SKYLINE DRIVE TRAILS PLANNING & DESIGN

PINEDALE, WY
FEBRUARY, 2025

DRAFT

TRAIL SOLUTIONS IMBA

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ACKNOWLEDGMENTS

PREPARED FOR:

BUREAU OF LAND MANAGEMENT, PINEDALE FIELD OFFICE

SUBLETTE TRAILS ASSOCIATION

PREPARED BY:

INTERNATIONAL MOUNTAIN BICYCLING ASSOCIATION – TRAIL SOLUTIONS

TABLE OF CONTENTS

EXECUTIVE SUMMARY

SKYLINE DRIVE CONCEPT DESIGN

The Skyline Drive Concept Design effort is a collaboration between the Sublette Trails Association (STA), the Bureau of Land Management (BLM) Pinedale Field Office, and IMBA Trail Solutions. Funding for the Concept Design work was provided by an IMBA Trail Accelerator Grant (TAG) with a 50% match being provided by STA.

Initially, the BLM and STA directed IMBA Trail Solutions to assess and design trails in the Tyler Draw area. After initial planning efforts, it was determined that this site wasn't suitable for trails due existing patterns of use and wildlife concerns. The BLM identified the Skyline Drive Parcels as an optimal alternative and the preferred Area of Interest (AOI). This AOI is near town and comprised of 2 parcels connected by a corner crossing totalling roughly 640 Acres of BLM land that abuts USFS land. Initial assessments including slope/aspect analysis, high level feasibility analysis and wildlife analysis confirmed the viability for further study.

IMBA Trail Solutions Staff visited the Skyline Drive project site in June of 2025 and met on site with members of STA, BLM and Wyoming Game and Fish. The goal of this site visit was to recon the site, meet with project partners and stakeholders and confirm site opportunities and constraints.

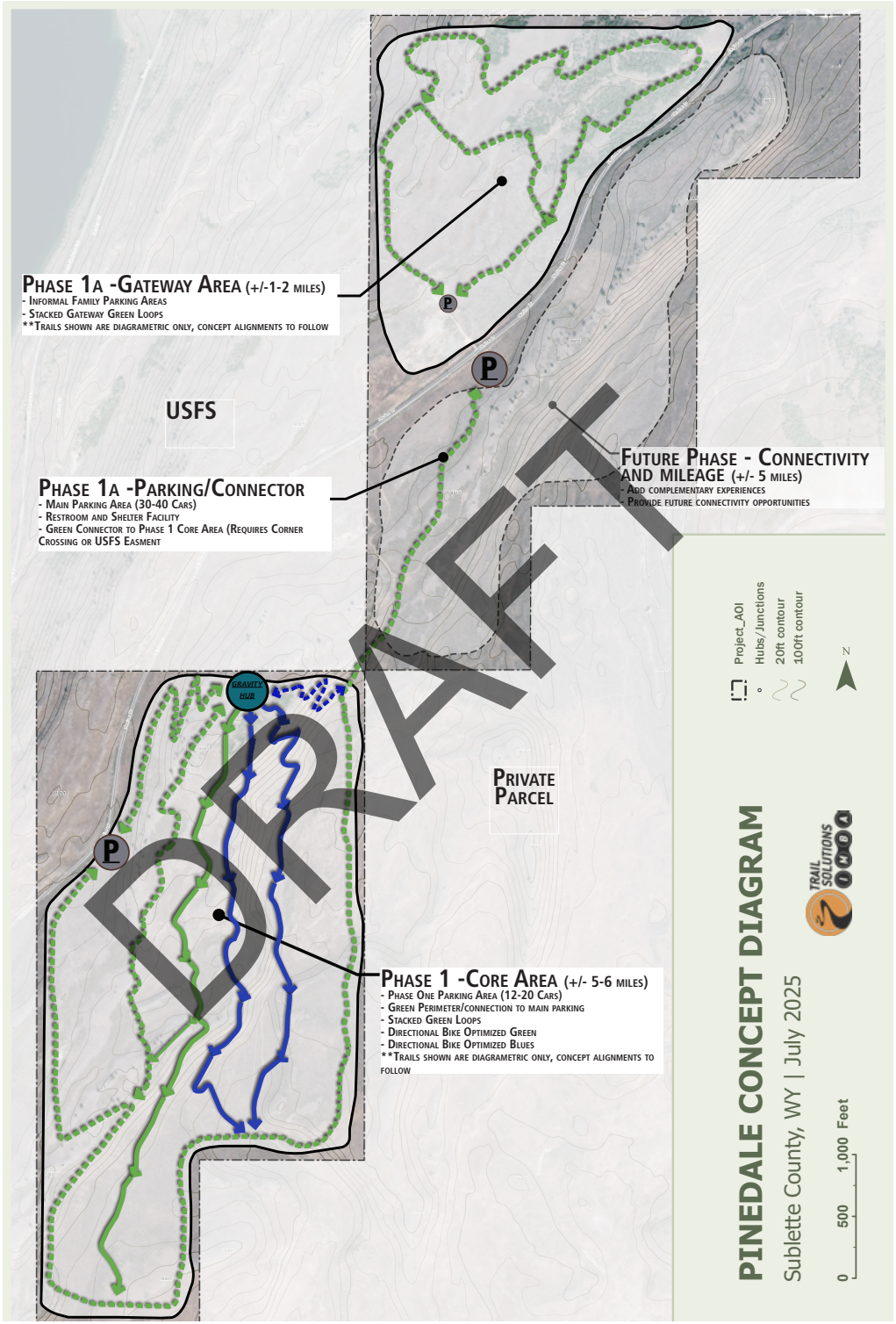
Following the site visit, IMBA Trail Solutions issued a site diagram to the project team for review/input and approval of the general design direction. IMBA Trail solutions then produced a detailed Concept Trails Plan broken out into three logical construction phases.

Phase 1 provides a perimeter green loop and two directional mountain bike optimized (MBO) descending experiences (one beginner and one intermediate) accessed from an existing parking/trailhead resource along Skyline Drive.

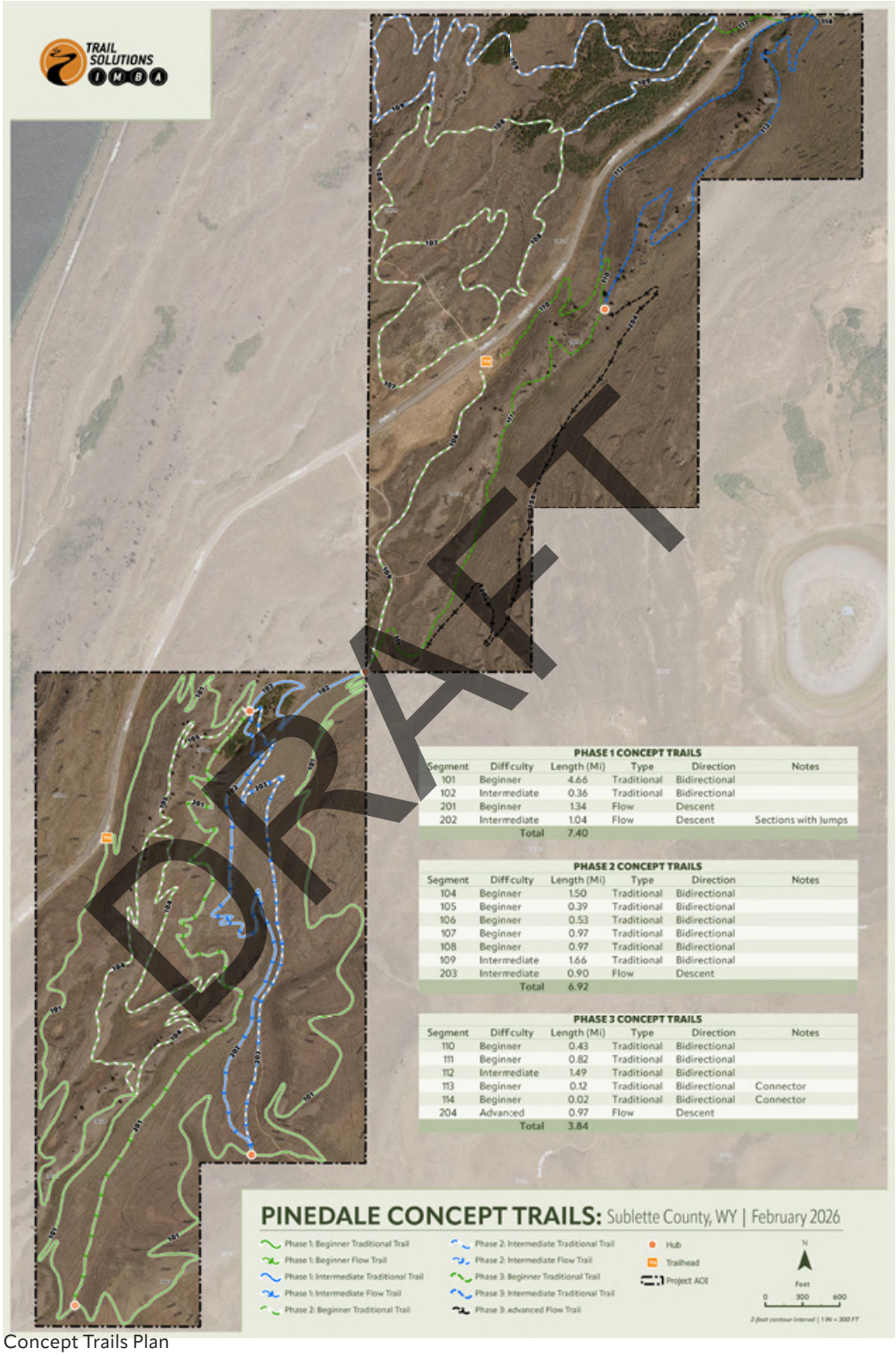
Phase 2 develops a substantial trailhead and parking lot (size TBD) built to BLM specifications and requirements. Phase 2 also adds Traditional style stacked loop mileage North of Skyline Road along with Traditional and MBO directional descending mileage in the same zone as Phase 1.

Finally Phase 3 adds traditional shared-use mileage and connections to existing roads and trails.

This document will be included in a development proposal that is prepared by STA with assistance from the BLM. Upon receiving NEPA approval, IMBA Trail Solutions will proceed with Next Steps.



Concept Diagram vetted with the client and stakeholders.



Concept Trails Plan

PHASE 1

TRAIL MILEAGE

7.4

Concepted

MILEAGE BY ABILITY LEVEL

Beginner, Shared-use

3.7

Beginner, Bike Optimized

1.3

Intermediate, Shared-use

0.4

Intermediate, Bike Optimized

1.0

PHASE 2

TRAIL MILEAGE

6.9

Concepted

MILEAGE BY ABILITY LEVEL

Beginner, Shared-use

4.4

Intermediate, Shared-use

1.4

Intermediate, Bike Optimized

0.9

PHASE 3

TRAIL MILEAGE

3.8

Designed

MILEAGE BY ABILITY LEVEL

Beginner, Shared-use

1.3

Intermediate, Shared-use

1.5

Advanced, Bike-optimized

1.0

PROJECT TEAM

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01

IMBA TRAIL SOLUTIONS

IMBA Trail Solutions is the international leader in developing trails, with experience in over 1,000 projects in North America, Europe, and Asia. Our staff excels at planning, design, and construction of trail systems that provide high-quality experiences for local riders and destination visitors while simultaneously minimizing environmental impacts.

IMBA Trail Solutions is a fee-for-service based arm of the International Mountain Bicycling Association (IMBA), a 501(c)(3) nonprofit organization. IMBA's mission is to create, enhance, and protect great places to ride mountain bikes. Based in Boulder, Colorado, and with staff distributed across the country and the world, IMBA meets its goal to create great mountain bike experiences through its IMBA Trail Solutions program. IMBA Trail Solutions employs approximately twenty professional trail planners and builders. In addition to being industry professionals and exceptional mountain bike riders, IMBA Trail Solutions staff hold a broad base of applicable skills and knowledge from planning, landscape architecture, and environmental sciences to GIS systems, CAD, and graphic design.

Our wealth of experience has allowed us to develop the gold standard guidelines for the creation of both sustainable and enjoyable singletrack trails. These guidelines have influenced all major federal land management agencies and a large number of state and local parks departments. We pride ourselves on the positive experiences IMBA Trail Solutions has provided to the millions of active trail users around the world and on the economic independence that communities have achieved through the development of destination trail systems.

SUBLETTE TRAILS ASSOCIATION

The mission of the Sublette Trails Association (STA) is to improve, maintain, and develop sustainable non-motorized, multi-use trail networks in Sublette County, Wyoming.

They envision a Sublette County where residents and visitors can explore the region's stunning mountain ranges, rivers, and lakes through a well-organized, accessible trail system that serves the community for generations to come.

To achieve this, STA develops and maintains family-friendly trail infrastructure for hikers, mountain bikers, horseback riders, cross-country skiers, snowshoers, and other non-motorized trail enthusiasts of all ability levels. As Sublette County's outdoor interests continue to grow, STA ensures that recreational infrastructure keeps pace in a thoughtful, sustainable way.

By building partnerships between community members, land managers, and local governments, the Sublette Trails Association works to expand outdoor access while protecting the natural character of this remarkable region, believing that quality trail systems are essential to the long-term economic and recreational vitality of Sublette County.

BUREAU OF LAND MANAGEMENT

The Pinedale Field Office administers approximately 924,000 acres of public land surface and 1.2 million acres of federal mineral estate in Sublette, Lincoln, Teton and Fremont counties in northwest Wyoming. The Pinedale Field office manages the land that The Skyline Drive Trails are proposed on.

