509a


Map 4.9
Hillside Unit Terra Trails
Area Enlarged Map 4.10
401a
403
402
408
437
434
406e
438b
438a
439
441
425a
444
442
443
425e
306
445
Proposed McHugh Peak Trail
502
506
501a
507b
508
Far North Bicentennial Park
ABBOTT ROAD
BIRCH ROAD
HILLSIDE DRIVE
RABBIT CREEK ROAD
CLARKS ROAD
SEWARD HIGHWAY
Ft. Richardson Military Reservation
Wolverine Peak
Tanaina Peak
Middle Fork Campbell Creek
Long Lake
Williwaw Lakes
Black Lake
Ballfield
O'Malley Peak
Flattop Mountain
Hidden Lake
Hidden Creek
The Ramp
The Wedge
Ship Lake
Ptarmigan Peak
Green Lake
Powerline Pass
Rabbit Creek
Rabbit Lake
McHugh Peak
McHugh Creek
Suicide Peaks
Rainbow Creek
Indianhouse Mountain
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.25 0.5 1 1.5 2 Miles

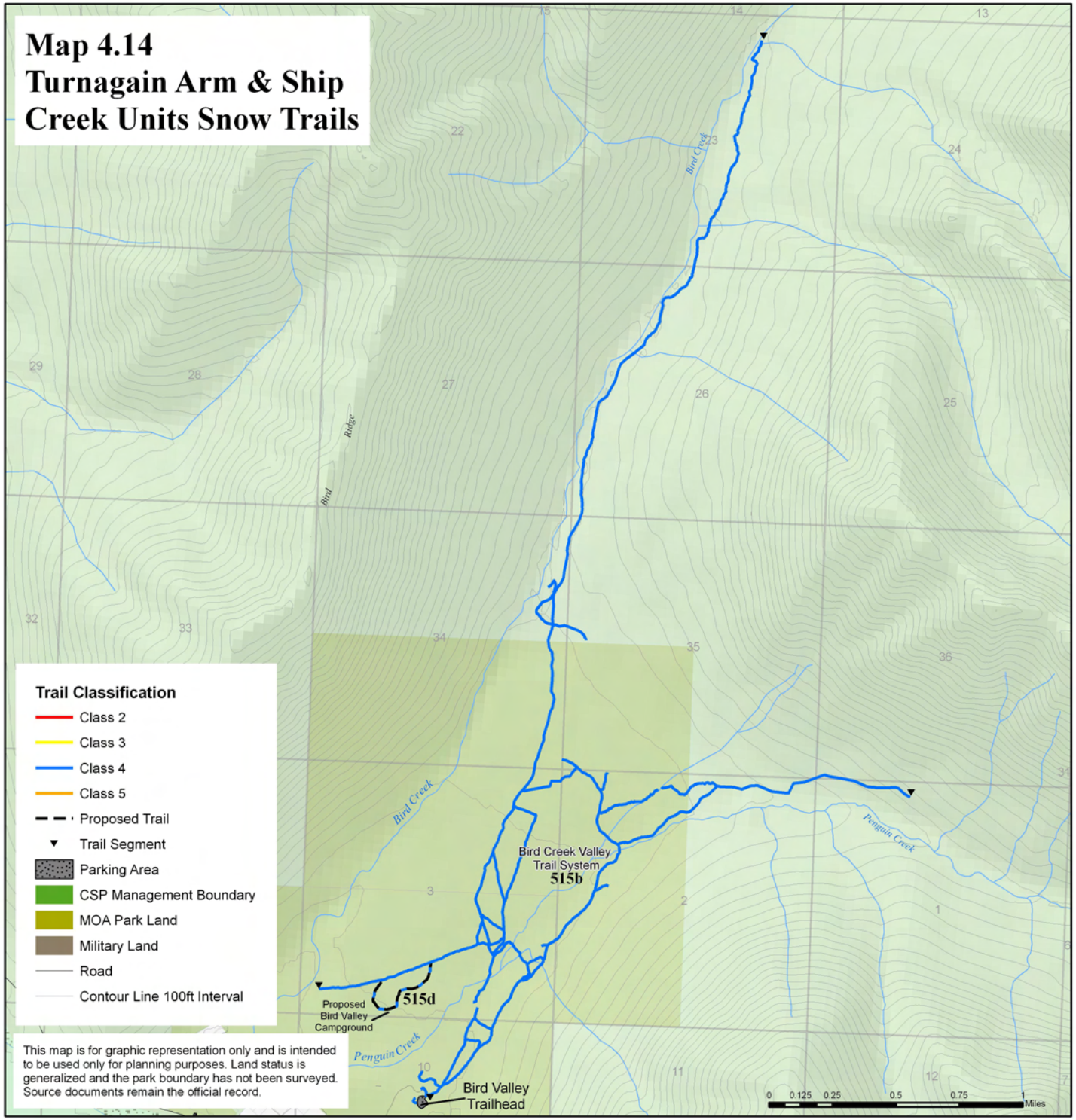

Map 4.10
Hillside Unit Terra Trails
Basher Drive Trailhead
Far North Bicentennial Park
Prospect Heights Trailhead
Upper Huffman Trailhead
Glen Alps Trailhead
Near Point
Stuckagain Creek
