



Arapahoe Basin Ski Area
Master Development Plan

20
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Arapahoe Basin Master Development Plan

ACCEPTED BY: _____

Scott Fitzwilliams
Forest Supervisor
White River National Forest

DATE: _____

Prepared By:



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Introduction



Arapahoe Basin Ski Area is situated in one of the most dramatic settings in not just Colorado, but the United States' ski industry. The striking topography and rustic motif combine to create an intimate atmosphere distinctive among western skiing. In recognition of this unique character, A-Basin has developed a vision which characterizes the services provided and speaks to the nature of their core clientele: "Where the spirit of freedom and big mountain challenges create life altering experiences." Each and every decision that A-Basin management makes is focused on preserving and improving "the A-Basin experience."

The ski area is located entirely on National Forest Service lands. Each mountain resort in the United States on National Forest System (NFS) lands must obtain a United States Forest Service (USFS) Special Use Permit (SUP) to operate on public lands. Forest Service SUPs require the preparation of a Master Development Plan (MDP) that identifies the existing and desired conditions for the resort, as well as proposed improvements on NFS lands within the SUP boundary.

This MDP fulfills this requirement and provides future direction for the development and improvement of A-Basin—ensuring both a balance of facilities and a wide variety of amenities affording an exceptional recreational experience in a manner which is sustainable to the business, operations, and the surrounding environment. This MDP provides a thorough assessment of existing operations and facilities and identifies a comprehensive plan for future improvements to the resort.

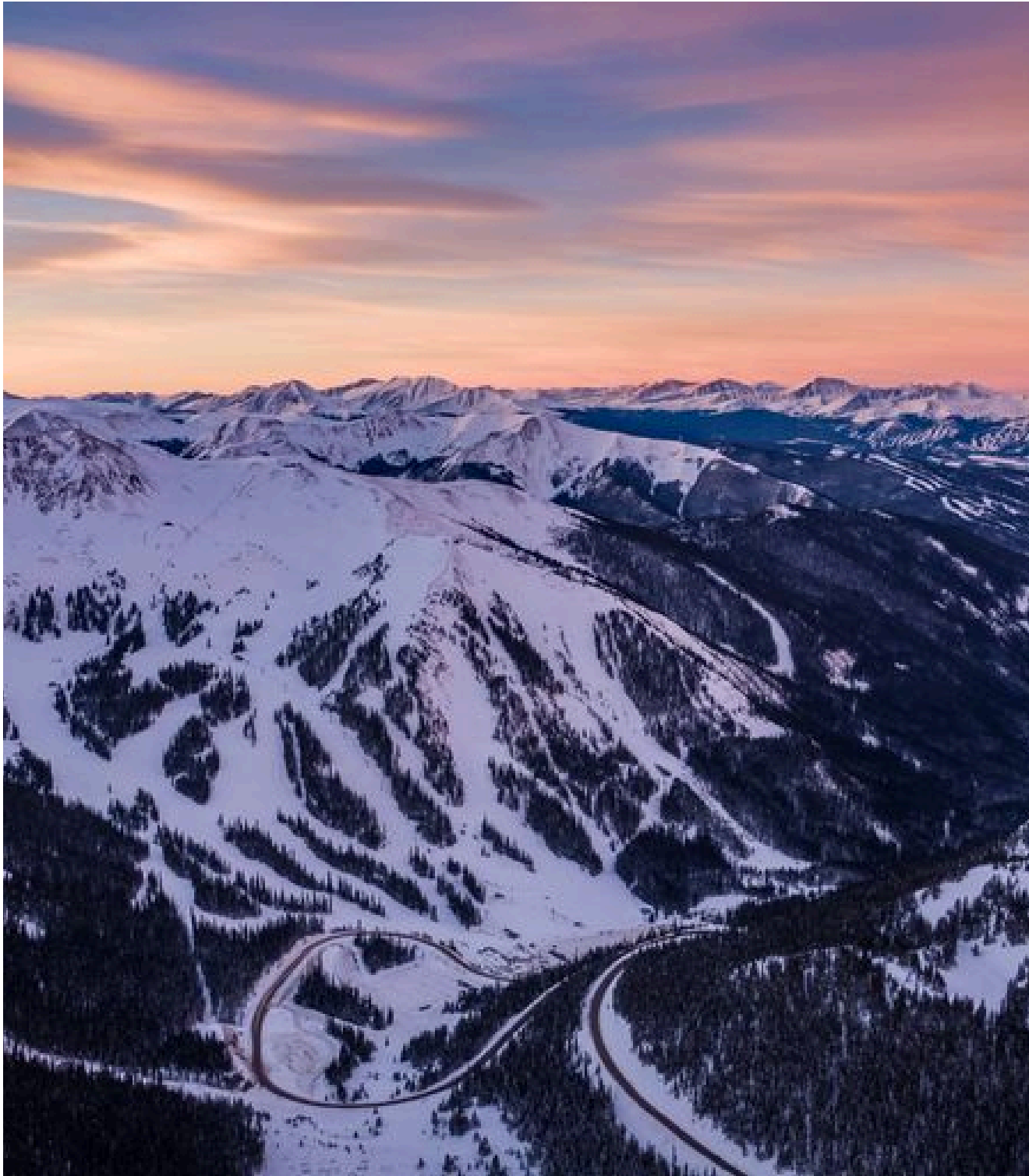
Forest Service acceptance of this document as a planning tool for A-Basin does not imply authorization to proceed with implementation of any of the projects that are identified herein. All projects identified within this MDP will require site-specific environmental analysis and approval per the National Environmental Policy Act of 1970 (NEPA) before they can be implemented. This MDP is intended to be a dynamic document, which may be amended periodically to reflect innovations in facilities and recreation.

Planning + Design Nomenclature

Throughout this document, text highlights (like this one) have been included to explain the various planning and design concepts that are utilized throughout the MDP process. Further descriptions and explanation of these concepts may be found in the appendices.

The MDP is divided into five chapters and includes two appendices:

- Chapter 1—Introduction: provides an overview of the plan, summary of Arapahoe Basin’s history and character, statement of the plan vision and goals, and an overall summary of the MDP.
- Chapter 2—Design Criteria & Forest Service Policy and Direction: provides the mountain planning design criteria used in this MDP and details Forest Service policy and direction.
- Chapter 3—Existing Conditions: describes existing resort facilities and evaluates the current balance of resort operations, facilities, and infrastructure. This includes lifts, terrain, guest services, food service seating, and parking.
- Chapter 4—Previously Approved, Not Yet Implemented Projects: inventories projects that have been previously approved through a NEPA process but have yet to be constructed.
- Chapter 5—Upgrade Plan: describes the proposed upgrades to resort facilities and infrastructure.
- Appendix A—Additional Tables: includes terrain and space use specifications for existing conditions and the upgrade plan.
- Appendix B—Summer Zones includes detail on the summer zones concept and the identified environments of each zone and allowable activities.



A. RESORT BACKGROUND

1. LOCATION

A-Basin is located on the White River National Forest, 15 miles east of Dillon, Colorado (Figure 1). The ski area is accessed by US Highway 6, which runs through the base area. A-Basin is approximately one and a half to two hours driving time from Denver and the Front Range metropolitan area via Interstate 70 and Highway 6, either over Loveland Pass or through the Eisenhower Tunnel.

A-Basin lies within the southern Rocky Mountains, which is traditionally the territory of the Tsésthó'e (Cheyenne) now organized under the Northern Cheyenne Tribe and the Cheyenne and Arapaho Tribe, and Núu-agma-távva-pǔ (Ute) peoples, now organized under the Tribal Business Committee of the Uintah and Ouray Tribal Reservation and Southern Ute Tribal Council. The Cheyenne people are now organized under the Northern Cheyenne Tribe and the Cheyenne and Arapaho Tribes. The resort is located on federally managed public land. A-Basin's SUP constitutes 1,821 acres and was re-issued in 2024.

2. HISTORY

Arapahoe Basin Ski Area began in 1946 by Larry Jump and Sandy Schauffler after World War II. As former ski racers and WWII veterans, the pair saw an opportunity at Arapahoe Basin to bring the adventurous skiing they loved in the Alps to the Rocky Mountains. The resort opened with a single rope tow and \$1.25 lift tickets. In its early days, the resort was known for being a bit rowdy and scrappy. Operating on a shoestring budget, the founders did every job at the resort from parking cars to cleaning bathrooms to grooming runs.

In 1953, the resort's first Poma lift was installed, the steepest Poma lift in the world at the time. Larry Jump was also a sales representative for Poma, selling lifts to new resorts all over the United States and receiving a steep discount for lifts at A-Basin. As skiing grew in popularity around the country, Arapahoe Basin also grew, drawing crowds for the same reasons that skiers flock there today: a long season, affordable lift tickets, and steep terrain.

Throughout the 1960's and 70's, the resort changed hands twice, leaving A-Basin in need of major upgrades to comply with stricter safety regulations. Ralston Purina, owner of Keystone Mountain, purchased the resort to be a more advanced sibling to the less advanced neighboring resort, Keystone. Pallavicini was installed, providing access to steep terrain otherwise inaccessible without a hike. The resort became the backdrop to various ski racing, mogul, freestyle, and big-mountain skiing events, always keeping its playful undertones with events like annual swimwear parties.

In the 90's Ralston's ski areas merged with Vail resorts, but A-Basin was sold to Dundee Resort Development of Canada (now known as DREAM) after about a year. The 2006 *Arapahoe Basin Ski Area Master Development Plan Amendment* (MDPA) was analyzed and approved by the White River National Forest in an Environmental Impact Statement and Record of Decision. The MDPA defines an upgrading program for the ski area that includes upgrading existing lifts, adding a lift and new terrain in Montezuma Bowl, and upgrading and expanding skier support facilities (day lodge space, parking, utilities, a restaurant at midway, new rental shop, etc.). The 2013 Master Development Plan built upon the improvements made after the 2006 MDP. After thorough environmental analysis, A-Basin added the Steep Gullies and Beavers areas to their developed terrain network and upgraded lift infrastructure.

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Since 2013, A-Basin has sought to pursue thoughtful development while preserving “the A-Basin experience.” To limit crowding and reduce skier density, the resort began to limit ticket and season pass sales to improve the guest experience. In 2020, A-Basin saw a reduction in crowds due to the global Covid-19 pandemic and these efforts, as well as their first year of all-season operations. Guests now enjoy an aerial adventure park, hiking and biking trails, disc golf, special events, and the continent’s highest-elevation via ferrata after the snow melts.

In the fall of 2024, Alterra Mountain Company bought A-Basin from Dundee Resort Development, LLC., transferring the SUP permit and operations of the ski area. Going forward, Alterra intends to keep the legacy of “The Legend” alive and build upon its existing infrastructure and enrich the guest experience, while maintaining its reputation of challenging terrain with a laid-back essence.