Consultant, Client and Stakholders (BLM, Game and Fish) meeting on site July, 2025

INTRODUCTION

02

PROJECT BACKGROUND

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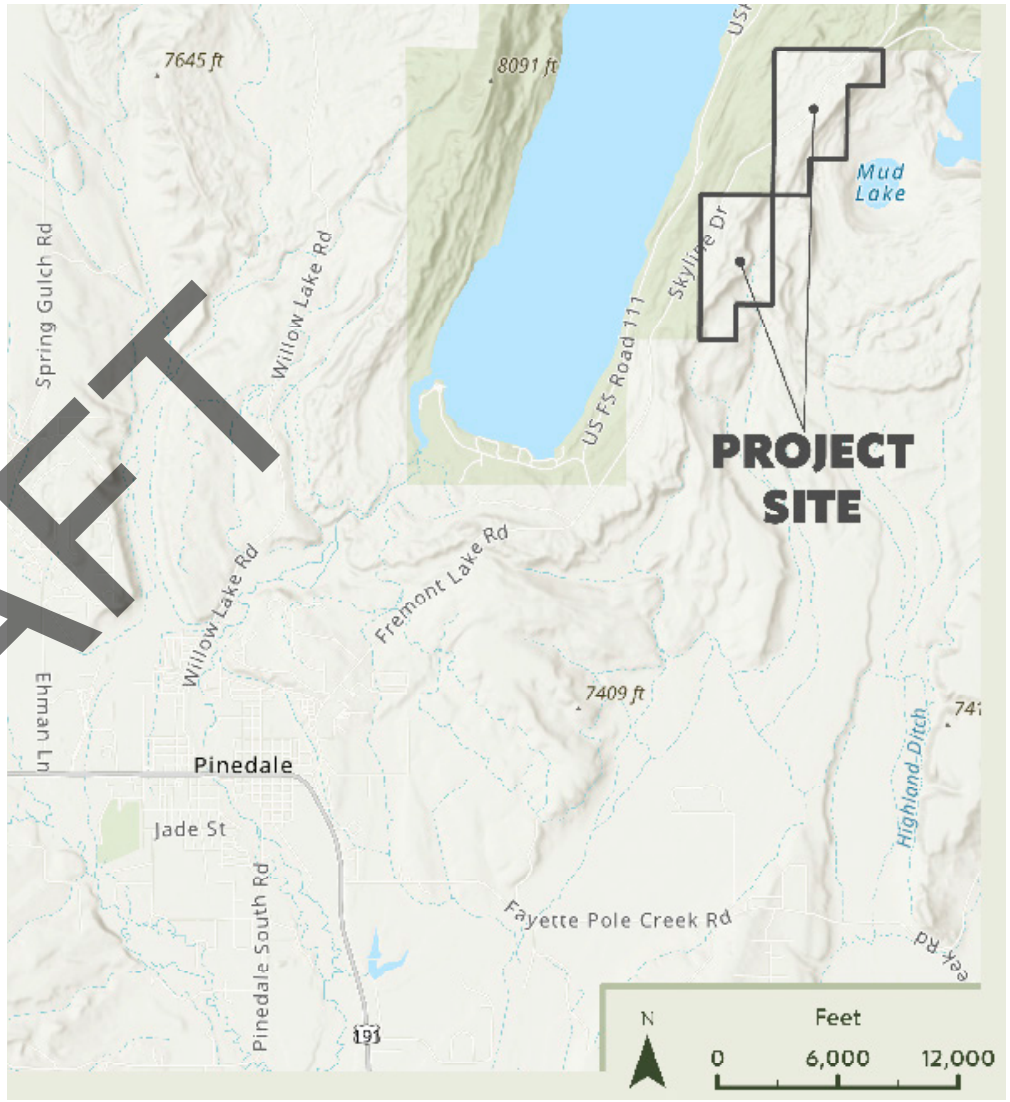

Project Context Map

This document will be included in a BLM development proposal prepared by STA with assistance from the BLM. Upon receiving NEPA approval, IMBA Trail Solutions will proceed with the Next Steps outlined later in this document.

CONCEPT TRAIL DESIGN

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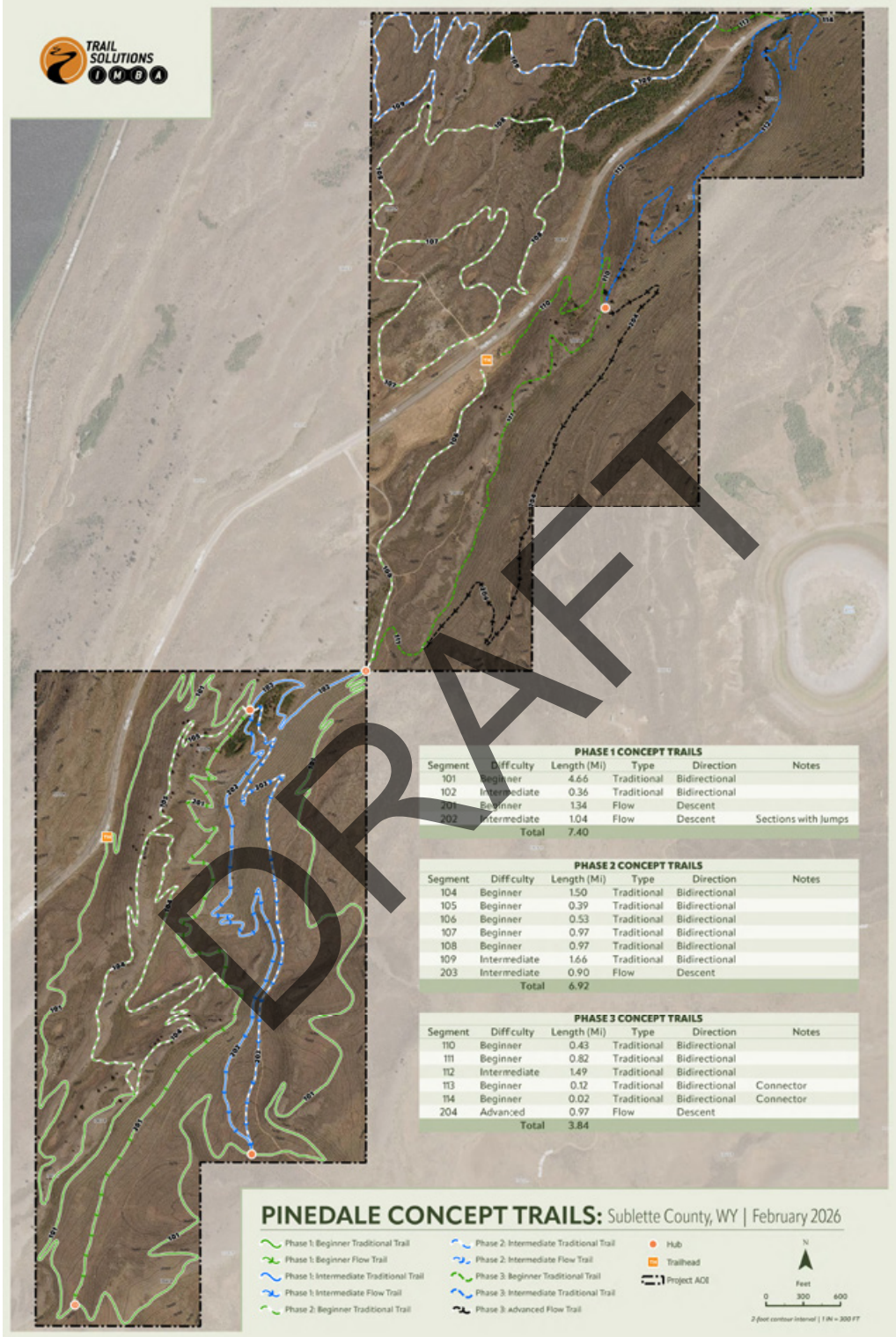


Concept Trails Map

SKYLINE DRIVE PHASES 1–3

The three concepted phases at Skyline Drive offer different experiences and opportunities, but work together to create a trail network that offers diverse trails for multiple abilities. The phasing is flexible, but the identified phases create functional trail networks that will appeal to a variety of users.

PHASE 1

This phase is accessed from an existing pulloff area along Skylinge Drive. There is limited parking here (roughly15 parallel spaces), but given the intentions for this to be a locals resource, should provide adequate spaces for phase 1 users. If lack of parking becomes and issue, the parking and connection segment (106) identified in Phase 2 will need to be expedited.

Phase 1 provides a 4.4 mile perimeter green loop that provides access to the proposed gravity hub. This hub will feed two directional downhill-only mountain bike optimized (MBO) flow trails, one is for beginners (1.34 miles) and one is for intermediate riders (1.04 miles). These trails will be a highlight for this area as they will provie a new experience for the region with flowing rollers, berms and rollable jumps.

PHASE 2

Phase 2 develops a substantial trailhead and parking lot (size TBD) built to BLM specifications and requirements. This phase completes the buildout of the initial development zone by adding mileage and looping options (segment 104 and 105) and adds an additional intermediate MBO downhill-only segment.

Phase 2 also adds Traditional style stacked loop mileage North of Skyline Road that caters to families and young beginners.

PHASE 3

Finally, completing the buildout, Phase 3 develops nearly 3 miles of traditional shared-use mileage, 1 mile of advanced MBO downhill-only flow trail and establishes important connections to existing roads and trails.

OUR COLLABORATIVE DUE DILIGENCE PROCESS

1. Conduct an evaluation of existing impacts:
   1. Grazing leases
   2. Existing trails/roads to be decommissioned and/or improved.
      1. User-created trails happen as a result of unmet recreation demand.
      2. Properly implemented system trails can function as a tool to manage where people go on the landscape.
2. Considered Threatened & Endangered (T&E), Imperiled, & Declining Species.
   1. This will be undertaken by biologists with BLM to determine if any (T&E) species are identified in the area of the project site.
3. Conducted 1 site visit to understand the terrain and where to route trails to be in compliance with BMP's.
   1. Largely, we avoid sensitive habitats. In areas where we identify high recreational value intersecting with sensitive habitats we utilize planning strategies to Minimize Wildlife Impacts. Those strategies include:
      1. Consolidate high density trail networks and recreation facilities in less sensitive or already disturbed habitats.
      2. Limit route densities within high priority habitats to an average of 1 linear mile of road or trail per total square mile for the species indicated in the best management practices table.
      3. Designing the overall trail network to operate successfully if restrictions like seasonal trail closures are necessary.

	Avoidance	Minimization	Mitigation
 **Big Game Species** Bighorn Sheep, Elk, Deer, Pronghorn, and Mountain Goats	• Avoid locating new trails within CPW-mapped production areas, migration corridors, and winter range habitats.	• Limit trail densities (including existing trails) to less than one linear mile of trail per total square mile, within production areas, migration corridors, and winter range habitats. • For trails within production areas or winter range habitats, implement seasonal timing restrictions for all trail users. • For trails within winter range, production areas, summer concentration areas, and in moose habitat, restrict dogs or implement and enforce year-round dog-on-leash restrictions. • Post signage to prohibit feeding and harassment of big game. • Within moose habitat, post signage to protect human safety.	• Decommission and reclaim routes in sensitive habitats • Perform habitat enhancement projects. • Remove and/or replace old fencing that is hazardous to wildlife.

Exhibit 4 - From Designing with Wildlife in Mind

ANALYSIS AND INFLUENCES

PROJECT VARIABLES THAT INFLUENCED THE TRAIL SYSTEM'S DESIGN,

- Existing Conditions (vegetation, slopes, aspects)
- Wildlife Considerations
- Existing Roads and Trail Access Points

WILDLIFE CONSIDERATIONS

DESIGNING TRAILS WITH WILDLIFE IN MIND

There are often multiple competing priorities in open space that land managers, stakeholders, and the public need to understand. Sometimes limited resources, competing priorities, critical wildlife values, and conflicting stakeholder needs require trade-offs to maintain collaborative conservation and recreation relationships over time. As land managers seek to accommodate recreational demand, it's important to recognize how trails can function as a tool to manage where people go on the landscape. Trail design should minimize the impacts that people have on the natural resources of a given landscape, including both wildlife and their habitat. Good trail design also enhances the visitor experience and provides opportunities to enjoy the natural world.

The decision to add a new trail means you are introducing a new use, and any associated impacts, onto the landscape. See screen captured flow chart for a framework for understanding the decision process of where a trail might be sited relative to habitat. In some cases, such as for threatened and endangered species, if impacts cannot be avoided, and minimization and mitigation efforts cannot sufficiently protect the species, a trail may not be able to be built in that location. Doing an evaluation of the existing site conditions at the beginning of this process can help a land manager or trail planner decide where those trails belong on the landscape and what areas it would be best to avoid. Collaboratively with the BLM and input from Wyoming Game and Fish we followed these steps outlined by the Colorado's guide to Planning Trails with Wildlife in Mind document.