South Fork Campbell Creek
Craig Creek
Little Campbell Creek
401a
401d
402
401b
400a
405a
403
409a
404a
407a
411
410a
425a
406c
412a
406a
413a
414
415a
415b
416a
417a
408
420
418a
422a
424a
421a
421c
424c
426
427a
428a
429
430
431
432
433
434
436
406e
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.05 0.1 0.2 0.3 0.4 Miles

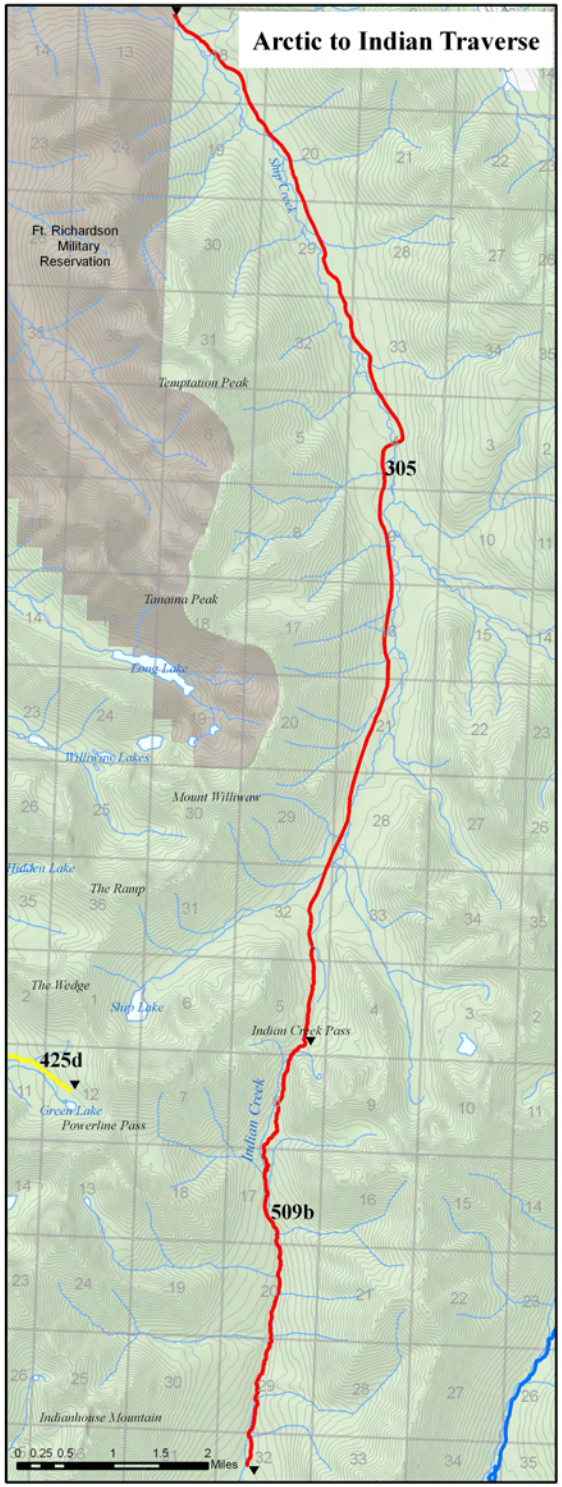

Map 4.11
Hillside Unit Snow Trails
Basher Drive Trailhead
Far North Bicentennial Park
Prospect Heights Trailhead
Upper Huffman Trailhead
Glen Alps Trailhead
South Fork Campbell Creek
Craig Creek
Little Campbell Creek
Middle Fork Campbell Creek
Wolverine Peak
Flattop Mountain
Hidden Creek
Rabbit Creek
Black Lake
400b
401c
405b
404b
407b
409b
410b
412b
406d
406b
425b
413b
419b
415c
415d
416b
417b
418b
419c
422b
424b
421b
421d
424d
417b
423c
423a
423b
419d
427b
428b
406f
425c
425d
438c
Trail Classification
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.125 0.25 0.5 0.75 1 Miles