3. RESORT SUMMARY

Owned and operated by Alterra Mountain Company, A-Basin is exclusively a day-use resort, with no overnight accommodations, although many visitors are destination guests staying in nearby accommodations. The majority of visits occur on weekends and during holiday periods. A-Basin currently has six aerial lifts, two carpet conveyors, one surface lift, and 147 lift-served alpine trails throughout 1,428 skiable acres. When weather and snow conditions permit, there is an additional 480 acres of hike-to/hike-back terrain. Support facilities include a primary day lodge, rental shop, mid-mountain lodge, maintenance building, five parking areas, and an on-mountain patrol headquarters with a warming hut area and restrooms. There is no night skiing at the resort, and snowmaking coverage is estimated at approximately 74 acres of terrain.

B. PLANNING AND ENVIRONMENTAL DOCUMENTATION

The following list of major planning, environmental, and approval documents are the guiding documents for A-Basin. This MDP builds upon these previous documents.

1997 MASTER DEVELOPMENT PLAN

The 1997 Master Development Plan was submitted to the White River National Forest to guide future planning at A-Basin in accordance with the terms of their SUP.

1999 MASTER DEVELOPMENT PLAN FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

The Record of Decision approved snowmaking, upgraded facilities, utilities and lifts. Many of these upgrades have been implemented, such as the first phase of snowmaking, utility installation, expansion of Patrol Headquarters, reconfiguring Molly Hogan and adding a conveyor lift.

2001 LENAWEE CHAIRLIFT REALIGNMENT ENVIRONMENTAL ASSESSMENT AND DECISION NOTICE/FINDING OF NO SIGNIFICANT IMPACT

The 2001 Decision Notice approved the installation of an upgraded Lenawee lift with a modified alignment. This project has been implemented.

2002 WHITE RIVER LAND AND RESOURCE MANAGEMENT PLAN (FOREST PLAN) FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

The Record of Decision for the 2002 White River Land and Resource Management Plan, Final Impact Statement approved Alternative K. It was noted that the Selected Alternative provides a wide variety of recreation opportunities while promoting ecosystem health. As a result of the selection of Alternative K, A-Basin SUP boundary was modified (i.e., expanded) to include Montezuma Bowl and the Beavers area (Figure 4).

2006 MASTER DEVELOPMENT PLAN AMENDMENT

The 2006 MDPA was accepted by the White River National Forest in April 2006.

2006 IMPROVEMENT PLAN FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

The Record of Decision approved the Exhibition chairlift replacement (now known as the Black Mountain Express), Zuma chairlift installation, the addition of the Montezuma Bowl terrain, and reconfiguration of the Last Chance and Overflow parking lots. All of these proposed upgrades have been implemented.

2013 MASTER DEVELOPMENT PLAN

The 2013 Master Development Plan was submitted to the White River National Forest to build upon previous planning at A-Basin in accordance with the terms of their SUP.

2016 MASTER DEVELOPMENT PLAN ADDENDUM

This addendum to the 2016 MDP established summer zoning for future summer activities at A-Basin.

2016 ARAPAHOE BASIN SKI AREA PROJECTS FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

The Record of Decision approved projects from the 2013 MDP, including the addition of 338 acres of skiing terrain in the Beavers, the expansion of A-Basin's operational boundary by 492 acres, the construction of a new chairlift to access the terrain, a new surface lift to access Montezuma Bowl, replacement of the Molly Hogan and Pallavicini chairlifts, removal of the Norway chairlift, assorted grading projects to enhance circulation, and the construction of an aerial adventure course. All of these proposed upgrades have been implemented.

C. PLAN VISION AND GOALS

A-Basin provides a distinctly different skiing/riding experience, especially as compared to other large ski areas in Summit County. A-Basin guests expect, and receive, an intimate and diverse skiing experience that is unique in the ski industry and cannot be found at other nearby resorts. The comfortable, unpretentious atmosphere and friendly staff at A-Basin contribute to this intimate feel.

In addition to the markedly different atmosphere at A-Basin, the ski area's uniquely challenging terrain has been attracting a devoted following of locals, Front Range day skiers, and destination visitors since 1946. A-Basin's high-alpine environment is incredibly diverse, ranging from easy lower mountain cruisers and the wide-open intermediate terrain of the upper mountain and Montezuma Bowl, to the incomparable steeps, trees and bumps of Pallavicini, East Wall, North Glades, and adventurous expert terrain found in the Steep Gullies and Beavers areas. With skiing often from October to June, A-Basin boasts one of the longest ski seasons in North America. Together, these traits have earned A-Basin the title "The Legend" and have inspired a following of die-hard skiers who revere the character, and often extreme conditions, that are unique to A-Basin.

Since the 2012 MDP was accepted, Arapahoe Basin has improved the guest experience with a series of upgrades to winter offerings and kicked off their first full season of summer operations in 2021. In past and future developments at the resort, A-Basin intends to preserve the unpretentious and adventurous culture that keeps skiers returning year after year. In addition to creating a high-quality guest experience, the resort also prioritizes the wellbeing of its employees, calling their employee culture "their most valuable asset." Arapahoe Basin recognizes its interdependence on the surrounding natural environment and is an industry leader in efforts to mitigate climate change. In 2024 A-Basin achieved carbon neutrality through waste diversion, renewable energy, and fuel reduction efforts.

Through the Upgrade Plan presented in Chapter 5, A-Basin seeks to continue to maintain the unique attributes of "The A-Basin Experience" by improving circulation around the mountain and getting skiers where they want to be more efficiently. Considerable thought and attention has been placed on ensuring that the position of planned lifts and facilities will protect, and enhance, the distinctive skiing experience that A-Basin has built its reputation upon. The purpose of the MDP is to establish A-Basin's direction and priorities for the physical improvements, both short and long term, while retaining the current feel and appeal of "The Legend." It is intended that the MDP will identify the type, size, and location of improvements that are appropriate to achieve these goals.

This MDP is designed to build upon and update the data from the previous planning documents, while meeting A-Basin's main objective which is to provide a high-quality recreational experience that is appealing to guests of all ages and ability levels. The plan also respects the natural environment and incorporates key skier/snowboarder preferences. The following opportunities have been identified to help meet this objective:

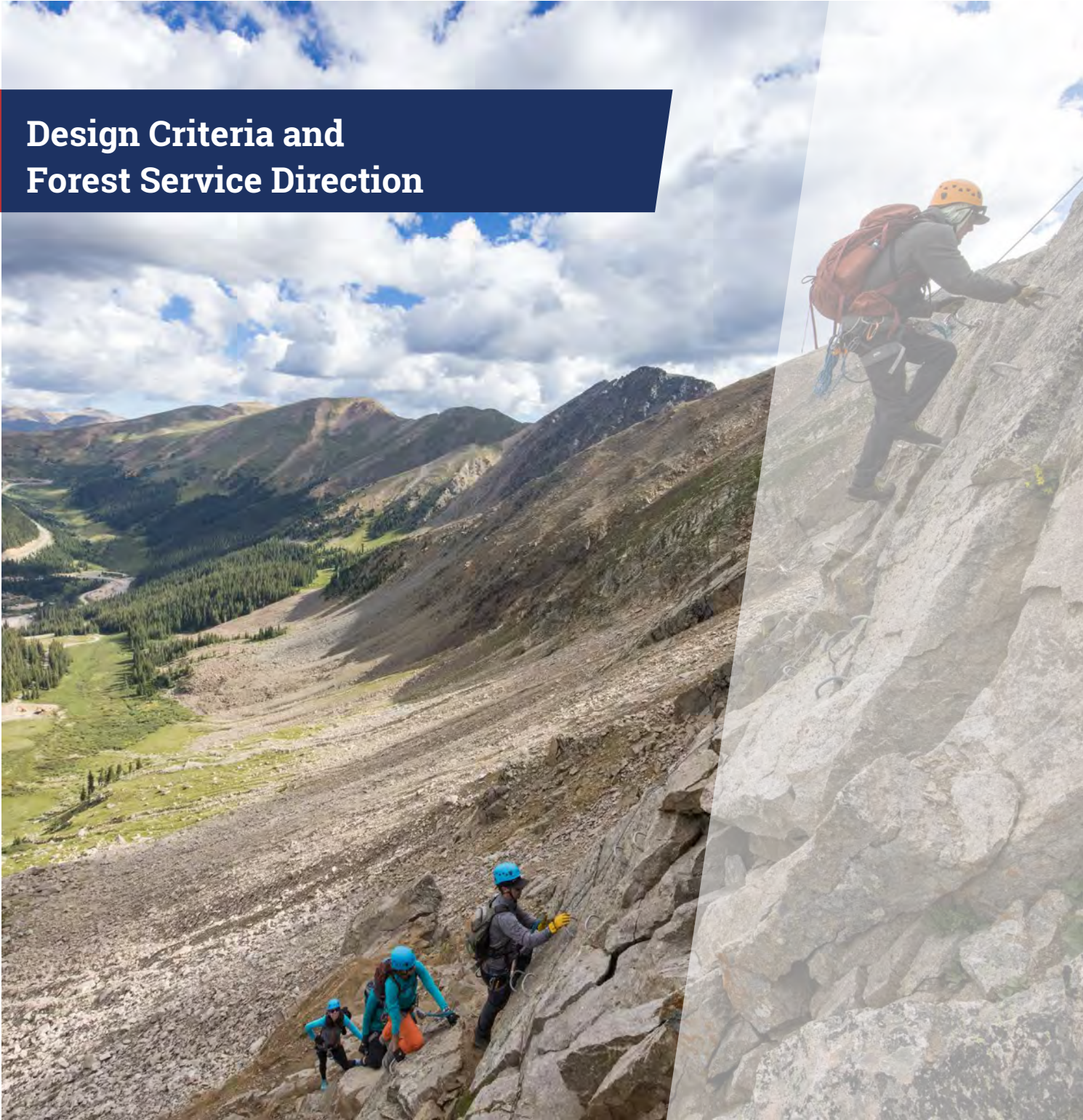
- Create a skier services hub at Sawmill Flats
- Better utilize terrain that can be used for instruction
- Expand and ensure the quality of space for employees
- Enhance circulation out of the base area
- Build upon summer offerings
- Expand parking and improve the arrival experience
- Improve upon the quality of skier services

D. SUMMARY OF THE UPGRADE PLAN

- Pulse Gondola from Upper Last Chance parking to the pedestrian tunnel
- Gondola From the base area to Sawmill Flats
- Parking expansion and improvements
- Redesigned admin lot for guest arrival and public transit
- Snowmaking expansion / improvements
- Sawmill Flats skier services hub
- Lift from Sawmill Flats to upper *Wrangler*
- Learning conveyor at Bob's Bowl
- Remote avalanche mitigation devices
- Hiking and mountain biking trails
- Interpretive learning amphitheater
- Summer RV accommodations
- Maintenance shop expansion
- Pedestrian bridge
- *Miner's Glade* trail improvements
- Summer and winter day-use guest cabins

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Design Criteria and Forest Service Direction



Design criteria is an important concept in resort master planning. Chapter 2 provides an overview of the basic design criteria on which Chapter 3 (Existing Conditions) and Chapter 5 (Upgrade Plan) are based. By design, information presented in Chapter 2 is a general introduction to concepts in resort master planning.