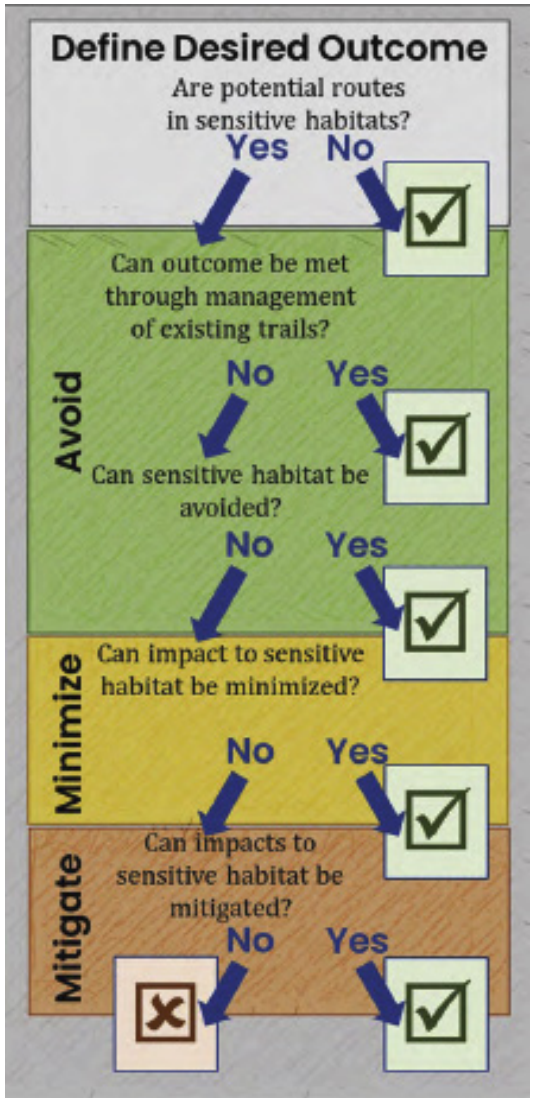
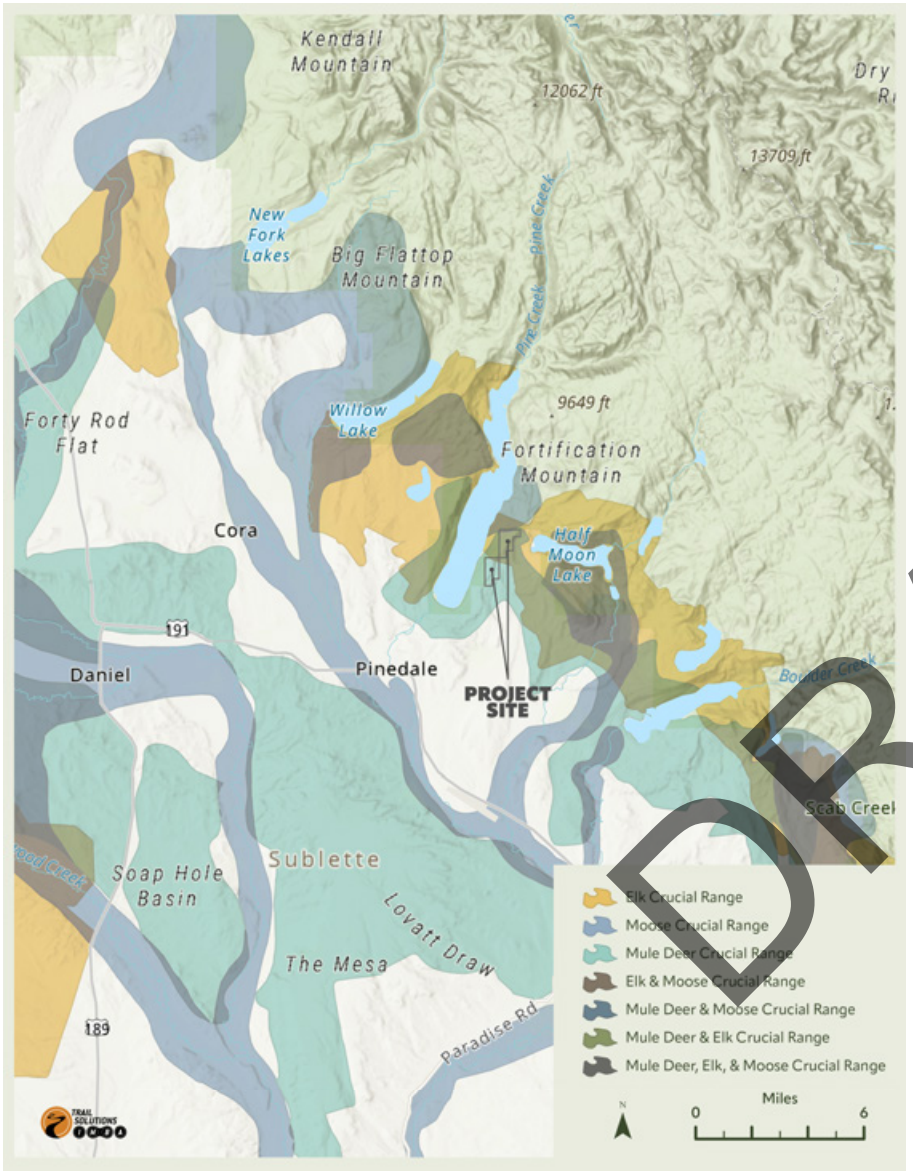


Exhibit 3 - From Designing with Wildlife in Mind

WILDLIFE CONSIDERATIONS



The Skyline Drive Trails project will utilize seasonal closures to mitigate potential wildlife impacts. Typical site conditions (spring snowpack) won't allow trail use during Big Game Crucial Range timeframes, but in addition, trail access points will be gated and signed identifying seasonal closures along with eductional descriptions and explanations.

Wildlife resources initially identified for consideration include:

- Half Moon WHMA
- Mule Deer Red Desert Migratory Habitat
- Pronghorn Sublette Migratory Habitat
- Statewide Elk Crucial Range
- Statewide Moose Crucial Range
- Statewide Mule Deer Crucial Range
- Statewide Sage Grouse Core
- Statewide SGCN Crucial Habitat
- Sublette Mule Deer Migration Bottlenecks

Further analysis and mitigation consideration will be analyzed in cooperation with the Pinedale BLM Field Office.

TRAIL DESIGN (FUTURE)

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DESIGN METHODOLOGY

Trail design includes flagging trail corridors, capturing detailed notes, outlining trail specifications, taking accurate measurements, and recording GPS tracks for project review and construction teams.

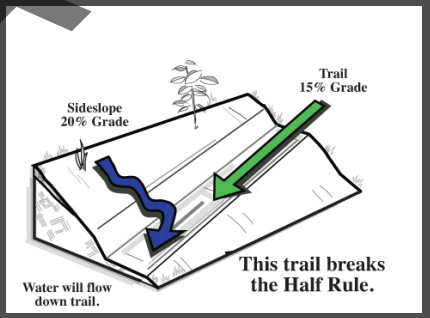
The following section explains details of the design process to be completed by IMBA Trail Solutions for Phase 1 of the Skyline Drive Trails AOI prior to engaging in any next steps.

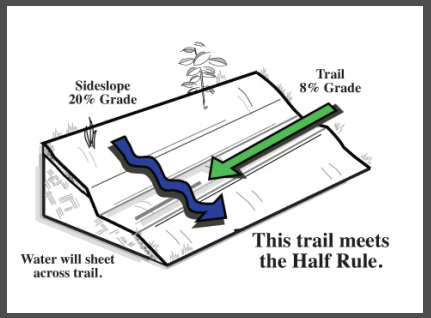
All of the general guidelines presented below were implemented in the concept design. Given the ground truthed site conditions and detailed mapping, IMBA Trail Solutions is confident that the final designed alignments will fit within the prescribed 100′ concept corridor.

5 ESSENTIAL TRAIL ELEMENTS

The Half Rule

A trail's grade should not exceed half the grade of the hillside or side slope that the trail traverses. If the trail does exceed half the side slope, it is considered a "fall-line trail." Water will flow down a fall-line trail rather than run across it, and therefore cause significant rutting and erosion. There are exceptions to this rule, but those types of trails require significant expertise to execute and should be left in the hands of qualified professionals.

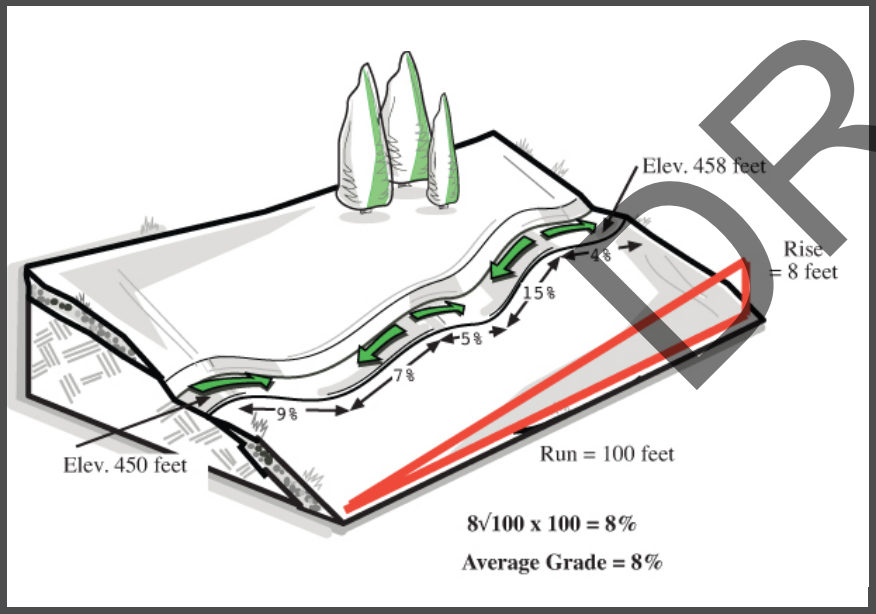




The Ten Percent Average Grade Guideline

Historically, the thought has been that an average grade of 10% or less minimizes erosion. This guideline has evolved and while a 10% average or less may be acceptable for an expert-level trail, the industry practices have become more specific to trail difficulty level: Beginner trails range

from 0-5% average grade, intermediate trails range from 5-7% average grade, and advanced trails average 7-9% (or higher) grade. Trail segment grades are directly related to the amount of exertion required when climbing, as well as the speeds that can be reached when descending. This is extremely important for planning rider experiences, as an average 7% or higher grade on a climbing trail can be excruciating for a newer, less fit rider and potentially turn them off completely from riding again. The same can be true for having a descent that is too steep for a less-skilled rider, also potentially scaring them away from mountain biking.

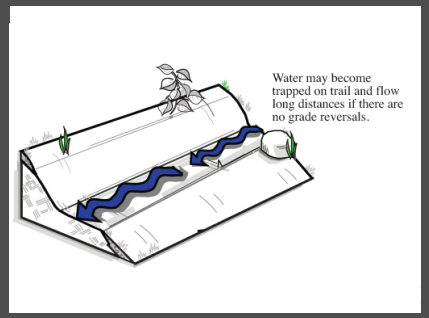


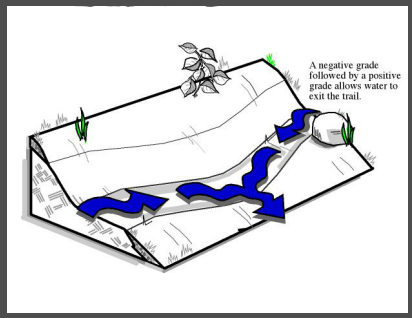
Maximum Sustainable Trail Grades

Maximum grade is the steepest section of trail that is more than 10 feet in length. This grade is soil composition dependent, but 15-20% maximum grade is considered typical. These grades can be exceeded if trail tread reinforcement techniques such as rock armoring are used.

Grade Reversals

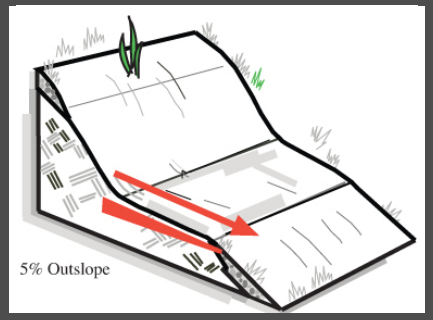
Grade reversals occur when a trail that is going down (negative grade) transitions into a trail that is going up (positive grade). This results in a low spot on the trail, which is commonly referred to as a drain, because this is where water exits from the trail. Frequent grade reversals every 40 to 100 feet are critical for a healthy trail system to ensure water can flow from the trail as frequently as possible. Grade reversals are also a critical element of the overall user experience.

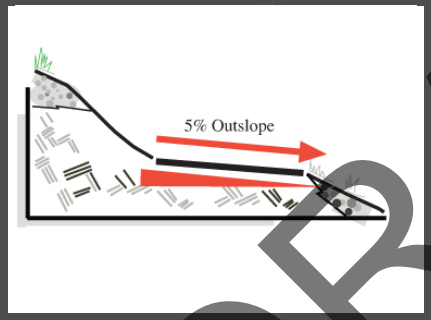


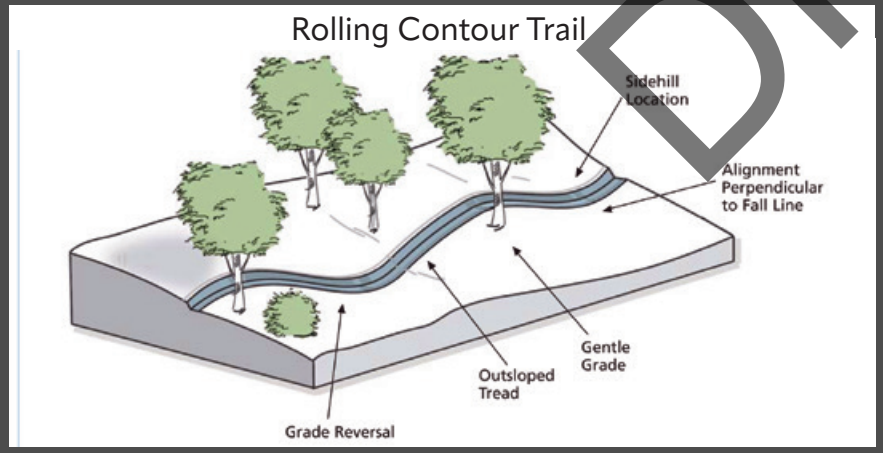


Outslope

As the trail contours across a hillside, the downhill or outer edge of the tread should slope slightly down and away from the inner/high side at about a 5% slope. This tilt is called "outslope," and it encourages water to sheet across and off the trail. Modern mountain bike trail building techniques focus heavily on insloped trails to maximize fun, but still rely on outslope at drains and any part of the trail where an inslope is not required to keep the rider on the trail.