Map 4.12
Turnagain Arm Unit Terra Trails
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.25 0.5 1 1.5 2 Miles
Potter Creek Trailhead
Proposed McHugh Peak Trail 445
Area Enlarged Below
Rainbow Trailhead
McHugh Creek Trailhead
Upper Indian Creek Trailhead
Bird Ridge Trailhead
Bird Creek Trailhead
SEWARD HIGHWAY
INDIAN ROAD
Indian
The Ramp
The Wedge
Ship Lake
Indian Creek Pass
Ptarmigan Peak
Green Lake
Powerline Pass
Rabbit Lake
McHugh Peak
Suicide Peaks
Rainbow Peak
Windy Corner
Indianhouse Mountain
Little Survival Creek
Potter Creek
Hidden Creek
Rabbit Creek
McHugh Creek
Rainbow Creek
Falls Creek
Indian Creek
Glacier Creek
441
438a
439
304a
306
304b
444
442
443
425a
425c
445
508
509a
502
505b
505a
506
501a
500
522a
501b
507a
507b
504
503
510
511
512
513
514
522b


Map 4.13
Turnagain Arm
Unit Terra Trails
Bird Creek Pass
517
518
South Fork Bird Creek
Quartz Creek
West Fork Bird Creek
Clear Creek
515a
519b
519a
Bird Ridge
California Peak
Bird Peak
524b
524a
525
Bird Creek Valley Trail System
516
515c
Bird Creek
Penguin Creek
Proposed Bird Valley Campground
Bird Creek Valley Trailhead
Bird Creek Trailhead
520
522b
Penguin Lake
California Creek Trailhead
ALYESKA HIGHWAY
SEWARD HIGHWAY
523
Girdwood
Ridge
Penguin
Bird Point
521
Arm
Trail Classification
Class 1
Class 2
Class 3
Class 4
Class 5
Proposed Trail
Trail Segment
Parking Area
CSP Management Boundary
MOA Park Land
Military Land
Road
Contour Line 100ft Interval
This map is for graphic representation only and is intended to be used only for planning purposes. Land status is generalized and the park boundary has not been surveyed. Source documents remain the official record.
0 0.25 0.5 1 1.5 2 Miles

Map 4.14
Turnagain Arm & Ship Creek Units Snow Trails





Chapter 5: IMPLEMENTATION

Recommended Regulation Changes

The trail management recommendations made in this plan represent the desired future condition for trails within the park and the general trail policies provide the direction for achieving the desired future condition. Many of the Design Uses identified for a particular trail or trail segment in this plan represent a standard that may require a change in park regulations to fully facilitate. Where a regulation change is known to be needed, a notation is made in the "Comments" section of the trail matrix. Other unanticipated changes to regulations may also be needed to implement this plan. These regulation changes will be promulgated over time as the Division of Parks and Outdoor Recreation updates park regulations.

Phasing

When trails are part of a phased project, the phasing of various trail segments will follow a logical sequence. Some trail construction may be required through an entire project to provide completed trail connections at an early phase in the project. Further improvements can be made as funding and staffing allow.

Plan Review and Modification Information

The guidelines in this plan are intended to be flexible so as to respond to changing conditions, shifts in demand and use patterns, and availability of funds. Implementation of the management recommendations should begin immediately and are intended to proceed in phases over the years as opportunities, staffing and funding allow.

Due to changes in use patterns and demands, as well as changes in data associated with specific plan recommendations, adjustments to the plan will have to be made over time. If proposed adjustments are a major departure from the plan's intent, the director may determine the need to initiate a public review process. This plan reflects the best efforts of the Division of Parks and Outdoor Recreation to analyze park resources and provide trail opportunities that do not significantly compromise the park's cultural and natural resources or character.

The planned outlook for this document is 20 years, with the realization that intermediate reviews and modifications may be warranted and are appropriate. The director may initiate a review at any time and it is strongly recommended that the plan be reviewed via a public process at least every 10 years. The following procedures will be used for plan deviations and modifications:

1. Periodic Review- The division will coordinate periodic review of the trail plan when the director considers it necessary and so directs. The decision to review the trail plan may be triggered by:
   - Written public or agency requests for review;
   - Policy changes within the Division or Department;
   - Changes in land status or management agreements;
   - Changes in use or new types of uses;
   - Availability of new data or technology; or
   - Changing social or economic conditions that place different demands on the park or affect the Division's capabilities.

   The trail plan review will include meetings, as appropriate, with the park advisory board, interested groups, the general public, affected agencies, the park superintendent, and other Division personnel. The periodic review will lead to one of the following actions:
   - No modification to the plan;
   - Modification of the plan; or
   - Granting a special exception.

2. Modification of the Plan- There are two types of plan modifications:
   - Minor changes- These are changes which, if accomplished, would not cause a deviation from the original intent of the trail plan. Minor changes may be necessary for clarification, consistency, or to facilitate plan implementation. Minor changes do not require public review but should be coordinated with the park superintendent and appropriate staff.
   - Major changes- These are changes which, if accomplished, would cause a deviation from the original intent of the trail plan. Major changes require public notice and review prior to adoption.

3. Granting of a Special Exception- Exceptions to the provisions of the trail plan may be made without modification to the plan. Special exceptions shall occur only when compliance with the plan is excessively difficult or impractical and an alternative procedure can be implemented which adheres to the purposes and spirit of the plan. The Division may make a special exception in the implementation of the plan through the following procedure:

   A. The person or agency requesting the special exception shall prepare a written finding which specifies:
      - The nature of the special exception requested;
      - The extenuating circumstances which require a special exception;
      - The alternative course of action to be followed; and
      - How the intent of the plan will be met by the alternative.