A variety of design criteria, each of which helps to create a quality ski experience, influence the upgrading and expansion of ski areas. At mountain resorts, guests have a variety of expectations—to participate in recreation associated with mountains, to enjoy dining and shopping opportunities, and to enjoy a mix of other vacation experiences in a mountain setting. Thus, a destination resort must offer a variety services, amenities, and experiences that are designed to allow a guest to rejuvenate their spirit. Design parameters that guide the development of everything from the pedestrian-oriented, social environment, to the alpine experience, all contribute to the success of a destination resort.

Along with design guidelines, awareness of consumer preferences is crucial to the overall performance of a resort. Accordingly, detailed market research and user group surveys are effective tools to help guide the development of a successful resort. Resort innovation must be pursued to: (1) attract and retain target customers; (2) satisfy unmet needs; and (3) improve a resort's overall market effectiveness and efficiency.

The following discussion describes several types of mountain resort, and the principal base lands and mountain design criteria that lead to the development of a successful resort.

A. DESTINATION RESORTS

1. REGIONAL DESTINATION RESORTS

Regional destination resorts largely cater to a “drive” market. While day-use guests play a large role, the regional destination resort also appeals to vacationers. At regional destination resorts, lodging typically is a component, but due to the average length of stay, and perhaps guests' vacation budgets, lodging and related services and amenities are usually less extensive than what might be expected at a larger destination resort that attracts national and international visitors. Where the regional destination resort has evolved from within, or adjacent to, an existing community, services are often supplied by proprietors in the existing community. Such is the case at A-Basin and its relationship to the nearby towns of Keystone, Dillon, Silverthorne, and Frisco. The services offered at A-Basin cater directly to guests of the resort, while proprietors within these nearby towns supply services to vacationers, as well as permanent residents and second homeowners.

B. BASE AREA DESIGN

The relationship between planning at a resort's base area and its on-mountain lift and terrain network is critical. This relationship affects the overall function and perception of a resort.

Design of the base lands at a mountain resort involves establishing appropriate sizes and locations for the various elements that make up the development program. The complexion and interrelationship of these elements varies considerably depending on the type of resort and its intended character. In every case, however, the fundamental objectives of base area planning remain the same. A resort should seek to integrate the mountain with the base area (or base areas) to establish an attractive, cohesive, and functional recreational and social experience. This is essential to creating the feeling of a mountain community and can only be achieved by addressing base area components such as (but not limited to): multiple mountain portals, guest service locations, skier/rider circulation, pedestrians, parking/access requirements, and mass-transit drop-offs.

Planners rely on resort layout as one tool to establish resort character. The manner in which resort elements are inter-organized, both inside the resort core and within the landscape setting, along with architectural style, help to create the desired character.

Skier service facilities are located at base area and on-mountain buildings. Base area staging locations, or portals, are "gateway" facilities that have three main functions:

- Receiving arriving guests (from a parked car, a bus, or from adjacent accommodations);
- Distributing the skiers onto the mountain's lift and trail systems; and
- Providing the necessary guest services (e.g., tickets and rentals).

C. MOUNTAIN DESIGN

1. TRAIL DESIGN

a) Slope Gradients and Terrain Breakdown

Terrain ability level designations are based on slope gradients and terrain features associated with the varying ability terrain unique to each mountain. Ability level designations for this analysis are based on the maximum sustained gradient calculated for each trail. Short sections of a trail can be more or less steep without affecting the overall run designation. For example, novice skiers are typically not intimidated by short, steeper pitches of slope, but a sustained steeper pitch may cause the trail to be classified with a higher difficulty rating. The following general gradients are used by SE Group to classify the skier difficulty level of the mountain terrain.

Skier Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25%
Low Intermediate	to 35%
Intermediate	to 45%
Advanced Intermediate	to 55%
Expert	over 55%

Source: SE Group Mountain Planning Guidelines

The distribution of terrain by skier ability level and slope gradient is compared with the market demand for each ability level. It is desirable for the available ski terrain to be capable of accommodating the full range of ability levels reasonably consistent with market demand. The market breakdown for the (region) skier market is shown below illustrating that intermediate skiers comprise the bulk of market demand.

However, A-Basin’s ability breakdown differs from the norm in that it is skewed to the advanced end of the spectrum. Information gained through guest surveys conducted by RRC Associates, Inc. (a planning and research firm), along with information provided by A-Basin, determined the ability breakdown for A-Basin shown below in the table.

Skier Ability	Percent of Skier Market
Beginner	5%
Novice	15%
Low Intermediate	25%
Intermediate	35%
Advanced Intermediate	15%
Expert	5%

Source: SE Group Mountain Planning Guidelines

b) Trail System

The primary goal for A-Basin’s trail system design is to offer a wide variety of ski terrain. Each trail should provide an interesting and challenging experience for skiers within the ability level for which the trail is designed. Optimum trail widths vary depending upon topographic conditions and the caliber of the skier being served. The trail network should provide the full range of ability levels consistent with their market demand.

In terms of a resort's ability to retain guests at that resort, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be variation in terrain. This means having developed runs of all ability levels—some groomed on a regular basis and some not, bowl skiing, tree skiing, backcountry style skiing, and terrain parks and pipes.

In summary, a broad range of skiing terrain satisfies skiers from beginner through expert ability levels within the natural topographic characteristics of the ski area.

2. TERRAIN PARKS

Terrain parks, areas dedicated to the development and maintenance of a collection of alternative terrain features, have become an important part of most mountain resorts' operations. The presence of terrain parks at mountain resorts has changed various operational and design elements. The demand for grooming can increase, as terrain parks often require specialized or dedicated operators, grooming machines, and equipment (such as half-pipe cutting tools). Terrain parks typically require significant quantities of snow, either natural or man-made, often increasing snowmaking demand. Terrain parks can affect circulation on the mountain, as the parks are often points of destination.

3. LIFT DESIGN

The goal for lift design is to serve the available terrain in an efficient manner, i.e., having the minimum number of lifts possible while fully accessing the terrain and providing sufficient uphill supply to balance with the available downhill terrain availability. In addition, the lift design has to take into consideration such factors as: wind, round-trip utilization of a terrain pod, access needs, inter-connectability between other lift pods, the need for circulation space at the lower and upper terminal sites, and the presence of natural resources (e.g., visual impacts, wetlands, and riparian areas). The vertical rise, length and ride time of lifts across a mountain are important measures of overall attractiveness and marketability of any resort.

4. ON-MOUNTAIN GUEST SERVICES

On-mountain guest service facilities are generally used to provide food service (cafeteria-style or table service), restrooms, and limited retail, as well as ski patrol and first aid services, in closer proximity to upper-mountain terrain. This eliminates the need for skiers and riders to descend to the base area for similar amenities. It has also become common for resorts to offer ski/board demo locations on-mountain, so skiers and riders can conveniently test different equipment throughout the day.

D. DESIGN DAY ANALYSIS

The term design day refers to a day characterized by specific conditions used for planning purposes. In ski area planning, a design day represents a typical busy winter weekend day. It serves as a planning parameter to guide the balanced sizing of a ski resort's primary facilities, such as ski lifts, ski terrain, guest services, restaurant seating, building space, utilities, and parking. The design day reflects a level of facility utilization that ensures a pleasant recreational experience without overburdening the resort infrastructure. It does not represent the resort's maximum visitation capacity but rather the number of visitors that can be comfortably accommodated when all functions and facilities are operating smoothly.

The accurate estimation of a mountain resort's design day is a complex process and an important planning criterion for the resort that takes into account a number of interrelated functions of the resort ecosystem. A resort design day is initially projected based on the carrying capabilities of the resort's lift network, which is calculated by dividing vertical supply (VTF/day) by vertical demand. In many cases, the projected design day will be adjusted to account for limitations of other resort facilities including base lodge seating, mountain restaurant requirements, restrooms, parking and access, and other guest services.

It is important to note that resorts may experience peak days when visitation exceeds the design day by 25% or more. However, consistently exceeding the design day is not recommended, as it can degrade the quality of the recreational experience and negatively impact the resort's market appeal.

The design day also assumes that all resort facilities are operating at full capacity, meaning that all lifts are running at full speed, all skiing terrain is open, and all facilities are staffed and fully functional. However, real-world operations are often affected by factors such as weather, staffing challenges, and competitive market conditions, which can impact the functional capacity of the resort.

The design day is a planning parameter, not a measure of operational scenarios or functional capacity. It should not be used to set visitation limits or guide regulatory decisions. Calculations related to the design day are intended solely for resort planning purposes, and the use of design day for other purposes would be taking design day visitation out of context.

E. BALANCE OF FACILITIES

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various guest service functions are designed to match the design day of the mountain. The future development of a resort should be designed and coordinated to maintain a balance between accommodating guest needs, capabilities of resort functions (lifts, trails, and other amenities such as tubing), and the supporting equipment and facilities (e.g., grooming machines, day lodge services and facilities, utility infrastructure, access, and parking). Note that it is also important to ensure that the resort's design day balances with these other components, facilities, and services at the resort.

F. INVENTORY OF PHYSICAL RESOURCES

1. TOPOGRAPHY

The base lodge and parking lots are located at an approximate elevation of 10,800 feet. Lift-serviced terrain on the mountain extends to 12,470 feet above sea level. Most of the terrain at A-Basin is located in a north facing high alpine bowl with the remaining terrain in the Pallavicini Area and Montezuma Bowl. The steepest slopes on the mountain are found on the Upper East Wall, the upper slopes of Montezuma Bowl, and the Steep Gullies. A ridge separates the main “frontside” bowl (Old A-Basin) from Montezuma Bowl to the south and another ridge is in between the main “frontside” bowl and the steep Pallavicini Area to the west.

The large area known as “The Beavers” is located further west of the Pallavicini Area consists of an upper bowl (Beavers Bowl) with intermediate and advanced slopes that lead into steeper advanced and expert terrain below in the Steep Gullies.

A-Basin has a higher percentage of steeper terrain than most ski areas in Colorado. The skiers that it attracts tend, on average, to be of a higher ability level.