GENERAL GUIDELINES

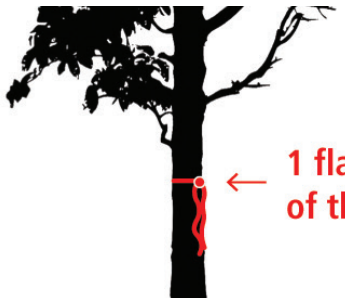
The designed trails are a mix of bidirectional, shared-use singletrack and bike-optimized directional singletrack. Some segments may incorporate technical trail features, but overall, the trails aim to accentuate the natural environment of the area. All trails follow IMBA Trail Solutions principles for sustainable trails with rolling contour alignments.

During this design process, particular care was taken to adhere to the prescribed trail grades for each trail difficulty level, and to avoid to the extent possible forest or existing infrastructure, property boundaries, and sensitive resources. Drainage crossings are selected to minimize the crossing zones to the extent possible. Mitigation measures such as stone armoring may be needed. Potential wet areas will be identified in the design details dataset. Additional armoring may be needed in these areas.

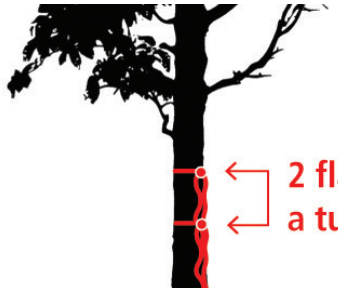
TRAIL FLAGGING

The trail flagging process includes tying colored outdoor flagging tape to trees that represent the downhill edge of the trail tread. In this specific case, the concept alignment represents a 100′ trail corridor within which the field designed aligments will be required to land. Any discrepencies with these constraints or concerns that the trail construction will occur outside of the 100′ trail corridor, will be documented and worked through with the land manager. Flagging- typically, the knot in the tape faces uphill and is tied at eye level. This positioning enables designers, reviewers, and construction teams to utilize these markings as references for measuring trail grade with an inclinometer. The spacing between flags varies by tree canopy and underbrush type. Flags may be tied

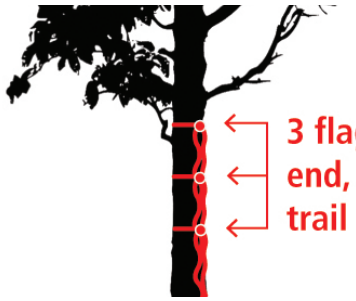
every ten feet or less in brushy areas or spaced 100 feet or more in an open canopy. The following graphics show general flagging practices.



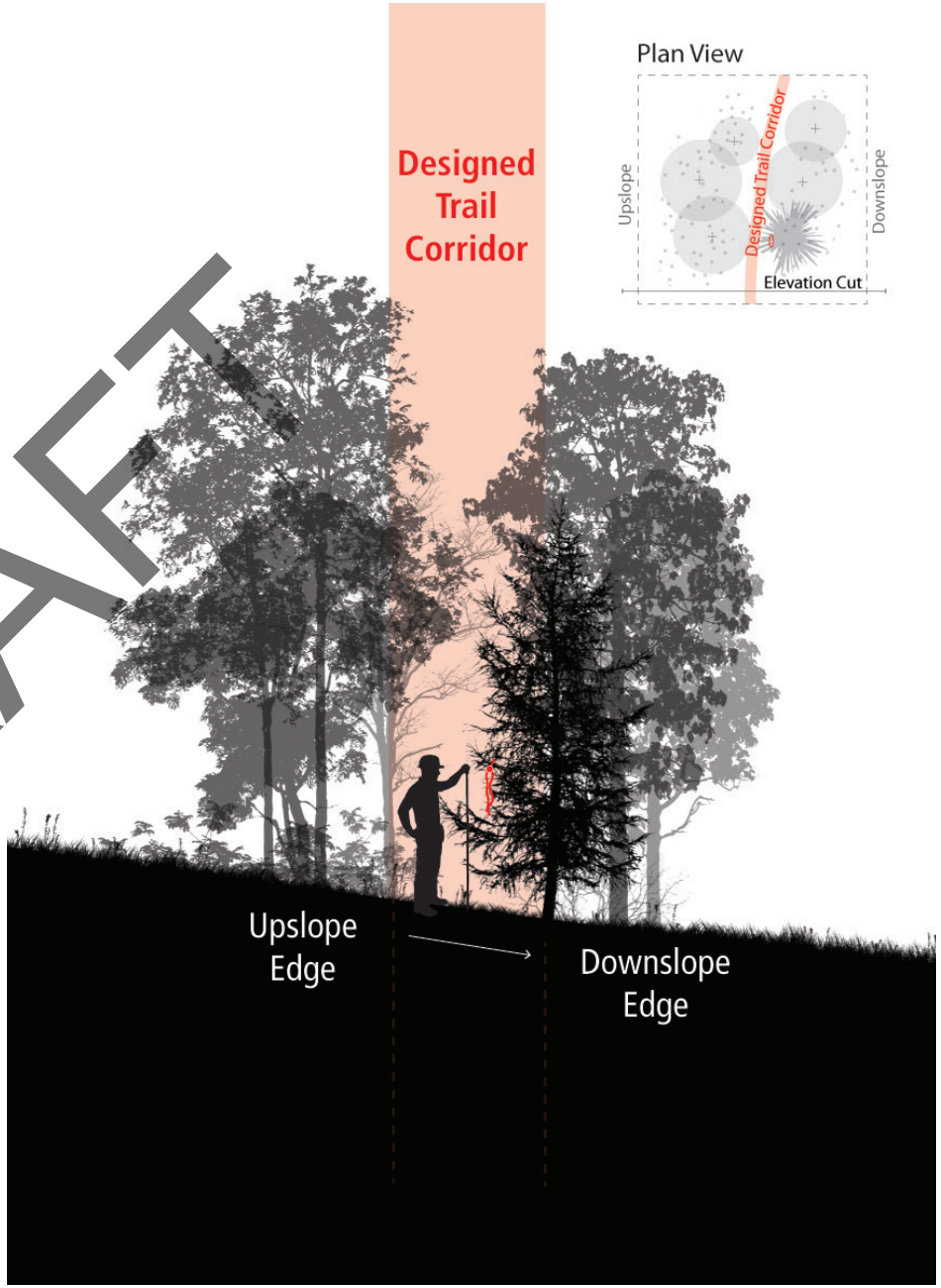
1 flag indicates the location of the trail corridor



2 flags indicate the apex of a turn in the trail corridor



3 flags indicate the start, end, or intersection of a trail corridor.



TURN AND HUB LOCATIONS

Turn locations are marked in the field with two stacked flags. In addition to providing a more dynamic and enjoyable trail experience, turns are often designed to avoid property constraints and maintain sustainable trail grades. When possible, turns are situated on gentler side slopes to allow for more efficient construction and better management of water and soil erosion.

Hub locations are marked in the field with three stacked flags, designating key intersections of two or more trails in the network. These are meant to be wide, graded areas with wayfinding signage to orient trail users. Hubs also serve as rest spots, so they should be wide enough to fit a few trail users at a given time.

CONSTRUCTED TREAD WIDTH

Constructed tread widths follow the trail difficulty rating guidelines developed by IMBA Trail Solutions. Wider constructed treads are prescribed to beginner trails with trails narrowing as the difficulty level increases. Tread widths are expected to narrow over time as the trail settles into the landscape.

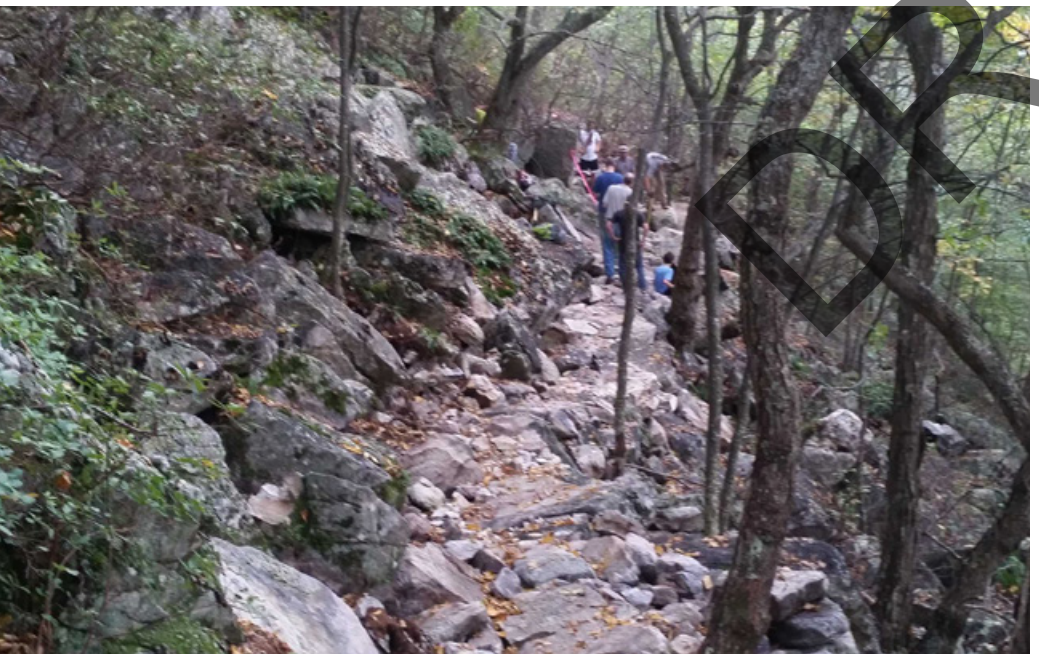
MAXIMUM AND AVERAGE GRADE

The flagged trails' maximum and average grades were calculated to ensure that each trail follows the grades prescribed by the IMBA Trail Solutions trail difficulty rating system. These grades are determined by uploading the trail alignment data to the IMBA Trail Solutions Elevation Profile Tool, which calculates the maximum grade of a trail over a 100-foot interval and the weighted average grade of the trails' ascending and descending segments.

TREAD ARMORING

Tread armoring is prescribed in areas where wet soils, drainage crossings, or otherwise more erodible surfaces are unavoidable. Tread armoring and materials may differ between project areas according to the specific location requirements, the project budget, and materials (e.g., loose rocks) available in the surrounding landscape.

Flowing water is typically identified and inventoried for potential rock armoring. These areas may be easily armored with rock found on-site (if rock is present). Wet areas identified based on aspect



or wetness index mapping will likely need additional armoring. Armoring in these areas should be identified and mitigated during construction. These areas would also be identified and marked on the map.

Rock armoring is installed such that water easily sheets over the surface without catching sediment or debris. Rock armoring techniques are discussed in great detail in resources found on IMBA's website as well as various IMBA publications.

BEST MANAGEMENT PRACTICES TRAIL ON STEEP SLOPES

Slope refers to the hillside or terrain a trail is crossing, whereas grade is used to describe the running length of the trail. Both are measured in percent. The following guidelines cover best practices for trails crossing slopes greater than 50% to prevent soil displacement and erosion.

- Trails will follow a contour alignment and include self-sustaining grade reversals as seen in the 5 Essential Trail Elements.
- Trail running grade will not exceed 50% of the side slope when the side slope is under 50% (The Half Rule)
- A trail running grade will not exceed 30% of the side slope when side slope exceeds 50%.

- Grade reversals or water diversions should be installed at no less than 100′ intervals.
- On slopes over 50% or areas with noted seeps, or without tree canopy coverage, grade reversals should occur at more frequent intervals of 40′ -75′.
- Grade reversal style should match the intended use and difficulty level of the trail. Rolling grade dips are preferred on beginner and intermediate shared use trails. While water bars may be acceptable on expert level shared-use or hiking only trails.
- Average trail grade, measured over 300′, should not exceed 15%. This does not account for grade limits created by difficulty ratings.
- Any tread that exceeds 25% grade for longer than 3′ should be stabilized with flagstone, rock pitching, or a constructed feature.
- Rock walls may be necessary to stabilize excavated and fill slopes greater than 2 to 1 that are intended to remain unvegetated or when successful lasting stabilization with vegetation is not feasible. Knee walls on the bottom of steeper backslopes can be used to reduce the grade on the upper portion of the backslope to allow it to be stabilized with organic materials such as leaf litter or duff.
- Drains that release concentrated flow should be armored with rock or sufficiently stabilized with rip-rap to prevent head cutting. Typically over a 2 to 1 slope. Armor and rip-rap should both prevent erosion and disperse concentrated flow before exiting the rock reinforced area.
- Trail sections that have enough subsurface saturation to destabilize the trail tread should be reinforced with rock armor, boardwalk or puncheon. Rock armor is recommended as the best long term solution. In locations with intermittent or seasonal seeps that flow under or across the trail the rock armor installation should allow for subsurface flow. Rock armor should extend beyond the wet area to prevent further widening of the tread.
- Disturbed soil should be mulched and stabilized as soon as possible, preferably before any rain events. Organic materials (leafs & duff) removed during the construction process are the best source of mulch.
- Excess soil should not be placed in drainages of any type or below the exits of constructed drains.
- Drains from constructed grade reversals on slopes over 50% will be rock armored with rip rap or stone pitching to both prevent head cutting and disperse concentrated flow.