B. The Director will review the findings and issue a determination. If warranted by the degree of controversy or the potential impact, the director will hold a public hearing before reaching a decision.

C. The decision of the director may be appealed to the Commissioner of the Department of Natural Resources, whose decision will be final.

Trail Management Objectives (TMO) * D R A F T *

Rev. Date: 1/12/2007

Area: Chugach **Park Unit:** Chugach State Park **District:** Turnagain Arm Planning Unit

Trail Name: Indian Valley Trail **Trail ID:** 509a

Trail Beginning Termini: Indian Valley Parking Lot, End of OceanView Road **Beg. Milepost:** 0.000

Trail Ending Termini: Indian Pass **End. Milepost:** 5.150

Trail Inventory Length: 5.150 Miles **Trail Mileage Source:** [ ] Wheel [X] GPS [ ] Map [ ] Unknown

TMO Trail Section (if applicable)

N/A Sec.#

Section Beg. Termini: **Beg. Milepost:**

Section End. Termini: **End. Milepost:**

Designed Use Objectives

Trail Type (Check one)

- [X] Terra Trail
- [ ] Snow Trail
- [ ] Water Trail

Trail Class (Check one)

- [ ] 1 (Primitive/Undeveloped)
- [ ] 2 (Simple/Minor Development)
- [X] 3 (Developed/Improved)
- [ ] 4 (Highly Developed)
- [ ] 5 (Fully Developed)

Difficulty Rating

(Check one)

- [ ] Easiest (white circle)
- [ ] Easy (green circle)
- [X] Intermediate (blue square)
- [ ] Difficult (black diamond)
- [ ] Most Difficult (dbl diamond)
- [ ] _____

Elevation Chg

2200 + or - Feet

Level of Use

- [ ] Low (0-10 per day)
- [X] Moderate (10-100 / day)
- [ ] High (100+ per day)

[X] Est [ ] Act [ ] Counter

Designed Use

(Check one)

- [ ] Hiker / Pedestrian
- [X] Pack & Saddle
- [ ] Bicycle
- [ ] Wheelchair (ADA stds)
- [ ] Motorcycle
- [ ] All Terrain Vehicle (ATV)
- [ ] _____

- [ ] Cross-Country Ski
- [ ] Snowmachine
- [ ] Snowshoe
- [ ] Dog Sled
- [ ] Skijoring

- [ ] Watercraft - Non Motorized
- [ ] Watercraft - Motorized
- [ ] _____

Design Parameters

(Fill in all that apply)

30"	Basic Tread Width, inches
72"	Clearing Width,
10'	Clearing Height, feet
	Backslope: 1/1, 2/1, 1/2
<12%	Target Grade, % (>90% of trail)
20%	Max. Sustainable Grade, % for distance (ft) 200_____
6'	Turn Radius Min, ft
	_____

Target Frequency

Maintenance per Year

(Fill in all that apply)

1	Trail Opening
0.5	Tread Repair
0.5	Drainage Cleanout
1	Logging Out
0.5	Brushing
0	Snow Trail Grooming
0.5	Condition Survey
	_____

Trail Management Objectives (TMO) Part 2

Trail Use Strategies

Rev. Date: 1/12/2007

Managed Use

(Fill in all that apply)

	Season From (mm/dd)	Season To (mm/dd)
X Hiker / Pedestrian	5/1	10/31
X Pack & Saddle	5/1	10/31
Bicycle		
Wheelchair		
Motorcycle		
All Terrain Vehicle (ATV)		
_____		
Cross-Country Ski		
Snowmobile		
Dog Sled		
Skijoring		
_____		
Watercraft - NonMotorized		
Watercraft - Motorized		

Prohibited Use

(Check if applicable)

	From Date (mm/dd)	To Date (mm/dd)
X All Motorized Use	1/1	12/31

(Or, fill in all that apply)

Hiker / Pedestrian		
Pack & Saddle		
X Bicycle	1/1	12/31
Wheelchair		
X Motorcycle	1/1	12/31
X All Terrain Vehicle (ATV)	1/1	12/31
_____		
Cross-Country Ski		
Snowmobile		
Dog Sled		
Skijoring		
_____		
Watercraft - NonMotorized		
Watercraft - Motorized		

Other Use

(Optional: Check any that apply)

	Accept	Discourage	Eliminate
X Hiker / Pedestrian	X		
X Pack & Saddle	X		
Bicycle			
Wheelchair			
Motorcycle			
All Terrain Vehicle (ATV)			
_____			
X Cross-Country Ski	X		
Snowmobile			
Dog Sled			
Skijoring			
_____			
Watercraft - NonMotorized			
Watercraft - Motorized			

Special Considerations

(Check any that apply. Underline appropriate clarifier in parenthesis. Provide specifics and reference information below.)