2. SLOPE GRADIENTS

The Slope Analysis for A-Basin is shown in Figure 2. The full range of skiable gradients is general in nature and have been color coded for use as a planning tool. The general range of slope gradients used for planning purposes in the resort’s analysis are described below.¹

- **Easier** – Slopes where the terrain gradient is less than 25%
- **More Difficult** – Slopes where the terrain gradient is greater than 25% and less than 45%
- **Most Difficult** – Those slopes where the terrain gradient is greater than 45% and less than 70%
- **Extreme** – Slopes where the terrain gradient is greater than 70%

Note that there is a significant difference between the ski run ability level ranking approach used in this document and that used by ski areas or regulatory documents such as the Colorado Ski Safety Act. The established approach used at all resorts in the country is to make the ranking be relative to that resort – i.e. the easiest runs at that resort are signed as green circles and the most difficult are signed as black diamonds, the intermediate runs being blue squares. SE Group uses a different approach in this document (and in all other Master Plan documents produced by this company). This approach is aimed at comparing the terrain available at a given resort to the overall skier market, to determine if there are opportunities to appeal to a broader range of skiers. SE Group also uses six categories of ability level, as opposed to the standard three used by mountain resorts. Using various criteria, including maximum sustained gradient, run width, sightlines, and others, SE Group makes an internal determination of which ability level each run falls into. Terrain designations in this document are intended to be used for the purpose of planning and analysis of the ski area rather than regulatory purposes.

¹ Detailed trail gradient and skier ability level breakdowns, as described in Chapter 2, are used for the terrain distribution and terrain analysis outlined in Chapters 3 and 5.

3. ASPECT

Slope aspect plays an important role in snow quality and retention. The variety of exposures presents opportunities to provide a range of slope aspects that can respond to the changes in sun angle, temperature, wind direction, and shadows. Typical constraints in relation to the various angles of exposure are discussed below:

- **North-facing:** ideal for snow retention, minimal wind scour, minimal sun exposure
- **Northeast-facing:** ideal for snow retention, minimal wind scour, minimal sun exposure
- **East-facing:** good for snow retention, some wind scour, morning sun exposure
- **Southeast-facing:** fair for snow retention, moderate wind scour, morning and early afternoon sun exposure
- **South-facing:** at lower elevations, poor for snow retention, moderate wind scour, full sun exposure
- **Southwest-facing:** poor for snow retention, high wind scour, full sun exposure
- **West-facing:** good for snow retention, high wind scour, late morning and afternoon sun exposure
- **Northwest-facing:** good for snow retention, moderate wind scour, some afternoon sun

4. PERMIT BOUNDARY AND OWNERSHIP

A-Basin operates on 1,821 acres of land under a 40-Year SUP issued by the WRNF. The 2002 Forest Plan categorizes the A-Basin permit area as part of Management Area 8.25-Ski Areas, Existing and Potential. Figure 3 shows the current SUP boundary. In 2006 the SUP boundary was adjusted to fix a mapping error that did not include A-Basin's upper parking lots. At that time the CDOT facility was also included in the SUP permit area. The new permit, signed in November 2024, now excludes the CDOT facility from A-Basin's SUP boundary. A-Basin owns 59 acres of private land. The resort is located along the eastern edge of Summit County.

5. SOILS AND GEOLOGY

Soils and geology within a ski area may influence the erosion potential of the area, the drainage capabilities, vegetation, and other factors that affect ski area management. A-Basin is situated within the Rocky Mountains. The SUP area, including the frontside, Montezuma Bowl, Beavers, and the Steep Gullies, is primarily characterized by quartz monzonite gneiss. The minerals on the frontside of the resort were largely formed during the Algonkian period, while the quartz monzonite on the backside of the resort was formed during the Tertiary period. The area as a whole has been shaped by landslides and rock glaciers. Several types of soil groups are found within the SUP area, most with very low to low water capacity and variable drainage classes. Surface and subsurface soil erodibility is low within the SUP area. To protect soil resources, there should be proper management of soil drainage, soil stability, and vegetation.²

² USDA Forest Service. 2016. Arapahoe Basin Ski Area Projects Final Environmental Impact Statement. White River National Forest, Glenwood Springs, CO. p. 3-85-3-88

6. HYDROLOGY

Hydrology of a ski area influences the availability of water in the area as well as the movement of snowmelt and groundwater. This can influence a ski area's ability to make snow and wetlands within the SUP area. Arapahoe Basin is near the North Fork Snake River which eventually flows into Dillon Reservoir. The area receives approximately 20 inches of precipitation per year.

7. FISH AND WILDLIFE

Within the White River National Forest, the humpback chub, bonytail chub, Colorado pikeminnow, razorback sucker, greenback cutthroat trout, and Canada lynx are considered federally threatened and endangered. Threatened and endangered fish may reside downstream from the ski area, but would be affected by upstream activities. Lynx monitoring data from the greater surrounding area suggests that lynx may not live within a ski area, but may cross into ski areas especially at night and in the summer. Lynx habitat connectivity is hindered by human development, but their movement has been documented throughout the SUP area. Sensitive species with present or potential habitat within the SUP include the boreal western toad, the white-tailed ptarmigan, western bumblebee, Northern goshawk, American peregrine falcon, boreal owl, olive-sided flycatcher, pygmy shrew, American marten, North American wolverine, and Rocky Mountain bighorn sheep. Management Indicator Species present within the area include elk, American pipit, aquatic macroinvertebrates, and all trout.³

8. VEGETATION

The vegetation at a ski area will also influence the wildlife present in the area as well as quality of the soil. Lower elevations at A-Basin are characterized by subalpine fir and Engelmann spruce forests. Much of Arapahoe Basin is above treeline, where vegetation transitions to alpine tundra at around 12,000 feet of elevation. USFWS threatened and endangered species in the area include alpine fen mustard and Osterhout milkvetch, but their habitats are not found within the SUP area.⁴

³ Ibid, p. 3-63-372

⁴ Ibid, p. 3-52

G. APPLICABLE FOREST SERVICE POLICY DIRECTION

The Forest Service nationally supports the recreational opportunities that private ski areas provide. The Forest Service and National Ski Areas Association work in partnership to achieve common goals of managing and promoting active participation in alpine recreation and sports by all people.

Arapahoe Basin's SUP was issued in 2006, under the National Forest Ski Area Permit Act of 1986, 16 U.S.C. § 497b. The Act authorizes the Forest Service to issue term ski area permits "...for the use and occupancy of suitable lands within the National Forest System for Nordic and alpine skiing operations and purposes."⁵ The Act states that a permit "shall encompass such acreage as the Secretary [of Agriculture] determines sufficient and appropriate to accommodate the permittee's needs for ski operations and appropriate ancillary facilities."⁶

The basis for determining the types of activities and facilities that are appropriate at winter sports resorts that are permitted to operate on Forest Service lands is contained in federal laws and Forest Service policy directives, and the *2002 Land and Resource Management Plan for the White River National Forest* (Forest Plan), as amended. They also provide the Forest Service with authority and direction pertaining to ski area management on Forest Service lands.

Arapahoe Basin and the Forest Service are connected through a committed long-term partnership to provide quality recreational opportunities on Forest Service lands. By satisfying its current and future visitors, A-Basin will remain a healthy and competitive ski resort within its market niche. This, in turn, would help fulfill Forest Service policy, objectives, and direction for ski area management on the WRNF and the vitality of the local economy.

1. LAWS AND POLICY DIRECTIVES

This MDP provides for high-quality recreation on Forest Service lands and contributes to the economic and operational viability of A-Basin and the communities that depend on the resort. This would help the Forest Service achieve the following legal and policy objectives:

- The Multiple-Use Sustained-Yield Act of 1960 mandates that the Forest Service manage Forest Service lands for "outdoor recreation, range, timber, watershed, and wildlife and fish purposes." 16 U.S.C. § 528 (emphasis added).
- The National Forest Management Act (NFMA) requires the Forest Service to develop Forest Plans that provide for multiple uses of forests, including "coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness." 16 U.S.C. § 1604(e)(1) (emphasis added).
- The National Forest Ski Area Permit Act of 1986 specifically endorses developed winter recreation on National Forest System lands and authorizes the Forest Service to issue SUPs like that issued at A-Basin that encompasses "such acreage" as the Forest Service "determines sufficient and appropriate to accommodate the permittee's needs for ski operations and appropriate ancillary facilities." 16 U.S.C. § 497b(b)(3).

⁵ 16 U.S.C. § 497b(b)

⁶ 16 U.S.C. § 497b(b)(3)

- The Service-Wide Memorandum of Understanding between National Ski Areas Association and United States Department of Agriculture, Forest Service, FS Agreement No. 07-SU-11132424-246, recognizes “that ski areas can help meet increased demand for recreational opportunities in a managed setting.” The Forest Service stated its commitment to “evaluate four-season recreation at ski areas to improve economic stability and enhance outdoor recreation opportunities during policy formation, master development planning, and project plans.”
- The 2011 Ski Area Recreational Opportunity Enhancement Act (SAROE A) amended the National Forest Ski Area Permit Act of 1986.⁷ The 2011 SAROE A enables snow sports (other than Nordic and Alpine skiing) to be permitted on Forest Service lands subject to ski area permits issued by the Secretary of Agriculture. In addition, it clarifies the authority of the Secretary of Agriculture to permit appropriate additional seasonal or year-round recreational activities and facilities on Forest Service lands subject to ski area permits issued by the Secretary of Agriculture. More information on SAROE A is provided in Section II.5.

2. 2011 SKI AREA RECREATIONAL OPPORTUNITY ENHANCEMENT ACT

In 2011, SAROE A amended the National Forest Ski Area Permit Act of 1986. The 2011 SAROE A enables snow sports (other than Nordic and alpine skiing) to be permitted on Forest Service lands subject to ski area permits issued by the Secretary of Agriculture. In addition, it clarifies the authority of the Secretary of Agriculture to permit appropriate additional seasonal or year-round recreational activities and facilities on Forest Service lands subject to ski area permits issued by the Secretary of Agriculture. Activities and facilities that may, in appropriate circumstances, be authorized under the Act include but are not limited to, zip lines and ropes courses, mountain biking trails, and Frisbee golf.