TRAIL TABLES

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05

ALL PHASES - CONCEPT TRAILS

Segment	Phase	Difficulty	Length (Mi)	Type	Users	Direction	Turn Radius (Min)	Avg. Grade (Max)	Cost Estimate (+/- 20%)	Build Type	Notes
101	1	Beginner	4.66	Traditional	Shared-Use	Bidirectional	8'	5%	$ 257,000.00	Machine	
102	1	Intermediate	0.36	Traditional	Shared-Use	Bidirectional	8'	10%	$ 20,000.00	Machine	
201	1	Beginner	1.34	Flow	Bike-Only	Descent	12'	5%	$ 100,000.00	Machine	
202	1	Intermediate	1.04	Flow	Bike-Only	Descent	12'	10%	$ 78,000.00	Machine	Sections with Jumps
104	2	Beginner	1.50	Traditional	Shared-Use	Bidirectional	8'	5%	$ 83,000.00	Machine or Hand	
105	2	Beginner	0.39	Traditional	Shared-Use	Bidirectional	8'	5%	$ 21,000.00	Machine or Hand	
106	2	Beginner	0.53	Traditional	Shared-Use	Bidirectional	8'	5%	$ 29,000.00	Machine	
107	2	Beginner	0.97	Traditional	Shared-Use	Bidirectional	8'	5%	$ 53,000.00	Machine	
108	2	Beginner	0.97	Traditional	Shared-Use	Bidirectional	8'	5%	$ 53,000.00	Machine	
109	2	Intermediate	1.66	Traditional	Shared-Use	Bidirectional	8'	10%	$ 91,000.00	Machine	
203	2	Intermediate	0.90	Flow	Bike-Only	Descent	12'	10%	$ 67,000.00	Machine or Hand	Flow Trail
110	3	Beginner	0.43	Traditional	Shared-Use	Bidirectional	8'	5%	$ 24,000.00	Machine or Hand	
111	3	Beginner	0.82	Traditional	Shared-Use	Bidirectional	8'	5%	$ 45,000.00	Machine or Hand	
112	3	Intermediate	1.49	Traditional	Shared-Use	Bidirectional	8'	10%	$ 82,000.00	Machine	
113	3	Beginner	0.12	Traditional	Shared-Use	Bidirectional	8'	5%	$ 6,000.00	Machine or Hand	Connector
114	3	Beginner	0.02	Traditional	Shared-Use	Bidirectional	8'	5%	$ 1,000.00	Machine or Hand	Connector
204	3	Advanced	0.97	Flow	Bike-Only	Descent	12'	15%	$ 82,000.00	Machine	
		Total	18.17						$1,092,000.00		

Notes: The cost opinion provides order of magnitude numbers for the costs of construction and serves as a tool for planning purposes only. The cost opinion does not serve as a bid. The costs for any necessary site development infrastructure, electrical infrastructure, stormwater infrastructure, and/or landscaping are not included in this cost opinion. Construction costs assume professional trail contractors perform the work.

Trail Specifications

Trail Type	Unit	Feature Frequency[1]	Constructed Tread Width[2,3]	Ave Trail Grade per 1000'	Max Trail Grade: climbing[4]	Max Trail Grade: descending[4]	Proposed Flagline Corridor Width	Corridor Width (4' above tread)	Corridor Height Minimum[5]	Exposure (without railing)	Avoidable Obstacles (over 50% of tread or less)	Rollable Feature Height (jumps, berms, etc.)	Rugosity (surface texture)[6]	Tread and trail features	Experience Notes
Beginner Traditional	Linear Feet	Low	48"-60"	0% - 5%	10%	10%	50'	60-72"	8'	N/A	less than 2" partial width of tread or less than 5" full width of tread	N/A	Low	Firm trail surface. May include rock surfacing.	Typically specified for easiest trail difficulties. Trail grades are gentle and set on shallow cross slopes with little to no exposure to trail side risks like steep slopes, cliffs, or external influences that require advanced bike handling moves to avoid. In general, the trail surface is relatively smooth with little to no obstacles (rocks and roots). Tread width, turns, bridges, and pinch points should accommodate Adaptive Mountain Bikes to the extent possible.
Beginner Bike-Optimized	Linear Feet	Low	48"-60"	0% - 5%	10%	10%	50'	60"-72"	8'	N/A	less than 2" partial width of tread or less than 5" full width of tread	6"-18"	Low	Semi-firm trail surface. May include rock surfacing.	Typically specified for easiest trail difficulties. Trail grades are gentle and set on shallow cross slopes with little to no exposure to trail side risks like steep slopes, cliffs, or external influences that require advanced bike handling moves to avoid. In general, the trail surface is relatively smooth with little to no obstacles (rocks and roots). Feature frequency is appropriate for the shared-use nature while keeping it engaging for intermediate riders advancing their skills. Tread width, turns, bridges, and pinch points should accommodate Adaptive Mountain Bikes to the extent possible.
Intermediate Traditional	Linear Feet	Medium	24"-48"	7-10%	15%	20%	50'	30"-42"	8'	less than 48"	less than 8"	12"-24"	Medium	Semi-firm to loose trail surface. Will include rock surfacing. Rocks will be uneven.	This trail type will have the look and feel of traditional shared-use singltrack. Trail grades are moderate and set on moderate to steep cross slopes. In general, the trail surface is semi-firm with some natural obstacles (rocks and roots). Feature frequency is appropriate for the shared-use nature while keeping it engaging for intermediate riders advancing their skills. Tread width, turns, bridges, and pinch points should accommodate Adaptive Mountain Bikes to the extent possible.
Intermediate Bike-Optimized	Linear Feet	Medium	24"-48"	7-10%	15%	20%	50'	30"-42"	8'	less than 48"	less than 8"	24"-48"	Medium	Semi-firm trail surface. May include rock surfacing.	Specified for intermediate trails. Trail grades are moderate and set on moderate to steep cross slopes with some exposure such as steep slopes or cliffs. In general, the trail surface is semi-firm with some natural obstacles (rocks and roots). Feature frequency is appropriate for the shared-use nature while keeping it engaging for intermediate riders advancing their skills. Tread width, turns, bridges, and pinch points should accommodate Adaptive Mountain Bikes to the extent possible.
Advanced Traditional	Linear Feet	Medium	18"-30"	10%	20%	40%	50'	30"-42"	8'	less than 48"	less than 16"	24"-48"	High	Unpredictable trail surface. Will include rock surfacing. Rocks will be uneven.	This trail type looks and feels like traditional singletrack with narrow tread and the presence of rocks, roots, and other obstacles. Grades are steeper than beginner and intermediate trails and may exceed the physical climbing/descending limits of some hikers and riders. Highly unpredictable trail surface with high rugosity is expected.
Advanced Bike-Optimized	Linear Feet	Medium-High	24"-42"	15%	20%	50%	50'	48"-72"	8'	less than 48"	less than 16"	No restrictions	Medium-High	Semi-firm to loose trail surface. Will include rock surfacing. Rocks will be uneven.	Specified for advanced bike-only trails. Trails are bike-optimized. These trails traverse side slopes ranging from 20%-120%, therefore users are exposed to steep hills and rocky drop offs. The trail surface is variable with the presence of rocks and roots. Feature frequency is determined by specific trail narratives.

Footnotes

1. Feature Frequency is averaged over long distances. Per 100': "low" = 2-3 features, "med" = 3-5 features, "high" = 5-10 features.
2. Constructed tread width may narrow over short distances to 50% of spec. Examples include rock or tree gateways.
3. Tread width also applies to bridges and boardwalks. Check with local regulations for overriding guidelines on width or any other requirements (height restrictions, railings, etc.).
4. Max grades climbing and descending refer to extremely short segments, 10 feet or less.
5. Corridor height should be reduced in thick laurel or rhododendron where appropriate to provide a more natural "tunnel experience".
6. Rugosity attempts to capture average tread coarseness. Tread area with obstacles: "low" = less then 5%, "med" = less then 20%, "high" = over 20%, "very high" = over 50%. Check Master Plan and Trail Guidelines by Difficulty Level for surface texture details.

General Notes

Sustainable trails guidelines provide the foundation for all design + construction decisions ("half rule", frequent grade reversals, max grades function of soils + use, etc.).

Turn Specifications

Trail Type	Unit	Min Turn Radius	Max Turnpad Grades[1]	Max Berm/Turn Camber[2]	Tread and trail features	Experience Notes
Elevated Platform Turn	Each	8'	20%	20%	Firm trail surface. May include rock surfacing.	The turn utilizes a platform to provide the user with a space to complete a turn and ensure the sustainable grades. This turn type is common where the side slopes are steep and would create a fall-line configuration if a non-elevated turn was used. The turn grades are steeper to allow for elevation gain or loss where needed to achieve key control points or for desired experience. Located on steeper side slopes where a small footprint is needed to fit turns on these slopes.
Elevated Berm Turn	Each	10'	20%	50%	Semi-firm trail surface. May include rock surfacing.	An open radius turn, typically raised though may rely heavily on a tall berm to hold riders on trail as they corner with speed. Generally used on Bike-optimized or gravity bike-only trails. Turns should wide and provide conservation of rider momentum with little to no force braking. Turns should include insloping and berm to hold rider into the turn and offer positive support through the entire turn.
Non-Elevated Turn	Each	20'	10%	25%	Firm trail surface. May include rock surfacing.	Sweeping long radius turns comfortable for shared users of beginner to intermediate ability levels. In combination with good sight lines, these turns work well for shared-use trails. Generally these are climbing or descending turns on mellow to moderate side slopes without the need for an elevated platform. The turn width will vary depending on the difficulty rating of the trail. Careful attention is required to ensure the tread properly drains and the grades follow the half-rule. Exceeding the half-rule may result in the trail following a fall-line configuration, leading to a rutted trail, increased maintenance, and decreased quality of the user experience.
Non-Elevated Berm Turn	Each	15'	15%	30%	Semi-firm trail surface. May include rock surfacing.	Sweeping long radius turns with cambered berms. Generally used on MBO trails for beginner to advanced ability levels to allow riders to carve into a turn and retain speed while doing downhill. Generally these are climbing or descending turns on mellow to moderate side slopes. The turn features a filled (bermed) concave turning surface to enhance the flow experience. A platform is not necessary for this turn type where side slopes allow.

Footnotes

1. Turnpad grade measures the rise/fall across the turning surface at the base of any inslope.
2. Max camber is measured at the top of the inslope. Turns can not be outsloped.

General Notes

Sustainable trails guidelines provide the foundation for all design + construction decisions ("half rule", frequent grade reversals, max grades function of soils + use, etc.).
All trails should have a minimum grade and camber (in/outslope) of 3% to ensure a well-drained tread.

IMPLEMANTATION & NEXT STEPS

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IMPLEMENTATION AND NEXT STEPS

DESIGN CONCEPT MEMO REVIEW

To bring this concept to fruition, the next step is to share this memo and supporting maps with the appropriate stakeholders and BLM staff to gather feedback and devise next steps. This will involve STA submitting a proposal to the BLM and for the BLM to identify which NEPA process is appropriate for this project.

FIELD DESIGN AND FLAGGING

At the appropriate time (possibly before receiving NEPA approval), IMBA Trail Solutions will return to design and flag phase 1 trail alignments.

PERMITTING AND COMPLIANCE

All construction projects are subject to regulatory requirements. Obtaining proper permits can ensure that work follows local, state, and federal laws as this trails concept plan is implemented. At least as important, working under permits can help trail builders and visitors to be good stewards of the land.

CONSTRUCTION

The trails recommended in this plan require extensive mechanized construction and knowledge of sustainable trail building practices. IMBA Trail Solutions recommends that a qualified team of professional trail builders bring these trails into reality. IMBA Trail Solutions also recommends professional guidance for management purposes of the project to ensure successful trails that are low maintenance, provide high-quality experiences, and meet the design.

MAINTENANCE AND STEWARDSHIP

Maintenance is an ongoing cost and should be planned and budgeted from the onset of a project. Trails should be managed according to trail type guidelines, respective trail narratives, and recommended difficulty levels. Typical annual maintenance budgets for traditional and mountain bike-optimized trails range from 5% to 15% of the construction cost. Some of the annual maintenance for trails can be performed by trained volunteers. These tasks will include corridor trimming, downed tree removal, tread clearing, and minor drainage work. Professional assistance will be required occasionally. Increasingly, mountain bike trail systems are hiring part- or full-time staff to provide maintenance to trail systems. Ensuring a quality, consistent riding experience is key to attracting visitors and keeping a local riding community satisfied and growing.

TRAIL TYPICALS - APPENDIX

A

EXPERIENCE ZONES & PREFERRED-USE TRAILS

Experience zones and preferred-use trails are showing up in trail systems around the world. Experience zones divide management areas into special-use zones designed around specific activities: one zone may be preferred for mountain biking and another for accessible, interpretive trails. Implementation of such zones can provide a variety of visitor experiences and recreational opportunities that reduce conflict between differing user groups while providing sustainable, long-lasting trails.

Single use challenges the notion that all trails must be all things to all people. In this case, land managers designate certain trails as "preferred" for certain activities. For example, a trail that is single use for mountain bikers might be designed to be fast and flowing through open terrain, with swooping turns and dips. Hiking-preferred trails, meanwhile, may be more about travel efficiency with stairs, tight switchbacks, short distances, or other qualities that would be less attractive to bikers and equestrians. Visitors will be drawn to routes that match their desired experience.

Each trail system should, of course, include a variety of trails. One way to include numerous types of trails is to have shared-use trails at the beginning of the network near parking lots, with preferred-use trails branching off farther along. The number of trails designated for each mode of travel should be based on the habits and needs of the user groups being managed.