- Accessible per Current Agency Guidelines
- Mechanized Tools or Equipment Prohibited
- Threat, Endang or Sens Species (Plant / Wildl)
- X Cultural Resource Present (under review)
- Easement across Non-Park Land (Existing / Needed)
- Existing Permit or Agreement (Trail-Specific / Area)
- X Part of Historic Iditarod Trail

Remarks / Reference Information

Pack & Saddle access used during fall moose hunt in Ship Valley. Trail needs to be built to allow horse crossing of the five streams so they do not use the bridges. Current trail location unsustainable beyond first bridge. New alignment will move trail up on west slope of valley bottom. Area has high level of spurce bark beetle kill. Used heavily in winter and spring for Arctic to Indian traverse and also utilized by winter trappers.

Completed by: T.Crockett_____ Title: _____Park Ranger_____ Date:_8.8.08_

Approved by: M.Wedeking_____ Title: _____Chief Ranger_____ Date:_8.8.08_

Trail Management Objectives

Trail Name: **Indian Valley Trail** **Trail ID:** **509a**

Remarks / Reference Information (Continuation Sheet)

Trail Crew Work Notes:
08 Season: Trailhead to first bridge-
CSP crew 2 weeks
SAGA crew 25 days
Turnpike built
First bridge replacement
4 loads of gravel

09 Season:
2 loads of gravel
SAGA crew 10 days

Appendix B: Americans with Disabilities Act Trail Guidelines

The following provides technical provisions for accessible trails as recommended by the National Center on Accessibility, Indiana University Department of Recreation and Park Administration. The guidelines are a summary of various findings and rules established by the U.S. Access Board, which is the Federal agency responsible for creating guidelines and standards for accessible environments. While the following table is provided as a reference and is advisory in nature, every effort will be made to comply with its standards and provisions as feasible, OR if further restricted by future Division policy.

	Outdoor Recreation Access Route	Accessible Trail
Purpose	Relates to facilities in the outdoor environment where reasonable access is required, such as between a parking lot and a picnic area or campground.	Relates to a natural trail that is designated as being suitable for all levels of ability and consistent with the guidelines defined here.
Surface	Firm and stable.	Firm and stable. (Exception: *.)
Maximum Running Slope	5% or 1: 20 (for any distance). 8% or 1: 12 (for max 200 ft). 10% or 1: 10 (for max 30 ft).	5% or 1: 20 (for any distance). 8% or 1: 12 (for max 200 ft). 10% or 1: 10 (for max 30 ft). 12.5% or 1: 8 (for max 10 ft). (Exception: 14% or 1: 7 for 5 ft maximum for open drainage structures or when * applies).
Maximum Cross Slope	3% or 1: 33. (Exception: 1:20 for drainage purposes.)	5% or 1: 20. (Exception: 1: 10 at the bottom of an open drain where clear tread width is a minimum of 42 inches.)
Maximum Clear Tread Width	36 inches. (Exception: 32 inches when * applies.)	36 inches for any distance. (Exception: 32 inches when * applies.)
Tread Obstacles	1 inch high maximum. (Exception: 2 inches high maximum where beveled with a slope no greater than 50% or 1: 2 and where * applies.)	2 inches high maximum. Exception: 3 inches maximum where running and cross slopes are less than 5% or 1: 20. (Exception: *.)
Passing Space	Every 200 feet where clear tread width is less than 60 inches, a minimum 60 x 60 inch space, or a T-shaped intersection of two walking surfaces with arms and stem extending minimum of 48 inches. (Exception: Every 300 feet where * applies.)	Every 1000 feet where clear tread width is less than 60 inches, a 60 x 60 inch minimum passing space or a T-shaped intersection of two walking surfaces with arms and stem extending minimum of 48 inches. (Exception: *.)
Resting Intervals	60 inches minimum length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a max slope of 3% or 1: 33. (Exception: A max slope of 5% or 1: 20 is allowed for drainage purposes.)	60 inches minimum length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a maximum slope of 5% or 1: 20. (Exception: *.)

* The provision may not apply if it cannot be provided because compliance would cause substantial harm to cultural, historic, religious or significant natural features or characteristics; substantially alter the nature of the setting or purpose of the facility; require construction methods or materials that are prohibited by Federal, state or local regulations or statutes; or would not be feasible due to terrain or the prevailing construction practices.

Appendix C: GLOSSARY

Americans with Disabilities Act of 1990 (ADA) – A federal law prohibiting discrimination against people with disabilities. Requires public entities and public accommodations to provide accessible accommodations for people with disabilities.

All-Terrain Vehicle (ATV) – See Off-Highway Vehicle (OHV).

Accessible – A term used to describe a site, building, facility, or trail that complies with the Americans with Disabilities Act (ADA) Accessibility Guidelines and can be approached, entered, and used by people with disabilities.