In April 2014, the Forest Service provided a Final Directive for Additional Seasonal or Year-Round Recreation Activities at Ski Areas that includes guidance for implementing the 2011 SAROE A. Forest Service Manual (FSM) 2343.14 states that the Forest Service will apply the following screening criteria during review of site-specific proposals prior to the initiation of a NEPA review process. During this master planning stage, projects are conceptual and do not include the level of design that would be required to fulfill all of the screening criteria; instead, site-specific detail is to be provided during the project proposal stage to initiate the NEPA process. The screening criteria included in FSM 2343.14(1) guide the development of projects on Forest Service lands, and the activities and facilities associated with those projects must:

- (1)(a) Not change the primary purpose of the ski area to other than snow sports;
- (1)(b) Encourage outdoor recreation and enjoyment of nature and provide natural resource-based recreation opportunities;
- (1)(c) To the extent practicable, be located within the portions of the ski area that are developed or that will be developed pursuant to the MDP;
- (1)(d) Not exceed the level of development for snow sports and be consistent with the zoning established in the applicable MDP;

⁷ Public Law 112-46-Nov. 7, 2011, 125 Stat. 539

- (1)(e) To the extent practicable, harmonize with the natural environment of the site where they would be located by:
 - (1)(e)(1) Being visually consistent with or subordinate to the ski area's existing facilities, vegetation and landscape; and
 - (1)(e)(2) Not requiring significant modifications to topography to facilitate construction or operations.
- (1)(f) Not compromise snow sports operations or functions; and
- (1)(g) Increase utilization of snow sports facilities and not require extensive new support facilities, such as parking lots, restaurants, and lifts.

Again, the above screening criteria will be applied for the planned activities in this MDP during the NEPA process that would occur with project proposal. At that point, design plans more detailed than those generated within this master planning process would be made available.

FSM 2343.14(8) provides narrower guidance for elements to be included in the master planning process. Specifically, the master planning process should:

- (8)(a) Establish zones to guide placement and design of additional seasonal or year-round recreation facilities, basing the zones on the existing natural setting and level of development to support snow sports;
- (8)(b) Depict the general location of the facilities; and
- (8)(c) Establish an estimated timeframe for their construction.

3. 2002 REVISED WHITE RIVER NATIONAL FOREST NATIONAL FOREST PLAN

A-Basin operations that are conducted on NFS lands within the SUP area must comply with the management directions provided in the 2002 Forest Plan. The 2002 Forest Plan includes 33 separate Management Areas for different portions of the Forest based on ecological conditions, historic development, and anticipated future conditions. A-Basin falls within the 8.25 Management Area, which directs:

*"Facilities may be intensively used throughout the year to satisfy a variety of seasonal recreational demands. Base areas that serve as entrance portals are designed as gateways to public lands. Forested areas are managed as sustainable cover with a variety of species and age classes in patterns typical of the natural landscape character of the area. Protection of scenic values is emphasized through application of basic landscape aesthetics and design principles, integrated with forest management and development objectives."*⁸

The theme of Management Area 8.25 is:

⁸ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs, CO.

“Ski areas are developed and operated by the private sector to provide opportunities for intensively managed outdoor recreation activities during all seasons of the year. This management area also includes areas with potential for future development.”⁹

Beyond the 2002 Forest Plan, the Final EIS that was prepared for it has an entire chapter devoted to analysis of ski areas that are permitted on the Forest. Regarding the role of ski area master development plans, the 2002 Forest Plan Final EIS states:

“New technology and changing skier preferences with regard to terrain and on-mountain services motivate ski areas to adapt and change in order to remain competitive. Because of this, master development plans are dynamic. The Forest Service participates with ski areas in planning changes to meet public needs. Prior to approval for implementation, the master development plan and its component parts are subject to environmental analysis in accordance with the National Environmental Policy Act and other relevant laws and regulations.”¹⁰

The Forest Service is authorized to approve certain uses of NFS lands under the terms of SUPs.¹¹ Generally, SUPs for recreational developments are issued and administered for uses that serve the public, promote public health and safety, and provide land stewardship. In accomplishing these objectives, the SUP held by A-Basin authorizes the following:

“Ski lifts and tows, ski trails, day lodge, restaurants, maintenance and snowmaking facilities, roads, utilities, parking, signs, radio base facilities, explosive cache, and other facilities and improvements needed in the operation and maintenance of a four-season resort.”

The 2002 Forest Plan anticipates that the population growth in Colorado, and along the Front Range in particular, will contribute to an increase in skier visits over the next ten years. The Final EIS that approved the 2002 Forest Plan stated that all of the existing ski areas in Summit County show signs of overcrowding, and that Summit County is likely to be more heavily impacted by future increases in population than any other county on the WRNF. It goes on to state that Summit County would benefit from the allocation of additional terrain to lower skier densities.¹² Alternative K—the Selected Alternative from the Final EIS that approved the 2002 Forest Plan—provided the mechanism for expanding A-Basin’s SUP boundary to include both Montezuma Bowl and the Beavers (both of which were previously included within the SUP boundary but subsequently removed). The 2002 Forest Plan EIS notes that “skiers and

⁹ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-80

¹⁰ USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-437

¹¹ 16 USC 497. 1999. 64 FR 8681-8690. National Forest Ski Area Permit Act of 1986 – as adopted in 1999. February 22.

¹² USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-473

boarders will benefit from increased protection from avalanches if [Montezuma Bowl and the Beavers] are included within the ski area boundary and developed for skiing.”¹³

The 2002 Forest Plan FEIS provides detailed information on “Future Expansion” areas at existing ski areas across Eagle, Garfield, Pitkin, and Summit counties. Related to the A-Basin’s SUP area, and specifically related to planned projects discussed in this MDP, the 2002 Forest Plan FEIS states:

“The Beavers are popular with backcountry skiers and snowboarders who access the site from Arapahoe Basin ski area. Steep north-facing chutes above treeline with numerous rock outcrops characterize the terrain. Most skiers hike or hitchhike uphill to return to their vehicles. Avalanche risk to the public is potentially high. The risk could be partially mitigated if the Beavers site was developed for skiing as part of the ski area”¹⁴

4. RECREATION OPPORTUNITY SPECTRUM

The Recreation Opportunity Spectrum (ROS) is a framework for stratifying and defining classes of outdoor recreation environments, activities, and experience opportunities. The assigned desired ROS condition class is the maximum level of use, impact, development, and management that an area should experience over the life of the Forest Plan. The ROS is not prescriptive; it serves as a tool for land managers to identify and mitigate change. Recreational carrying capacity is a consequence of adopting specific ROS classes for which a landscape will be managed. The WRNF designates ROS categories separately for snow and non-snow seasons. The ROS is a key component of management direction in the Forest Plan.

The ROS of A-Basin’s SUP area and all areas within Management Area 8.25 is *R – Rural*. The Forest Service defines areas governed by the *Rural* ROS as follows:

The natural environment is substantially modified to the point that developments are dominant to the sensitive observer. Structures are readily evident and may range from scattered to small dominant clusters. Pedestrians or other slow-moving observers are constantly within view of culturally changed landscapes. The social setting provides for moderate to high visitor contact.

A-Basin’s development will comply with all regulations applicable to the *Rural* ROS in the WRNF.

5. SCENERY RESOURCES

a) Scenery Management System

Human activities can cause changes to scenic resources that can be objectively measured. By assessing the existing scenic character of an area in terms of pattern elements (form, line, color and texture) and pattern character (dominance, scale diversity and continuity), it is possible to identify the extent to which the scenic character would exhibit scenic contrast with the surrounding landscape, or conversely—scenic compatibility.

¹³ Ibid. p. 3-475

¹⁴ Ibid. p. 3-462

The Forest Service adopted the Scenery Management System (SMS) in 1995 as the Agency's primary scenery management tool. In brief, the SMS is a systematic approach for assessing scenic resources in a project area to help make management decisions.

The acceptable limits of change for a particular area (e.g., Management Area, as defined in the 2002 Forest Plan) are the documented "Scenic Integrity Objectives" (SIO, as defined in the SMS), which serve as management goals for scenic resources. SIOs provide a measure of visible disruption of landscape character, ranging from **Very High** to **Unacceptably Low**. In order of least-to-most altered, SIOs are:

- **Very High** (unaltered)
- **High** (appears unaltered)
- **Moderate** (slightly altered)
- **Low** (moderately altered)
- **Very Low** (heavily altered)
- **Unacceptably Low** (extremely altered)

For reference, *Very High* SIOs are typically found in designated wilderness areas and special interest areas. While there is no standard for SIOs in relation to ski area SUP areas on NFS lands, in most cases, they fall somewhere between *Very Low* and *Moderate*. This is in recognition of the developed nature of ski areas, which tend to operate in highly scenic environments (i.e., assigning an artificially high SIO at a developed ski area would be unachievable, just as assigning an artificially low SIO would not incentivize the ski area to strive to minimize visual impacts).

As indicated in the 2002 Forest Plan, the SIO for the A-Basin SUP area is "Very Low." This SIO befittingly refers to landscapes where the valued landscape character "appears heavily altered." The frame of reference for measuring achievement of SIOs is the valued attributes of the "existing" landscape character "being viewed." The "Very Low" SIO is defined as:¹⁵

Deviations may strongly dominate the valued landscape character. They may borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, changes in vegetation types, or architectural styles outside the landscape being viewed. However, deviations must be shaped by and blend with the natural terrain so that elements such as unnatural edges, roads, landings and structures do not dominate the composition.

However, the Forest Plan states that all National Forest System lands shall be managed to attain the highest possible visual quality commensurate with other appropriate public uses, costs, and benefits.¹⁶

¹⁵ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs. CO.

¹⁶ USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p.AA-17

b) Built Environment Image Guide

The Built Environment Image Guide (BEIG) was prepared by the Forest Service for the “thoughtful design and management” of the built environment contained within the National Forests.¹⁷ The Forest Service defines the built environment as “the administrative and recreation buildings, landscape structures, site furnishings, structures on roads and trails, and signs installed or operated by the Forest Service, its cooperators, and permittees.”¹⁸

The BEIG divides the United States into eight provinces which combine common elements from the ecological and cultural contexts over large geographical areas; A-Basin’s SUP area and adjacent NFS lands are within the Rocky Mountain Province. Site development, sustainability, and architectural character should conform to BEIG guidelines described for this Province. For reference, four of A-Basin’s recently constructed on-mountain structures—Steilhang (2021), Black Mountain Lodge (2007), Winter Sports Center (2005), and the Snow Plume Refuge (2004)—are BEIG-compliant. All other on-mountain and base area buildings within A-Basin’s SUP area pre-date the BEIG (2001).

6. ACCESSIBILITY TO PUBLIC LANDS

In June 2005 the Forest Service released the [Accessibility Guidebook for Ski Areas Operating on Public Lands, 2005 Update](#). This guidebook provides information for ski areas authorized under a SUP to work with the Forest Service in providing equal opportunities for all people, including those with disabilities. A-Basin will maintain consistency with this guidebook for future development projects occurring on public lands.

Ski areas operating under special-use authorization from the Forest Service are required to comply with both the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504). The ADA applies because A-Basin operates as a “public accommodation;” moreover, A-Basin is a business open to the public. Section 504 applies because A-Basin operates under a SUP authorized by the Forest Service. Through the SUP, the ski area agrees to abide by these and all other laws, regulations, and policies of the federal, state, and local governments with legal jurisdictions on the ski area.