BIKE FACILITIES & TRAILS

The types of mountain bike trails and facilities considered in this Concept Plan are explained below. These narratives are meant to provide a brief description of the envisioned experience, intended user, construction considerations, and approximate ranges of construction costs. The construction costs reflect the cost of retaining a professional trail contractor and are provided for financial planning purposes only. The cost ranges do not include planning, design, and permitting needed to develop the facilities, typically estimated at 10-20% of construction costs. It is important to consider ongoing maintenance costs of trails and bike facilities; these can range from 5-25% of the installation cost.

TRAIL TYPES

Modern trail systems use specific trail types as a way of managing users and providing them with the best possible visitor experience. Extensive planning and design should be dedicated to the goal of maximizing a visitor's trail experience while simultaneously balancing the demands of physical, environmental, and social sustainability. This list is not exhaustive.

SHARED-USE SINGLETRACK

These trails can serve walkers, hikers, runners, cyclists, and equestrians. Trails should be constructed and maintained according to sustainable trail construction practices and employ techniques that minimize user conflict. Multiple user types travel these routes; therefore, care should be taken to avoid obstacles such as jumps or water bars which may lead to undesirable trail experiences for some. Turns are constructed sustainably, but are generally not cambered like bike-optimized turns that improve cornering traction. Keeping trail grades within certain ranges ensures both a positive trail experience for users and enables proper stormwater drainage with minimized erosion. Depending on soil conditions, these trails may need surface hardening techniques to provide a durable four-season trail.

MOUNTAIN BIKE-OPTIMIZED SINGLETRACK

These trails are purpose-built to optimize the experience of riding a mountain bike. The trails can either be unidirectional or bidirectional depending on the type of trail, preferred circulation of users, and management decisions. This type of trail is constructed with features such as rock gardens, berms, grade reversals, cambered turns (typically wider than turns on traditional singletrack trails), and modest jumps. These trails should make use of gravitational forces and, where possible, be managed to enhance trail flow for descending riders. These trails may need surface hardening to provide a durable four-season trail. They should be designed for a range of users from beginner to advanced skill levels. Optional advanced features can be located along the side of the trail to provide challenges for intermediate and advanced riders. This allows many skill levels to experience the full trail mileage, while providing for skill progression within a smaller trail footprint.

ADAPTIVE MOUNTAIN BIKE TRAILS

Adaptive mountain bike trails are natural surface trails that feature specific design parameters to accommodate adaptive mountain bikes (aMTBs) while providing a high-quality experience for "different-abled" riders. Adaptive mountain bikes are equipped with the proper positioning and geometry to allow the millions of Americans have a mobility disability to enjoy the outdoors. The bikes have three wheels (trikes) or four (quads) and may position the riders in a laid back, recumbent position for most crosscountry style bikes or face-forward with the riders back to the sky which is common for all-mountain style bikes. The style and make of the bikes vary, but all are wider, larger, and heavier than traditional mountain bikes which results in signifi cant changes to acceleration, deceleration, and the ability to change direction and corner.

Adaptive mountain bike trails combine an appropriate combination of width, radius, and grade to create an accessible layout and design of the trail. In general, the adaptive mountain bike trails must be wider, uphill gradients decreased and less abrupt, turning radius increased, bridges and trail features widened, and access to trails must be barrier free with low grade climbs. Riders are positioned lower to the ground which must be accounted for when creating clear sightlines. When a trail traverses steep slopes, the tread width should be increased and tread outslope must be greatly lessened or removed to uphold clear passage in landscapes with high exposure. Rollers and undulations in the trail must be gradual and require adequate spacing between each to allow riders to coast through without pedaling. Pull-outs along the side of the trail should be installed to allow riders to rest along the trail and allow other riders to pass. Trails must free of obstacles for easy (green) aMTB trails, but can feature obstacles, such as rocky sections, on more advanced trails.

LIFTED AND TILTED TREAD TYPE

A new trail construction method, "lift and tilt," is a way of raising the tread above the existing grade while simultaneously lowering the grade of areas off the trail that act as natural drains. This enhances tread drainage while increasing the fun factor for mountain bikers. Borrow basins are dug to harvest suitable mineral soil to lift and tilt the tread. Woody debris is used to replace the soil taken from the borrow basins, which are then masked and blended with organics to create natural-looking low points for drainage. This technique holds the rider on the trail while directing water off the tread into the basins.

This method can be implemented on any scale, using smaller machines to provide a singletrack feel or larger machines to create wide trails with a true bike park flow. Visitor numbers, rainfall, and soil type may require the use of culverts and sumps to keep trails ridable while providing drainage. The trail can have an increased emphasis on fun, flow, and airtime depending on the designated trail user. For shared-use trails, which generally cater to beginning riders, the dial can be turned down with mellower grades, less undulation, and feature frequency. For advanced trails, the dirt features can be more dynamic with larger rollers and jumps, bigger drops, and steeper banked turns, giving riders play in the vertical plane. Flatter areas that may have been avoided in the past can now be designed to provide an exciting riding experience. The lift and tilt method is often used for pump tracks, flow trails, jump trails, and other bike-optimized amenities.

TRAIL RATING GUIDELINES

CRITERIA TO CONSIDER

TREAD WIDTH - the average width of the active tread of the trail

TREAD SURFACE - the material and stability of the tread surface that is a determining factor in the difficulty of the trail. Some descriptive terms include: firm, stable, variable, widely variable, loose, and unpredictable

TRAIL GRADE - measured using a clinometer (or software that can display grades on GPS tracks) and always referenced as a percentage.

- **Average grade** – Average grade is the steepness of the trail over its entire length, calculated by total elevation gain of the trail divided by total length of the trail and multiplied by 100 to calculate the percent grade.
- **Maximum sustained grade** – Maximum sustained grade is defined as the steepest section of trail sustained for more than 10 feet in length.
- **Average climbing and descending grades** – It is helpful to define climbing and descending grades separately from one another to accurately assess the level of physical exertion required on the climbs as compared to the level of speeds potentially obtained on the descents.

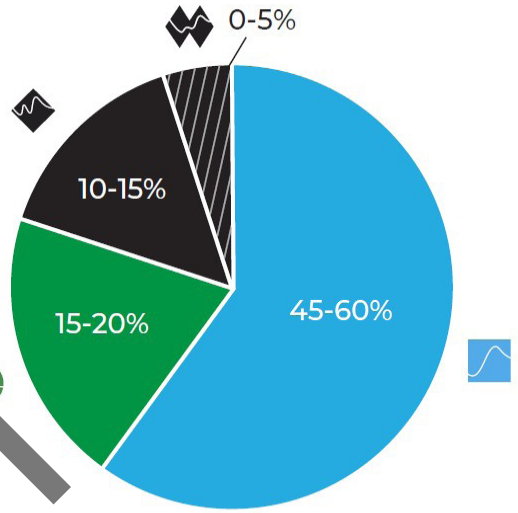
IMBA Trail Difficulty Rating System

	EASIEST WHITE CIRCLE	EASY GREEN CIRCLE	MORE DIFFICULT BLUE SQUARE	VERY DIFFICULT BLACK DIAMOND	EXTREMELY DIFFICULT DBL. BLACK DIAMOND
TRAIL WIDTH	72" or more	36" or more	24" or more	12" or more	6" or more
TREAD SURFACE	Hardened or surfaced	Firm and stable	Mostly stable with some variability	Widely variable	Widely variable and unpredictable
AVERAGE TRAIL GRADE	Less than 5%	5% or less	10% or less	15% or less	20% or more
MAXIMUM TRAIL GRADE	Max 10%	Max 15%	Max 15% or greater	Max 15% or greater	Max 15% or greater
NATURAL OBSTACLES AND TECHNICAL TRAIL FEATURES (TTF)	None	Unavoidable obstacles 2" tall or less Avoidable obstacles may be present Unavoidable bridges 36" or wider	Unavoidable obstacles 8" tall or less Avoidable obstacles may be present Unavoidable bridges 24" or wider TTF's 2' high or less, width of deck is greater than 1/2 the height	Unavoidable obstacles 15" tall or less Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or wider TTF's 4' high or less, width of deck is less than 1/2 the height Short sections may exceed criteria	Unavoidable obstacles 15" tall or greater Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or narrower TTF's 4' high or greater, width of deck is unpredictable Many sections may exceed criteria

Trail Grade

The difference between a 5% and 8% stretch of intermediate trail is significant. The physical exertion required to climb a sustained 8% grade is significantly more challenging than what is required to climb a sustained 5% grade. Similarly, potential descending speed on an 8% grade is significantly faster than a 5% grade. For example, a one-way trail planned with 8% descents and 5% climbs will maximize speeds for the descending portions and minimize physical exertion on the climbs, creating a fast, flowy experience that focuses on speed and minimal exertion. Whereas a one-way trail planned with 5% descents and 8% climbs will reduce descending speeds and maximize physical exertion on the climbs, creating a more physically demanding trail experience with reduced descending speeds.

BEGINNER/EASY	0%-5% Average Grade
INTERMEDIATE/ MORE DIFFICULT	5%-8% Average Grade
ADVANCED/VERY DIFFICULT	8%-12% Average Grade
EXPERT/EXTREMELY DIFFICULT	10%-15% Average Grade



DIFFICULTY BALANCE

Balanced does not necessarily mean equal. Similar to the downhill ski industry planning guidelines, an appropriate trail distribution across ability levels looks like a bell shaped curve.

Achieving a balanced mix may mean looking beyond the individual trail system and considering the mix of trail types and difficulty levels across a region.

Progressing as a rider from one difficulty level to the next can be stressful and intimidating. One way to help bridge this gap is to have a practice facility (skills park) at the trailhead with trail features varying in skill level from beginner through expert, so that people can see, experience, and practice their skill progression in a controlled environment before making the leap out on the trail.

TRAIL DIRECTION

TWO-WAY TRAILS

FLEXIBILITY - Trail users have more flexibility in how they move through the trail system, allowing them to customize their trail experience.

CONNECTIVITY - Two-way trails create more connectivity options.

QUANTITY - Two-way trails provide double the mileage of a one-way trail. A 1-mile trail that can be ridden in both directions provides two miles of riding.

ECONOMICS - Two-way trails allow more economical trail development, especially in a shared-use trail system.

DISRUPTIONS - Riders traveling in opposite directions on the same trail create more interactions between trail users, which can lead to disruptions in the ride experience and potential for user conflict.

DECISIONS - An intersection of two-way trails requires twice the number of route planning decisions when compared to an intersection of one-way trails. While offering more flexibility, having more decisions to make can also deter from the desire for minimal interruptions.

SIGNAGE - Two-way trails require that signs at intersections have information on both sides. This may also require having multiple sign markers at an intersection (whereas one-way trails might only require one sign marker).

ONE-WAY TRAILS

DESIGN - A one-way mountain bike trail can be designed without compromise. (Designing a two-way mountain bike trail requires more complex design considerations such as how to slow down riders before a blind corner, how to reduce speeds to minimize consequences in a head-on collision, and how to blend trail features to work well in both directions.) If a trail is one-way, these considerations disappear, and bike-optimization can be maximized.

EXPERIENCE - Because trail design does not have to be compromised, directional trail provides an increase in rider-optimized experience. Having one-way trails reduces the number of times a trail user needs to stop, possibly pull out a trail map, and make decisions about which way to travel.

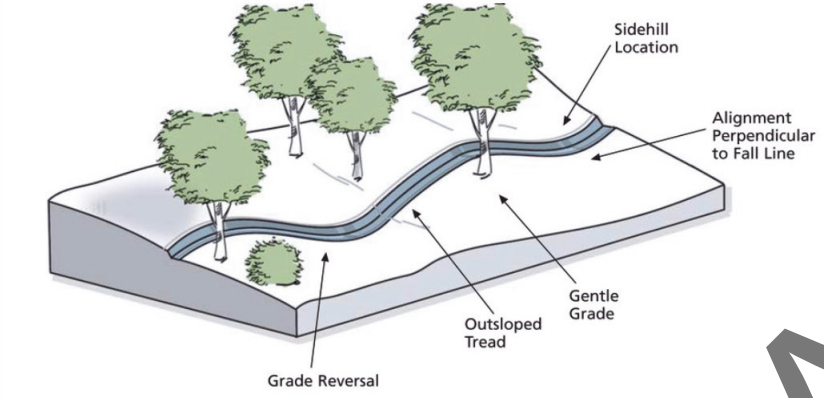
ONCOMING TRAFFIC - For one-way, bike-only trails, riders rarely have to stop or move off the trail for oncoming traffic, creating fewer disruptions to the trail experience.

ENCOUNTERS WITH OTHER USERS - The amount of times a trail user encounters another user on the trail is reduced significantly since all riders are traveling in the same direction. This contributes to a more relaxed, serene experience. Densely populated urban centers with high volumes of trail users can benefit greatly from a one-way trail system. For a shared-use trail or system where riders only travel in one direction but foot traffic can travel in both directions, there are more encounters but more flexibility for foot traffic to move through the system.

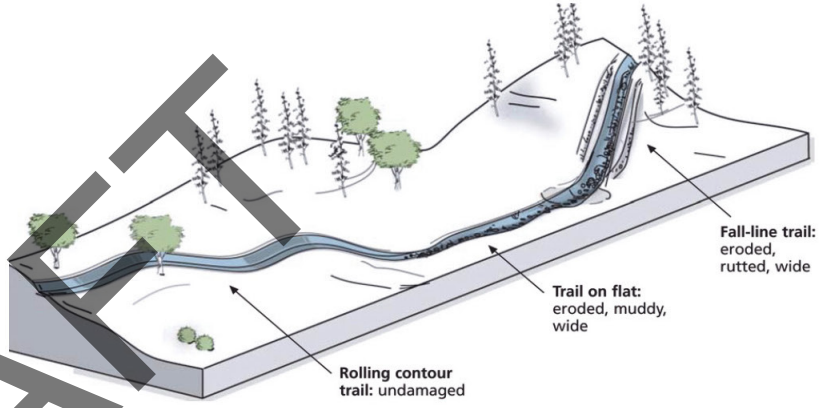
QUANTITY - The quantity of unique, rideable mileage is reduced by half with one-way trails. Directional trail provides an increase in optimized experience through fewer user interactions and more trail design options, which can be more valuable than length. Quantity does not always equal quality.