Bench (Full, Half, Partial) Cut – The excavation cut into a slope to provide support for the trail tread surface. "Full" refers to the bench being constructed entirely on an excavated surface. "Partial" refers to the Bench being constructed in part on compacted fill.

Boat (or Vessel) – A device that is used or designed to be used for movement of people or goods in or on the water, whether manually or mechanically propelled, but does not include personal flotation devices, or other floats such as inner tubes, air mattresses, or surf boards. (11 AAC 20.990)

Best Trail Management Practices (BTMPs) – A series of management components developed to reflect the current "state-of-the-art" practices for effective and efficient trails management.

Climbing Turn – A wide, ascending curve that gradually reverses the direction of the trail while gaining elevation. Used in favor of Switchbacks on side slopes of less than 22% when possible.

Clinometer – A small, hand-held device used to measure grade (or slope) in terms of degrees or percent. In trails and roads, grade or slope is referred to in percent (%).

Compaction – The compression of aggregate, soil, or fill material by tamping or trail traffic.

Contour Trail (also a Curvilinear or Traverse Trail) – Concept whereby the trail is designed to rise and/or descend gradually along natural contours. The alignment crosses the contours at a shallow angle so that the natural drainage patterns are easily maintained during the construction process.

Control Point – A specific point, area, or feature that is important in trail layout. Positive Control Points are places you want the trail to go to or near (such as trailheads, scenic points, good water crossings, other trails, etc.). Negative Control Points are places you want to stay away from (such as hazards, sensitive habitat, private property, etc.).

Crib (or Crib Wall) – A retaining device used to support the trail tread or backslope, typically composed of wood or rock.

Critical Edge – The outside (downslope) edge of the tread, most pronounced on a bench cut.

CSP – Chugach State Park.

Culvert – A pipe or box-like structure of wood, metal, plastic, concrete, or rock that conveys a water course under a tread.

Curvilinear (Trail) Layout – Concept whereby the trail layout is designed to rise or descend gradually along natural contours. The alignment crosses the contours at a shallow angle so that the natural drainage patterns are easily maintained during the construction process. See also Contour Trail.

Design Parameters – Technical specifications for trail construction and maintenance, based on the Designed Use and Trail Class.

Designed Use – The intended use that controls the desired geometric design of the trail, and determines the subsequent maintenance parameters for the trail.

Difficulty Level -- The degree of challenge a trail presents to an average user's physical ability and skill, based on trail condition and route location factors such as alignment, steepness of grades, gain and loss of elevation, and amount and kind of natural barriers that must be crossed.

Easement – An interest in land, of specified dimensions, owned by another that entitles its holder to a specific limited use.

Fall-line – The path water flows down a slope under most circumstances.

Full Bench (Construction) Cut – Trail structure used to create a tread along a Contour Trail, whereby the tread is built entirely on an excavated surface (no fill) which is less subject to compaction, erosion and surface slumping. It is the preferred method of bench construction on trails construction on side slopes >30%. See also Partial Bench Cut.

GeoBlock – A trademark name structural geogrid material (see Porous Pavement Panel).

Geotextile (Geofabric, Filter Fabric) – A pervious, woven or non-woven, petrochemical fabric that provides a stable base and separation layer used in a variety of applications including aggregate capping.

Grade – Relative steepness (rise and fall) of the trail as compared to a flat horizontal plane. Trail steepness is measures in grade as a percentage.

Grade Control – Fundamental part of Sustainable Trail construction whereby strict trail grade restrictions are placed in the design parameters, primarily to minimize erosion due to natural forces and trail users.

Grade Reversals (or Grade Dip) – A short change from positive (climbing) grade, to negative (descending) grade for approximately 6 to 12 feet designed into the trail alignment to shed water. Grade reversals are an important component in Contour Trail construction. See also Rolling Grade Dip.

Green Infrastructure – An interconnected network of green space (hubs + corridors) that conserves natural ecosystem values and functions and provides associated benefits to human populations.

Half Rule – A trail's grade should not exceed half the grade of the sideslope. If the grade is steeper than half the grade of the sideslope, it is considered a Fall-line trail.

Hardening – Any number of methods of strengthening a tread surface in response to degradation or to better accommodate a particular type of use. Examples include: aggregate capping, boardwalk or puncheon construction, turnpiking, or the use of porous pavement panel.

Integrated Water Control – Instituting water management into basic trail design, usually during construction. Primary components include Grade Reversals and Outslope.

Knicks – A semi-circular, shaved down section of trail, about 5 -10 feet in length, and canted to the outside with exaggerated outslope. Most commonly employed as a maintenance action on existing low gradient trail sections. A Knick is smooth and subtle, often an unnoticeable feature to users.

Logging Out – Clearing a trail of fallen trees.