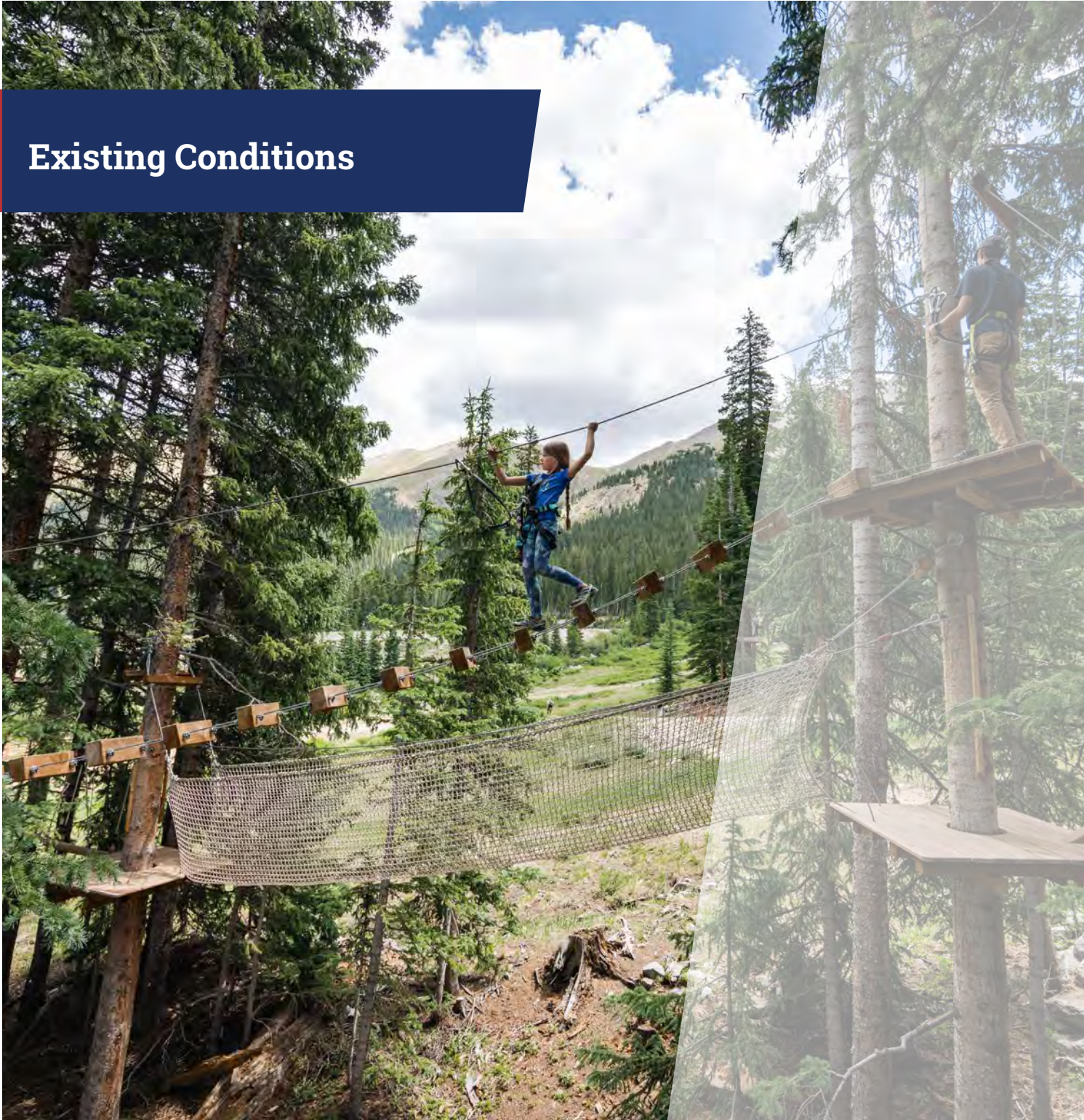
Significant legislation that preceded the ADA includes the Architectural Barriers Act (ABA) of 1968 and the Rehabilitation Act of 1973, as amended. ABA was the first measure passed by Congress to ensure access to facilities. The ABA requires that all facilities built, bought, or leased by or for a Federal agency be accessible. Section 504 of the Rehabilitation Act states: “No otherwise qualified individual with a disability in the United States shall, solely by reason of his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive Agency.”

A-Basin currently complies with this legislation through their active involvement in assisting disabled guests with skiing and other recreation activities. Through future site-specific NEPA and design development reviews, A-Basin will work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.

¹⁷ USDA Forest Service, 2001. The Built Environment Image Guide for the National Forests and Grasslands. FS-710.

¹⁸ Ibid.

Existing Conditions



The following section contains an examination and analysis of existing skier facilities at A-Basin. The resort inventory is the first step in the evaluation process and involves the collection of data pertaining to A-Basin's existing facilities. This inventory includes ski lifts, ski trails, the snowmaking system, base area structures, skier services, and day-use parking/shuttle services. The analysis of the inventory allows for the comparison of A-Basin's existing ski facilities to those facilities commonly found at other North American ski resorts of similar size and composition.

The overall balance of the existing ski area is tested by evaluating the support capabilities of the lifts, terrain, guest service space, seating, and parking supply at A-Basin. This examination of existing resources helps to identify the ski resort's strengths and weaknesses. The next step is to identify improvements that would help bring the existing ski area into better equilibrium, and help the resort meet the ever-changing needs of their skier market. Accomplishing both objectives should ultimately enhance A-Basin's financial performance.

A-Basin's existing facilities are shown in figures 4 – 6.

A. SUMMARY OF THE EXISTING GUEST EXPERIENCE

A-Basin is known throughout the Rocky Mountain Region and beyond for its adventurous terrain and relaxed atmosphere. What began as a small winter resort with one rope tow has developed into a multi-seasonal recreation destination offering skiing, hiking, biking and other activities. Despite undergoing significant changes, A-Basin has intentionally worked to maintain the same resort feel that has attracted skiers for decades. One method recently implemented by A-Basin is limiting the number of pass and lift ticket sales to prevent crowding and preserve a high-quality recreational experience.

A-Basin's winter offerings are focused on alpine skiing and riding. Boasting the longest ski season in Colorado, the resort operates six aerial lifts and three surface lifts across its 1,821 acres of A-Basin's SUP. Some terrain requires a hike before or after skiing down, catering to guests desiring a backcountry-adjacent experience with the safety and amenities of a resort. While A-Basin's topography is known for being steep and rugged, there are trails for beginners and experts alike. The resort began offering summer activities in 2020, including a via ferrata, an aerial adventure Park, hiking and mountain biking trails, scenic chairlift rides, and more.

B. EXISTING LIFT NETWORK

A-Basin's lift network currently consists of six aerial lifts and three surface lifts/conveyors. These include:

- One high-speed six-pack: Lenawee Express
- One detachable quad: Black Mountain Express
- Three fixed-grip quads: Zuma, Beavers, and Molly Hogan
- One fixed-grip double: Pallavicini
- Two carpet conveyor lifts: Molly's Magic and Pika Place
- One surface lift: Lazy J Tow

A-Basin's lift locations service the existing terrain efficiently. Many lifts were recently replaced and should function well for the next few decades.

Black Mountain Express

The Black Mountain Express is A-Basin's primary out-of-base lift and accommodates all of the ski area's winter and summer activities by providing direct access to the Black Mountain Lodge. Pallavicini is another out-of-base lift, but because it serves predominately advanced terrain with limited services, most skiers start their day on the Black Mountain Express. The lift was upgraded to a detachable quad in 2010, which considerably increased uphill capacity and reduced lift lines, especially during the morning staging period. The lift ascends about halfway up the mountain to Black Mountain Lodge. From there, skiers can access Lenawee Express or descend back to the base on novice-to-expert trails. The lift generally operates efficiently, but may experience long lift lines as the primary out-of-base lift. If the lift cannot operate for whatever reason, skiers must ride Pallavicini, which is not suitable for novice skiers. Another out-of-base lift could alleviate this issue.

Pallavicini

Pallavicini, a fixed-grip double chairlift originally installed in 1978, was replaced in 2020. It ascends out of the base near The Beach to a ridge that separates the frontside of the resort with The Beavers area. The terrain the lift primarily serves is its namesake, with mostly expert terrain. Skiers can drop into The Beavers or The Steep Gullies areas through controlled access gates or descend back to base. Because this area requires more snow coverage to be considered skiable, Pallavicini opens later than Black Mountain Express around late November or early December.

Lenawee Express

The Lenawee Express is a detachable six-passenger chairlift that serves the upper elevations on the frontside of A-Basin. The lift was upgraded from a fixed-grip triple to a detachable six passenger chairlift in 2022. From the Black Mountain Lodge, skiers take *Wrangler* to the bottom terminal, then ascend up to the ridge separating the Frontside and Montezuma Bowl. This ridge, sitting at 12,500 feet, allows access to any portion of the mountain. Guests can access the Il Rifugio restaurant, hike up to East Wall terrain, drop into Montezuma Bowl, ski into the Beavers, or cruise intermediate runs down the Frontside. To access Montezuma Bowl from Lenawee Express, skiers can take the Lazy J Tow across the flat terrain.

Zuma

The Zuma Lift and Montezuma Bowl opened in January 2008. The lift is a fixed-grip quad and serves the mountain area very efficiently, nearly doubling A-Basin's lift-served terrain at the time of expansion. It has been well received by A-Basin's local and destination guests alike. From the bottom of Montezuma Bowl, it ascends to the ridge separating the Frontside and Montezuma Bowl. It serves mainly intermediate-to-expert terrain. Below the bottom terminal are controlled access gates that require a hike back up to the lift.

The Beavers

The Beavers Lift and its namesake terrain were added to Arapahoe Basin's terrain offerings in 2018. It is a fixed-grip quad chairlift and serves the terrain efficiently. The bottom terminal is situated at the bottom of two intermediate runs, *Loafer* and *Davis*, and ascends to Il Rifugio Restaurant. From the top, skiers can drop back into the Frontside or Montezuma Bowl, or descend back into the Beavers. There are controlled access gates to the Steep Gullies area that requires a hike back to the base or The Beavers Lift.

Beginner Lifts

The Molly Hogan fixed-grip quad chairlift, Pika Place Carpet, and Molly Carpet provide transportation for the novice and beginners at the base of the mountain. New skiers make their first turns off the carpets, then move to the Molly Hogan lift when they gain confidence.

Specifications for the existing lifts are set forth in Table 1.