TRAIL TYPICALS

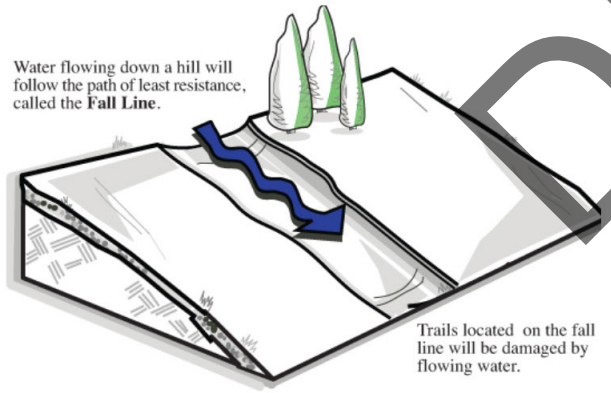
Rolling Contour Trail – The Ideal



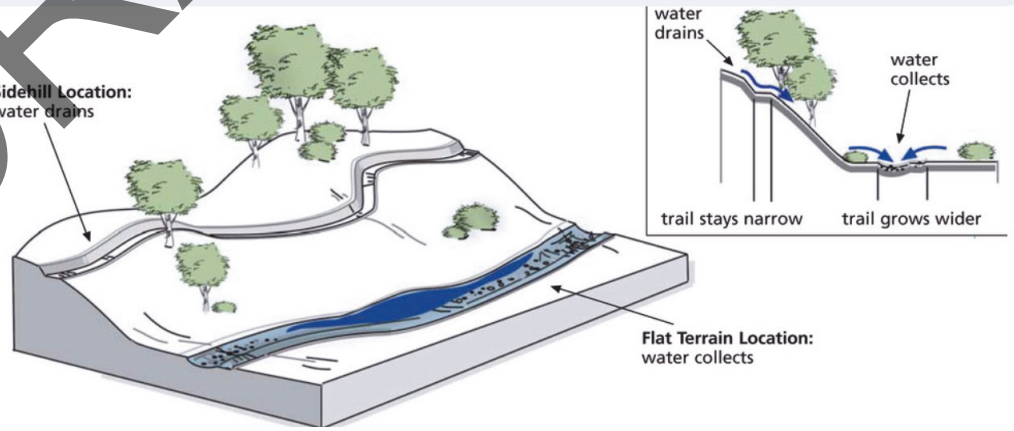
The Effect of Proper Trail Design



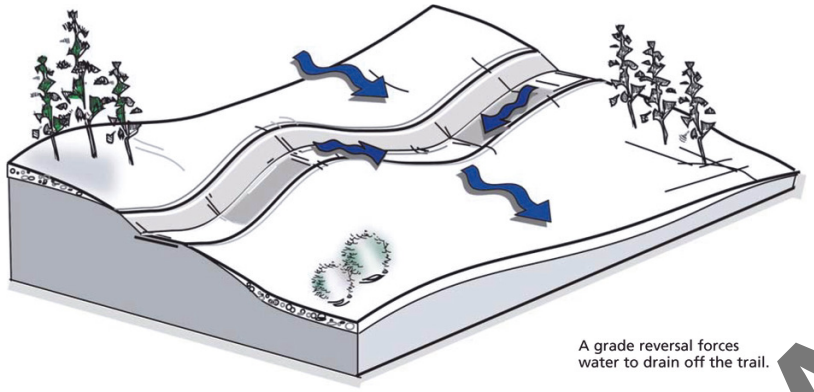
Fall Line Trail Defined



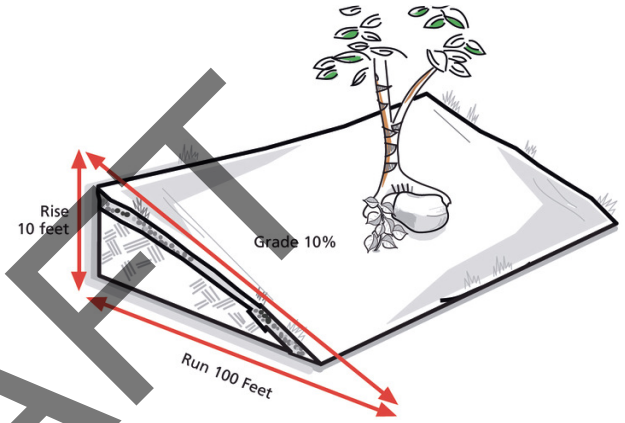
Trail Location: Sidehill Trails Are Best



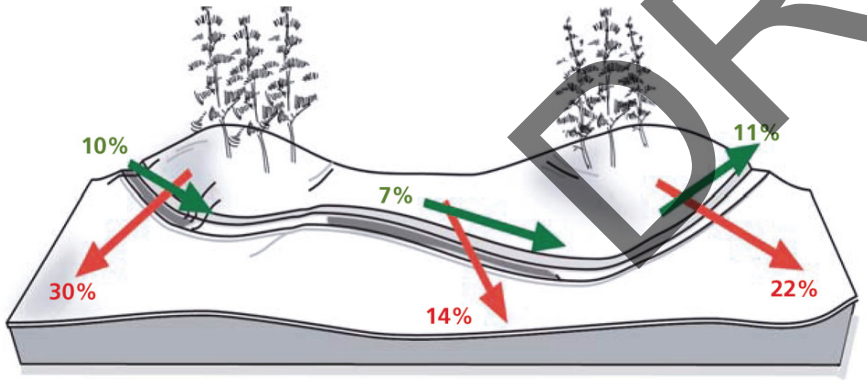
Grade Reversals



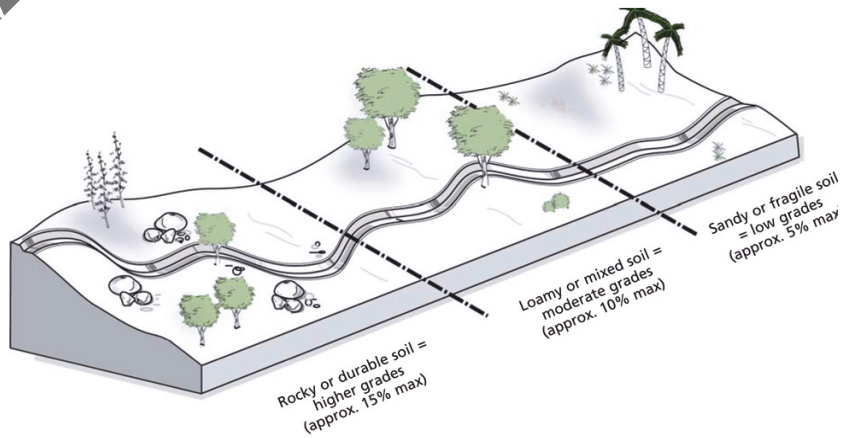
Determining Grade (Rise / Run x 100 = %)

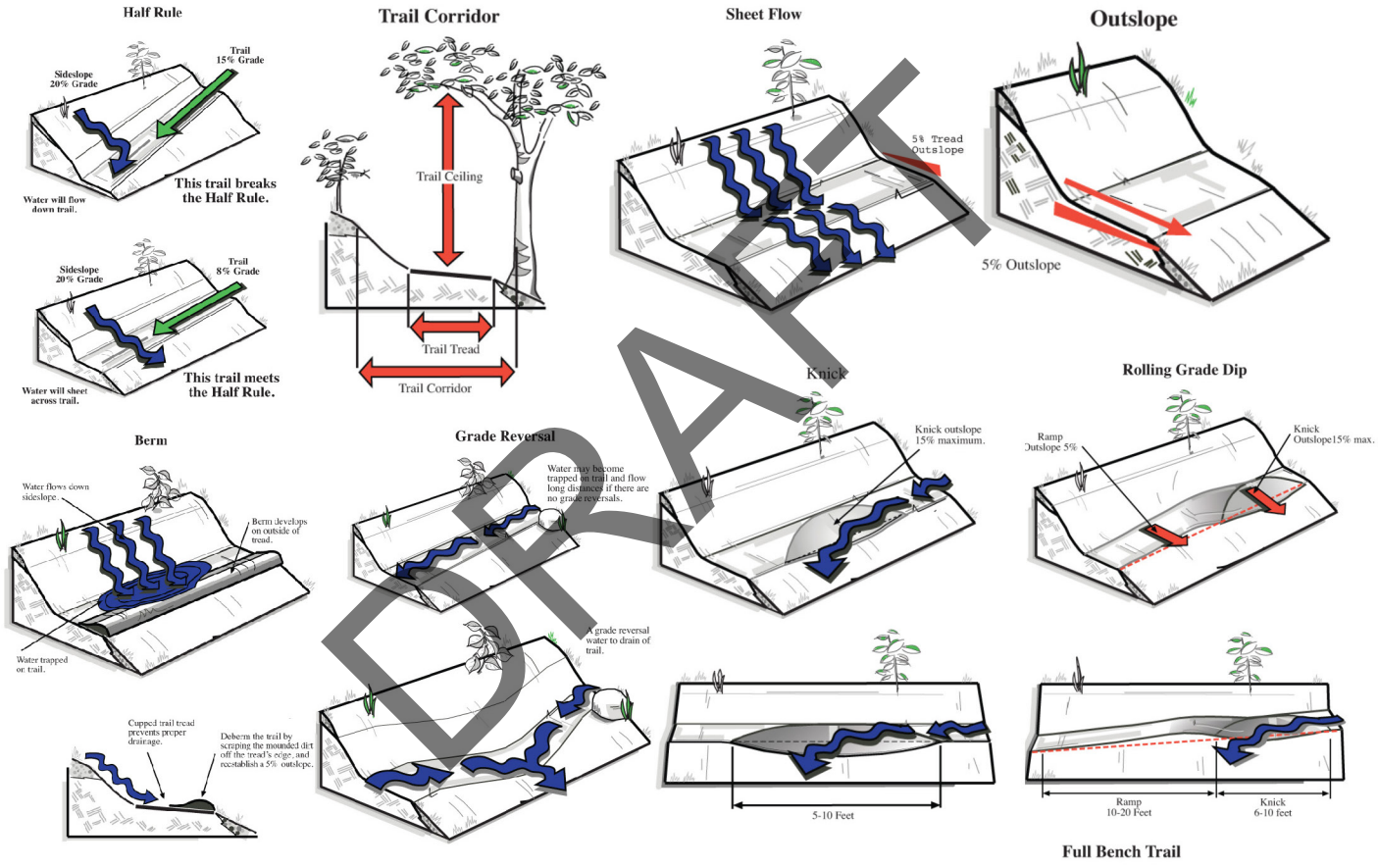


The Half Rule – Trail Grade < ½ Sideslope Grade

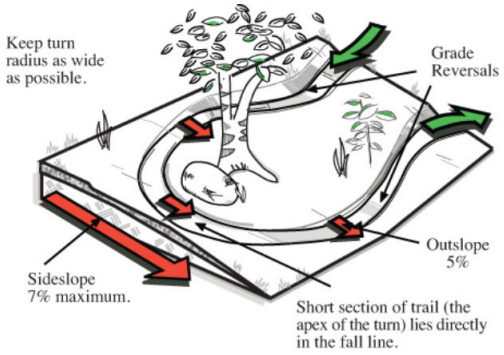


Maximum Sustainable Grade, 15% Dependent

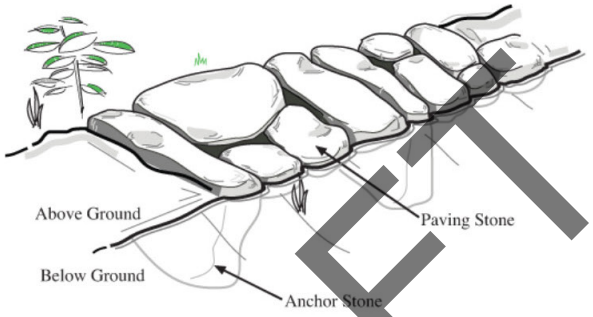



Half Rule
Sideslope 20% Grade
Trail 15% Grade
This trail breaks the Half Rule.
Water will flow down trail.
Sideslope 20% Grade
Trail 8% Grade
This trail meets the Half Rule.
Water will sheet across trail.
Trail Corridor
Trail Ceiling
Trail Tread
Trail Corridor
Sheet Flow
5% Tread Outslope
Outslope
5% Outslope
Knick
Knick outslope 15% maximum.
Rolling Grade Dip
Ramp Outslope 5%
Knick Outslope15% max.
Berm
Water flows down sideslope.
Berm develops on outside of tread.
Water trapped on trail.
Capped trail tread prevents proper drainage.
Deberm the trail by scraping the mounded dirt off the tread's edge, and reestablish a 5% outslope.
Grade Reversal
Water may become trapped on trail and flow long distances if there are no grade reversals.
A grade reversal water to drain of trail.
5-10 Feet
Ramp 10-20 Feet
Knick 6-10 feet
Full Bench Trail