Managed Trail – A state park trail that has some type or level of Managed Use. To qualify as a Managed Trail, one or more of the following must apply: 1) The trail is depicted on a state park map distributed for public use; 2) The trail is maintained by park staff or volunteers on a regular schedule (up to several years interval) for public use purposes; 3) The trail is, or was, constructed for public use; 4) The trail is abandoned or closed to public use but is used for administrative purposes; or 5) The trail is signed or marked by state parks for public use.

Managed Use – The type of use that is actively managed and appropriate on a trail, considering the design and management intent.

Maximum Trail Grade – A defined maximum tread grade that can be constructed along the trail.

MOA – Municipality of Anchorage.

Obstacles (Natural) – Objects that add challenge by impeding travel. They include: rocks, roots, logs, holes, ledges, drop-offs, etc.

Off-Highway Vehicle (OHV) – A motorized mechanical device used for carrying persons or objects over land or water, including automobiles, motorcycles, snowmachines, all-terrain vehicles, and motorized boats. May also be referred to as: All-Terrain Vehicle (ATV), or Off Road Vehicle (ORV).

Organic Soils – The term is also used to refer to the upper most layer of dark surface soil that has a high organic material content. Organic soils have a propensity of readily absorbing and holding water and are poorly suited as a trail tread material.

Outslope – The amount the tread slopes from side-to-side to promote drainage off the trail instead of down the trail.

Partial Bench Cut – A trail structure used to support the tread along a Contour Trail, whereby the tread is partially supported by an excavated bench cut into a side slope and partially supported by a fill section of compacted excavated material. See also Full Bench Cut.

Porous Pavement Panel – A permeable, rigid, multi-pocketed structural geogrid, typically plastic, that is used to harden areas of saturated or unstable soils without the use of gravel infill, bridges, or boardwalks. e.g. GeoBlock

Retaining Wall (Revetment) – See Crib.

Rolling Grade Dip – A trail structure that utilizes a ramp-like excavation, a flat-bottomed drain, and a built up compacted soil dam to direct water off the tread. Typically utilized as a maintenance structure on existing trails.

Short Pitch Maximum – See Maximum Trail Grade.

Sideslope – See Slope.

Slope – Refers to the relative steepness of the natural terrain. Slope can be calculated by determining the vertical rise over a given horizontal distance, but is more often directly read from a slope measurement instrument called a Clinometer. Slope can be expressed in degrees, but for trail use is more commonly expressed as a percentage

Social Trail – An unplanned, usually unmaintained and typically undesirable trail alignment that develops informally as a result of public route pioneering, overuse, degraded trail avoidance, or generally poorly planned trail design.

Sustainable Trail – A trail that conforms to its terrain and environment, is capable of handling its intended use without serious degradation, and requires minimal maintenance.

Switchback – A sharp turn in the tread alignment, often 180 degrees, used to gain elevation on steep side slopes (typically required on slopes above 22%).

Snowmobile (snowmachine) – A self-propelled vehicle intended for off-road travel on snow, having a maximum width of 50 inches and a curb weight of not more than 1,000 pounds, driven by one or more tracks and steered by one or more skis.

Snow Trails – Trails that have a surface consisting predominantly of snow or ice, which are designed and managed to accommodate use on that surface.

Ten-Percent Average Grade Guideline – Refers to the practice of keeping the average trail grade or overall trail grade from exceeding 10% along the alignment of the trail.

TMO – See Trail Management Objective.

Terra Trails – Trails that have a tread surface consisting predominantly of native soil or rock, which are designed and managed to accommodate use on that surface. A Terra Trail may also have sections of boardwalk, or other hardened tread.

Trail – A linear route managed for human-powered, stock, boats, or OHV forms of transportation or for historic, heritage or commercial values.

Trail Class -- The prescribed scale of trail development, representing the intended design and management standards of the trail.

Trail Corridor – The total cleared area on both sides of a trail.

Trail Hardening – A technique to improve the surface characteristics of a tread. Usually applied in wet or boggy ground or to enhance ADA characteristics.

Trail Management Objective (TMO) – Documentation of the management intention of a trail based on its Designed Use, Design Parameters, and special considerations. TMOs provide basic reference information for trail planning, management, condition surveys, and reporting.

Trail Segment – A specific section of a trail with identified starting and ending points.

Trail Standards – Trail maintenance specifications that define the level of quality and service the agency intends to provide for the public.

Trail Structures – Any component of a trail that has been purposely constructed. This would include: developed treadway, bench cuts, switchbacks, retaining walls, drainage devices, culverts, bridges, hand railings, boardwalks, trail signs and posts, etc.

Trail Type – A category that reflects the predominant trail surface and general mode of travel accommodated by a trail. There are three Trail Types: Terra, Water, and Snow Trails.

Tread – The wear surface of the trail upon which a user travels. The tread, or treadway, is the most fundamental component of a trail.