Table 1. Lift Specifications—Existing Conditions

Lift Name, Lift Type	Top Elevation	Bottom Elevation	Vertical Rise	Slope Length	Avg. Grade	Design Capacity	Rope Speed	Carrier Spacing	Lift Maker/ Year Installed
	(ft.)	(ft.)	(ft.)	(ft.)	(%)	(pph)	(fpm)	(ft.)	
Black Mtn Express/DC-4	11,551	10,838	713	2,957	25%	2,000	1,000	120	LPOA/2010
Pallavicini/C-2	12,115	10,790	1,325	3,510	41%	1,200	500	50	LPOA/2020
Beaver’s Lift/C-4	12,458	10,958	1,500	4,080	39%	1,800	450	67	LPOA/2018
Lenawee Express/DC-6	12,465	11,450	1,015	4,079	26%	2,380	1,000	151	LPOA/2022
Molly Hogan/C-4	10,870	10,812	58	398	15%	800	250	75	LPOA/2020
Molly’s Magic/C	10,836	10,808	28	152	19%	1,500	160	6	2003
Zuma Lift/C-4	12,475	11,362	1,113	4,164	28%	1,900	450	57	LPOA/2007
Pika Place/C	10,846	10,842	4	71	6%	1,500	160	6	2012
Lazy J Tow/S	12,478	12,462	16	375	4%	1,200	325	16	2007

Source: SE Group

Notes:

Lift Types: DC-6 = detachable six-passenger chairlift / DC-4 = detachable four-passenger chairlift / C-4 = fixed-grip quad chairlift / C-2 = fixed-grip double chairlift / C = carpet / S = surface lift

C. EXISTING TERRAIN NETWORK

A-Basin divides its terrain into seven distinct mountain areas, each with its own unique characteristics. The frontside is the first impression for visitors arriving at A-Basin and contains the most diverse ability distribution of the seven areas. The vast majority of novice to intermediate terrain is in this area. Guests must ride two chairlifts, Black Mountain Express and Lenawee Express, to access the upper ridge that separates the frontside from other areas.

The learning hill at the base is where the ski school is located. New skiers or skiers that are unfamiliar with Rocky Mountain skiing may start their day on Molly Hogan or one of the beginner carpets.

The iconic Pallavicini area, also known as “Pali”, on the north portion of the resort is a favorite of A-Basin regulars. The Pallavicini Lift ascends directly out of the base area near The Beach. Its runs are rugged, steep, and gladed. Skiers who don’t feel up to the advanced-to-expert runs can return to the base area on *Grizzly Road*. Expert skiers can drop into the Steep Gullies’ hike-back terrain through controlled access gates.

Catering to A-Basin’s adventure-seekers, The East Wall is accessed through numerous controlled access gates. Hiking opportunities exist at *Willy’s Wide*, *Tree Chutes*, and through the North Pole Hiking Gate. Because it requires significantly more snow coverage than most of the resort, it does not typically open until around February. The area requires considerable avalanche mitigation.

Montezuma Bowl and the Zuma Lift were added in the 2007-2008 season. The area has 400 acres of south-facing open terrain that provides a different experience than the rest of the resort. Much of the area is above treeline, but there are still some advanced gladed runs at the bottom portion of the bowl. Controlled access gates provide access to a small hike-back zone below the lift terminal. It can be accessed from the top terminal of the Beavers Lift and from the top of Lenawee Express after taking a ride on Lazy J Tow.

The Beavers terrain was officially added to A-Basin’s developed terrain network during the 2017-2018 season. It includes over 300 acres of terrain that was previously backcountry-only. The Beavers lift provides access to 36 runs, including a few groomers and abundant gladed terrain. Guests must ride Lenawee Express or Pallavicini from the base to ski into this area.

The Steep Gullies area was added at the same time as the Beavers area. Once entirely intended for backcountry skiing, it is now patrolled and maintained to provide a safer experience. To access it, skiers pass through controlled access gates on the west side of the Pallavicini area. It requires a hike back to the base so the area keeps its backcountry essence.

Table A-1 details the terrain of A-Basin’s trail network.

1. TERRAIN VARIETY

This analysis only accounts for the developed terrain network at A-Basin. There are 1,428 skiable acres at the resort, 871 of which are considered developed because they are generally groomable and easily accessible from a chairlift. The remainder is considered undeveloped because it is not maintained, but it is routinely skied. This includes glades, bowls, chutes, or other areas generally only accessible to higher ability level guests.

Importance of Terrain Variety

Terrain variety is considered the key factor in evaluating the quality of the actual skiing and riding guest experience (as opposed to total acreage, vertical, grooming, or any other factor).

Terrain variety is consistently ranked as one of the most important criteria in skiers' choice of a ski destination, typically behind only snow quality, and ahead of such other considerations as lifts, value, accessibility, resort service, and others. This is a relatively recent industry trend, representing an evolution in skier/rider tastes and expectations. The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well-designed developed trail system, but also must have a wide variety of alternate-style terrain, such as mogul runs, bowls, gladed trees, open parks, in-bounds "backcountry-style" (i.e., hike-to) terrain, and terrain parks and pipes. At resorts across the nation, there is a growing trend favoring these more natural, unstructured types of terrain, since the availability of this style of terrain has become one of the more important factors in terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels and some level of each of the undeveloped terrain types. Undeveloped terrain is primarily used by advanced and expert level skiers/riders during desirable conditions (e.g., periods of fresh snow, spring corn, etc.). Even though some of these types of terrain only provide skiing/riding opportunities when conditions warrant, they represent the most intriguing terrain, and typically are the areas that skiers/riders strive to access.

2. TERRAIN DISTRIBUTION BY ABILITY LEVEL

The following table and charts illustrate the distribution of terrain by skier ability level for the developed trail network, as well as the distribution of the active skier population at A-Basin. The terrain distribution is compared to industry norm market. Due to its terrain, A-Basin's market skews toward advanced ability levels compared to the typical market because of its terrain.

The trail network at A-Basin accommodates a range of skier ability levels—from beginner to expert. There are shortages of beginner through intermediate terrain, and corresponding surpluses of advanced and expert terrain. This is less of an issue for A-Basin's clientele; however, the shortages of lower ability level terrain can cause difficulty in progressing to higher levels. Some of A-Basin's terrain such as *Sundance* is shown as green novice trail but it has sections of steeper than typical novice limits but appear to be negotiable by lower-level skiers at A-Basin due to grooming, width and other factors. Due to the topography, there are not many opportunities to expand lower ability level terrain. However, A-Basin may consider opportunities to increase access to existing beginner-to-intermediate grades if constructing more is not a possibility.

Ability Level

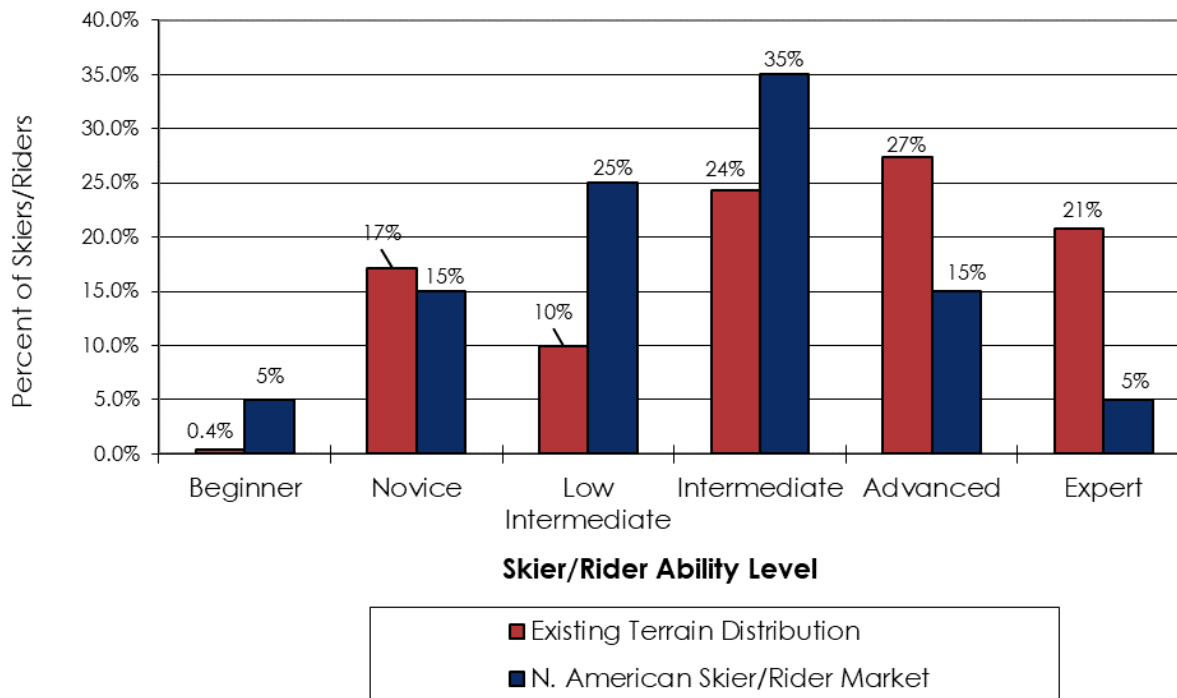
It should be noted there is a significant difference between the ski run ability level ranking approach used in this document and that used by all U.S ski areas on their trail map and on-mountain trail signs. The established approach used at all resorts in the country is to make the ranking be relative to that resort – i.e., the easiest runs at that resort are signed as green circles and the most difficult are signed as black diamonds, the intermediate runs being blue squares. SE Group uses a different approach in this document (and in all other Master Plan documents produced by SE Group). This approach is aimed at comparing the terrain available at a given resort to the overall skier market, to determine if there are opportunities to appeal to a broader range of skiers. SE Group also uses six categories of ability level, as opposed to the standard three used by mountain resorts. Using various criteria, including maximum sustained gradient, run width, sightlines, and others, SE Group makes an internal determination of which ability level each run falls into. From that data, calculations are then done to determine terrain demand and ability level distribution. These calculations are accomplished by multiplying terrain acreage by an assigned density. These numbers are then compared to the skier market, to determine surpluses and deficiencies of terrain by ability level, as compared to the overall skier market.

Table 2. Terrain Distribution by Ability Level—Existing Conditions

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider On-Trail (guests)	Skier/Rider Distribution (%)	Skier/Rider Market (%)	A-Basin Market ¹⁹ (%)
Beginner	0.6	22	0%	5%	2%
Novice	50.3	906	17%	15%	7%
Low Intermediate	37.3	522	10%	25%	18%
Intermediate	128.2	1,282	24%	35%	20%
Advanced	288.1	1,441	27%	15%	30%
Expert	366.1	1,098	21%	5%	23%
TOTAL	870.7	5,271	100%	100%	100%

Source: SE Group

Chart 1. Terrain Distribution by Ability Level – Existing Conditions



¹⁹ Assessment based on data gathered through a 2012 guest survey.