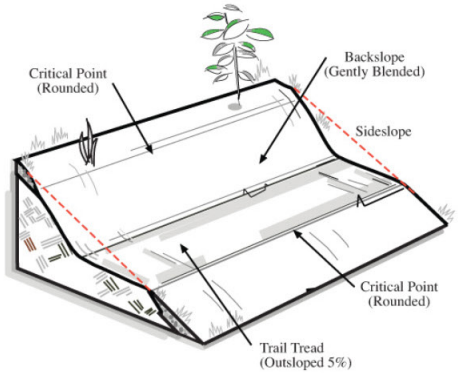
Climbing Turn



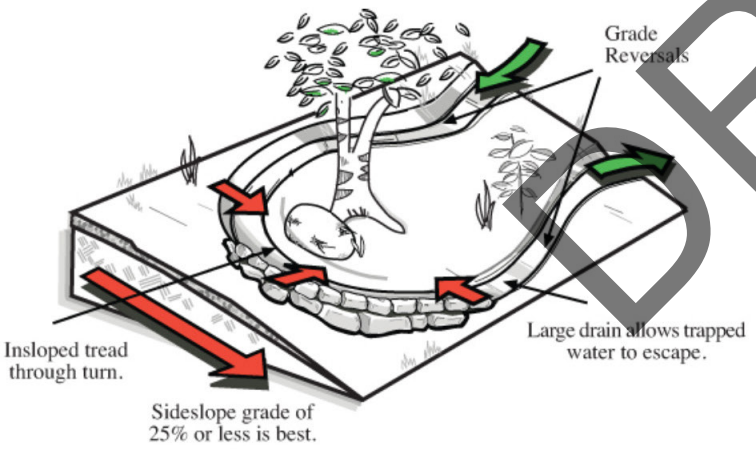
Flagstone Paving

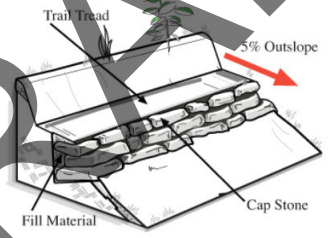


Full Bench Trail

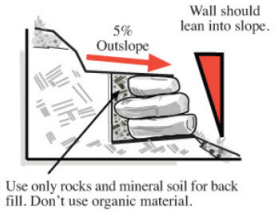


Raised Turn

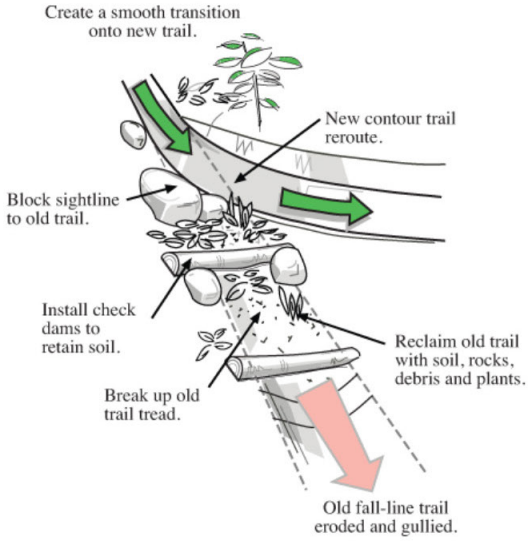


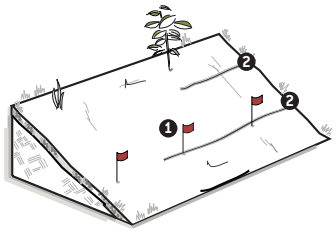


Rock Crib/Retaining Wall



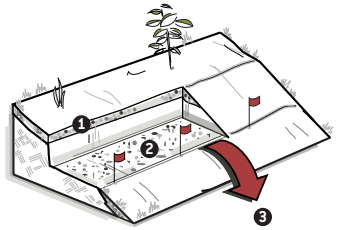
Trail Closure and Reclamation





Before

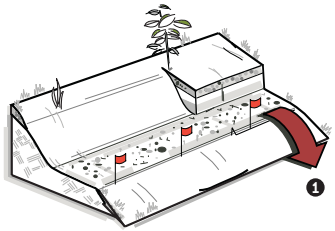
1. Pin flag
2. Scratched line to show tread width



Step 1

DIG THE TREAD

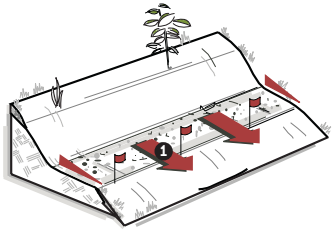
1. Organic soil
2. Mineral soil
3. Broadcast all debris



Step 2

CUT THE BLACKSLOPE

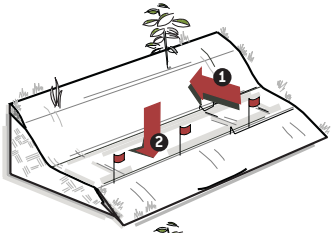
1. Broadcast all debris



Step 3

OUTSLOPE THE TRAIL TREAD

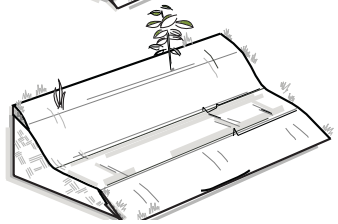
1. Sculpt a 5% outslope.



Step 4

COMPACT THE TREAD

1. Compact backslope and critical points
2. Compact tread



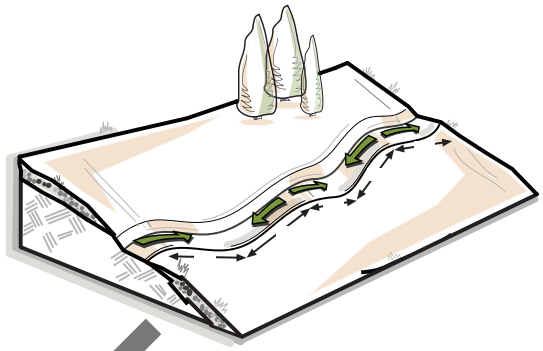
Step 5

FINISH THE TREAD

Disperse spoil material and cover with natural materials.

WHAT WOULD WE DO WITHOUT TRAILS?

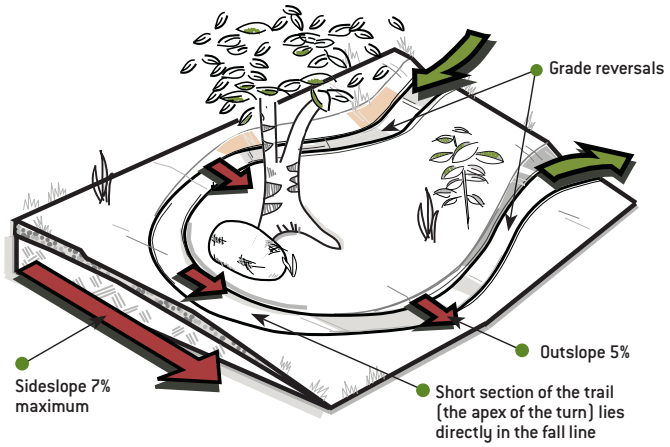
Quick Reference Guide



Rolling singletrack is sustainable and fun to ride

Four Essential Elements of Sustainable Trails

1. **The Half Rule:** A trail's grade shouldn't exceed half the grade of the hillside or slopeside that the trail traverses.
2. **Maximum Sustainable Grade:** Usually between 5% and 15%. Find a trail in your area that has lasted well under frequent use to determine your area's specific needs.
3. **Grade Reversals:** A short (10-50 feet) section of trail where the grade dips down, then rises, allowing water to shed off the side of the trail.
4. **Outslope:** The trail tread should tilt slightly down and away from the high side of the trail, encouraging water to sheet across and off the trail.

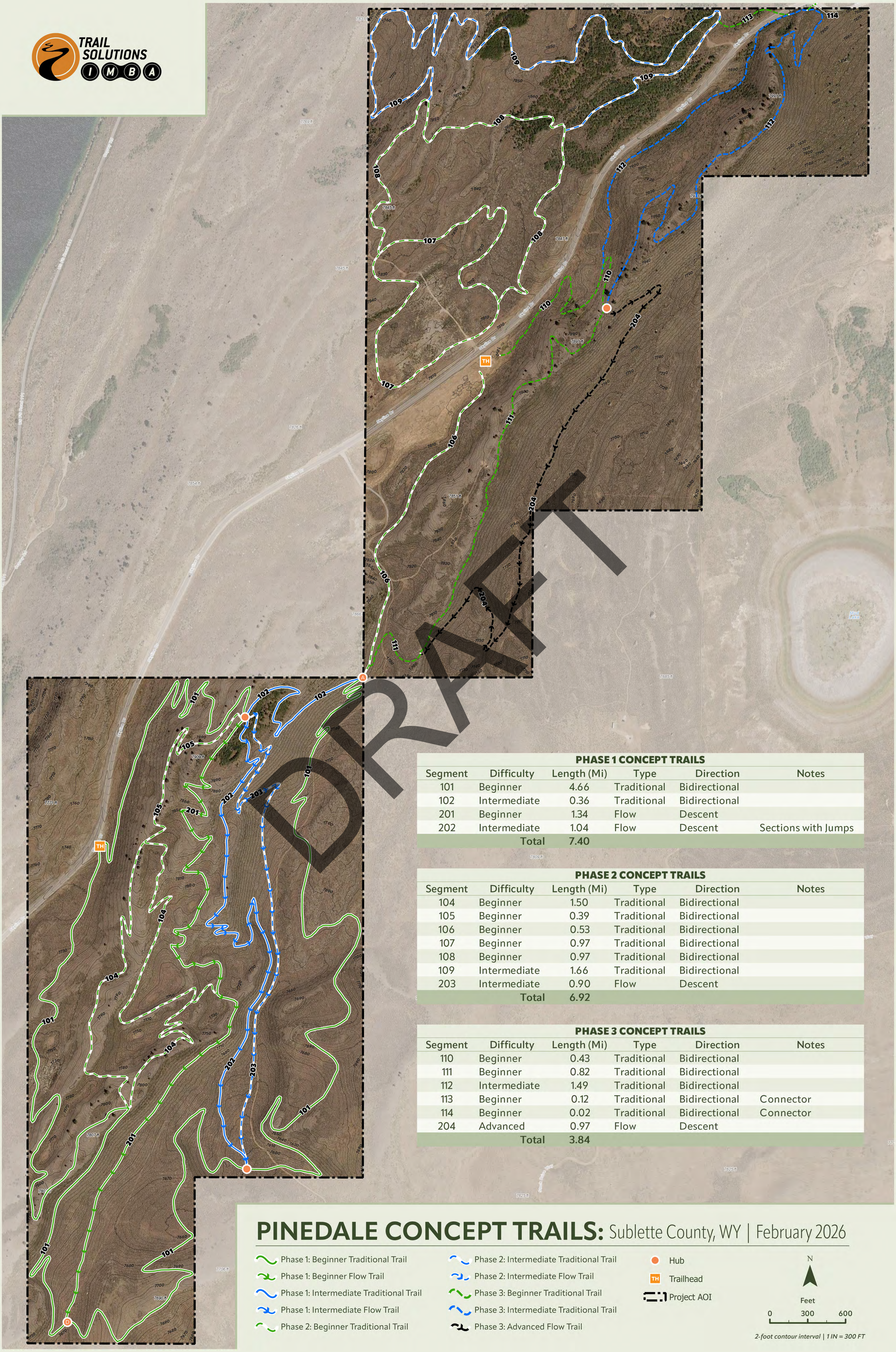


IMBA.com

WHAT WOULD WE DO WITHOUT TRAILS?

Quick Reference Guide

TRAIL SOLUTIONS IMBA



DRAFT

PHASE 1 CONCEPT TRAILS

Segment	Difficulty	Length (Mi)	Type	Direction	Notes
101	Beginner	4.66	Traditional	Bidirectional	
102	Intermediate	0.36	Traditional	Bidirectional	
201	Beginner	1.34	Flow	Descent	
202	Intermediate	1.04	Flow	Descent	Sections with Jumps
	Total	7.40			

PHASE 2 CONCEPT TRAILS

Segment	Difficulty	Length (Mi)	Type	Direction	Notes
104	Beginner	1.50	Traditional	Bidirectional	
105	Beginner	0.39	Traditional	Bidirectional	
106	Beginner	0.53	Traditional	Bidirectional	
107	Beginner	0.97	Traditional	Bidirectional	
108	Beginner	0.97	Traditional	Bidirectional	
109	Intermediate	1.66	Traditional	Bidirectional	
203	Intermediate	0.90	Flow	Descent	
	Total	6.92			

PHASE 3 CONCEPT TRAILS

Segment	Difficulty	Length (Mi)	Type	Direction	Notes
110	Beginner	0.43	Traditional	Bidirectional	
111	Beginner	0.82	Traditional	Bidirectional	
112	Intermediate	1.49	Traditional	Bidirectional	
113	Beginner	0.12	Traditional	Bidirectional	Connector
114	Beginner	0.02	Traditional	Bidirectional	Connector
204	Advanced	0.97	Flow	Descent	
	Total	3.84			

PINEDALE CONCEPT TRAILS: Sublette County, WY | February 2026

- Phase 1: Beginner Traditional Trail
- Phase 1: Beginner Flow Trail
- Phase 1: Intermediate Traditional Trail
- Phase 1: Intermediate Flow Trail
- Phase 2: Beginner Traditional Trail
- Phase 2: Intermediate Traditional Trail
- Phase 2: Intermediate Flow Trail
- Phase 3: Beginner Traditional Trail
- Phase 3: Intermediate Traditional Trail
- Phase 3: Advanced Flow Trail
- Hub
- TH Trailhead
- Project AOI

N

Feet

0 300 600

2-foot contour interval | 1 IN = 300 FT