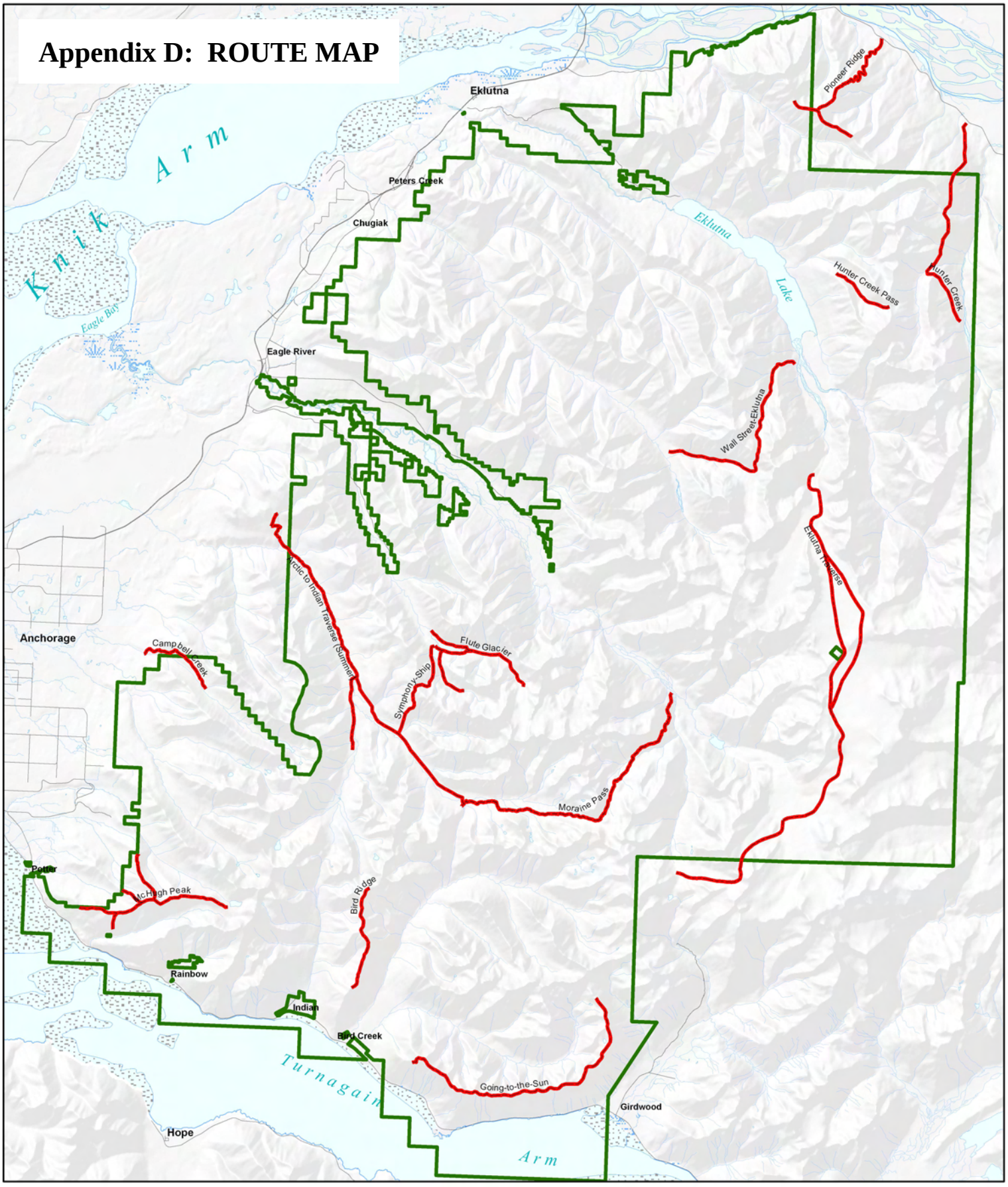
Tread Creep – Areas along a contour trail where the tread is sliding downslope due to compaction, slope failure, or fill failure of a Partial Bench Cut. May be caused by trailside features such as trees, bushes, roots, or another projection that forces traffic onto the Critical Edge, compacting it downslope.

Vehicle – A mechanical device used for carrying persons or objects over land, water, or through the air, including automobiles, motorcycles, bicycles, snowmachines, all-terrain vehicles, motorized boats, and aircraft. Vehicle does not include non-motorized sailboats, canoes, kayaks, rafts, sailboards, hang gliders, gliders, or parasails.

Waterbar – A trail structure typically constructed of wood, rock, or reinforced rubber and soil that is set at an angle across tread to direct water off the treadway. Generally being phased out in favor of Grade Reversals and Outslope integrated into new construction, and Outslope and Rolling Grade Dips retrofit into existing construction.

Water Trail – Trails that have a surface consisting predominantly of water, which are designed and managed to accommodate use on that surface, and which may include land-based portages.

Appendix D: ROUTE MAP



Route
CSP Management Boundary
Road

CHUGACH STATE PARK

0 2 4 8 Miles