D. EXISTING DESIGN DAY ANALYSIS

1. LIFT NETWORK CAPABILITY

The accurate calculation of a ski area's design day entails the balancing of all resort functions. As part of determining a resort's design day, the evaluation of the lift network is an important and complex analysis and is used initially to evaluate and planned other related skier service facilities. The detailed calculation of A-Basin's current lift network capabilities is described in the table below.

As illustrated in Table 3, the calculated design day for the lift network at A-Basin is 4,120. It is typical for ski areas to experience peak days during which skier visitation exceeds the lift network capability by as much as 25% or more. However, it is not recommended to consistently exceed the design day due to the resulting decrease in the quality of the recreational experience, and thus the resort's market appeal.

What is a Design Day?

In ski area planning, a design day represents a typical busy winter weekend day. It serves as a planning parameter to guide the balanced sizing of a ski resort's primary facilities, such as ski lifts, ski terrain, guest services, restaurant seating, building space, utilities, and parking. The design day reflects a level of facility utilization that ensures a pleasant recreational experience without overburdening the resort infrastructure. It does not represent the resort's maximum visitation capacity but rather the number of visitors that can be reasonably accommodated when all functions and facilities are operating smoothly.

The design day is a planning parameter, not a measure of operational scenarios or functional capacity. It should not be used to set visitation limits or guide regulatory decisions. Calculations related to the design day are intended solely for resort planning purposes, and the use of design day for other purposes would be taking design day visitation out of context.

Table 3. Lift Network Capability—Existing Conditions

Lift Name, Lift Type	Slope Length (ft.)	Vertical Rise (ft.)	Design Capacity (pph)	Operating Hours (hrs.)	Up- Mountain Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly (pph)	VTF/ Day (000)	Vertical Demand (ft./day)	Lift Network Capability (guests)
Black Mtn Express/DC-4	2,957	713	2,000	7.50	10	5	1,700	9,097	11,214	810
Pallavicini/C-2	3,510	1,325	1,200	7.00	5	5	1,080	10,017	18,979	530
Beaver's Lift/C-4	4,080	1,500	1,800	6.50	0	5	1,710	16,673	21,484	780
Lenawee Express/DC-6	4,079	1,015	2,380	6.50	10	10	1,904	12,567	15,009	840
Molly Hogan/C-4	398	58	800	6.50	0	20	640	241	1,381	170
Molly's Magic/C	152	28	1,500	6.50	0	15	1,275	233	2,658	90
Zuma Lift/C-4	4,164	1,113	1,900	6.50	0	5	1,805	13,061	15,583	840
Pika Place/C	71	4	1,500	6.50	0	15	1,275	37	622	60
Lazy J Tow/S	375	16	1,200	6.50	100	0	-	0	1,602	-
TOTAL	19,786		14,280				11,389	61,926		4,120

Source: SE Group

Notes:

Lift Types: DC-6 = detachable six-passenger chairlift / DC-4 = detachable four-passenger chairlift / C-4 = fixed-grip quad chairlift / C-2 = fixed-grip double chairlift / C = carpet / S = surface lift

2. DENSITY ANALYSIS

The density analysis compares the uphill lift network supply and downhill trail availability at Arapahoe Basin. At any one time, skiers and riders are dispersed throughout the ski area, using guest facilities and milling areas, waiting in lift mazes, riding lifts, or descending on ski terrain. For the trail density analysis, 25% of each lift's user group is presumed to be "inactive" (i.e., using guest service facilities or milling areas and otherwise not actively skiing or riding lifts).

Balancing Uphill and Downhill Supply and Demand

An important aspect of resort design is the balancing of uphill lift network supply with downhill trail availability. Trail densities are derived by comparing the uphill, at-one-time lifting capabilities of each individual lift pod with the trail acreage associated with that lift pod. The trail density analysis considers only the acreage associated with the developed trail network. A high trail density can restrict skiing space, degrade snow conditions, and detract from the recreational experience. A low trail density can indicate under-utilization of the existing terrain and inefficient operations.

Trail density is calculated for each lift pod by dividing the number of guests on the trails by the amount of trail area within the lift pod. The trail density analysis provides each lift pod with a "density index" score, comparing the calculated trail density for each lift pod to the desired trail density for that pod (i.e., the product of the ideal trail density for each ability level and the lift's trail distribution by ability level). This density index is then averaged across lift pods, resulting in a density index for the ski area.

An optimal density index is 100%, as lifts and terrain are perfectly balanced in this condition. A lift pod density index above 100% indicates that the lift can serve more guests than its terrain can comfortably accommodate. A lift pod density index below 100% indicates that terrain can comfortably accommodate more guests than its lift can serve. The density index at A-Basin is 49%. While this is under the optimal density, it is not uncommon for a resort to have densities under the target because lower trail densities generally reflect a higher quality recreation experience. A-Basin is also known for its high alpine, open bowls that provides more skiable acreage than at most resorts, driving down the density Index. Many resorts with abundant hike-to and open bowl terrain tend to have lower densities.

a) Lift Network Efficiency

Within the context of ski area design, the term “lift network efficiency” refers to the amount of effort and cost required to operate and maintain the lift network, as compared to the number of guests served. The energy and costs related to the ski area efficiency include, but are not limited to power use, operational labor, maintenance costs and labor, increased indirect administrative costs, and various direct and indirect costs associated with higher staff levels to perform these tasks. From this standpoint, the most efficient scenario is to have the fewest number of lifts possible that can comfortably and effectively serve a design day and circulation requirements of the resort, while creating a balance of lift supply across the available terrain.

One way to analyze “lift network efficiency” is to calculate the average lifting capabilities per lift at a given resort. While this calculation does not relate to the overall lift network capability of the resort, it can indicate if: 1) the resort is not getting maximum utilization out of its lifts, or 2) there are more lifts than necessary for the visitation levels of the resort. When calculating this average, conveyors and surface tows are not included, as the lift network calculations (and operating costs) for them are so low that it would skew the overall average. Optimally, and as a planning goal, the average lift network capability per lift would likely be close to 1,000. Industry-wide, the average capability per lift is approximately 650. The average capability per lift at A-Basin is about 662. This indicates that A-Basin has an average lift network efficiency, and that there is likely a similar lift cost, in terms of both energy use and financial/operational cost, per skier to most resorts. Primary contributing factors to this include: the well-designed, effective lift layout; the length and functionality of the primary lifts; and the fact that all lifts can be skied (there are no transport-only lifts).

b) Terrain Network Efficiency

Terrain Network Efficiency refers to the amount of effort required to properly maintain the terrain (snowmaking costs, grooming costs, energy costs, ski patrol costs, summer trail maintenance costs, increased administrative costs, costs associated with higher staff levels to perform these tasks, etc.). From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. The overall density index of 49% indicates that more terrain is maintained than can be effectively served by the existing lift network, however, much of this is due to bowls, glades, and hike-to terrain included in the lift network.

Table 4. Density Analysis - Existing Conditions

Lift Name, Lift Type	Lift Network Capability	Guest Dispersement				Terrain Area (acres)	Density Analysis			
		Support Fac./Milling (guests)	In Lines (guests)	On Lift (guests)	On Terrain (guests)		Terrain Density (guests/ac.)	Desired Density (guests/ac.)	Diff. (+/-)	Index (%)
Black Mtn Express/DC-4	810	203	227	84	296	87.4	3	13	-10	23%
Pallavicini/C-2	530	133	162	126	109	147.2	1	3	-2	33%
Beaver's Lift/C-4	780	195	114	233	238	121.9	2	5	-3	40%
Lenawee Express/DC-6	840	210	159	129	342	171.6	2	7	-5	29%
Molly Hogan/C-4	170	51	75	17	27	3.5	8	17	-9	47%
Molly's Magic/C	90	30	21	20	19	0.5	37	35	2	106%
Zuma Lift/C-4	840	210	60	278	292	338.3	1	5	-4	20%
Pika Place/C	60	20	21	9	10	0.1	85	35	50	243%
Total:	4,120	1,052	839	663	1,095	870.5	4	8	-4	49%

Source: SE Group

Notes:

Lift Types: DC-6 = detachable six-passenger chairlift / DC-4 = detachable four-passenger chairlift / C-4 = fixed-grip quad chairlift / C-2 = fixed-grip double chairlift / C = carpet

The Lazy J Tow is not included in the density analysis because it is a transport lift and does not contribute to the overall lift network capability.

E. EXISTING GUEST SERVICES FACILITIES, FOOD SERVICE SEATING & SPACE USE ANALYSIS

1. GUEST SERVICES

Most guest services are currently offered in A-Basin's base area. The A-Frame is the resort's primary base lodge, housing multiple food and beverage services as well as restrooms. Arapahoe Sports, a retail shop, is located at the front end of the A-Frame. There are separate ticketing, ski school, and rental buildings, which is an advantage during busy days because it prevents queues from merging into one another and causing overcrowding in one multi-purpose building.

There are a number of on-mountain guest service facilities distributed around the resort. The Black Mountain Lodge, accessible through a ride on the Black Mountain Express, provides food and beverage services as well as restrooms. Its mid-mountain location on the frontside of the resort makes it a popular stop for skiers of all ability levels and even non-skiers riding the chairlift. Steilhang Hut, a German-inspired food service facility, is located near the Upper East Wall gate with extraordinary views of the East Wall. Gender-neutral restrooms are available. It is only accessible by skiers with at least an intermediate ability level. Il Rifugio, the highest-elevation restaurant in North America, lies at the top of Lenawee Express and The Beavers lifts. In keeping with the resort's sustainability goals, the building has no running water, gender-neutral composting toilets, and is powered by solar. There are no facilities in Montezuma Bowl, but guests can easily access Il Rifugio after riding the Zuma Lift. In addition, The Beavers has no guest service space, but there are picnic tables to enjoy packed lunches or rest.

Figure 4 illustrates the current guest facilities, maintenance facility and parking at A-Basin.

Space Use Planning

Guest Service facilities constitute an essential component of the experience at ski areas. These areas provide shelter from the elements, bathrooms, and food and beverages. These facilities and their capacities are important in understanding whether the needs of visitors are being met.

Service functions include:

Restaurant Seating: All areas designated for food service seating, including: restaurants, cafeterias, and brown bag areas. Major circulation aisles through seating areas are designated as circulation/waste, not seating space.

Kitchen/Scramble: Includes all food preparation, food service, and food storage.

Bar/Lounge: All serving and seating areas designated as restricted use for the serving and consumption of alcoholic beverages. If used for food service, seats are included in seat counts.

Restrooms: All space associated with restroom facilities (separate women, men, employees, and gender-neutral facilities).

Guest Services: Services including resort information desks, kiosks, and lost and found.

Adult Ski School: Includes ski school booking area and any indoor staging areas. Storage directly associated with ski school is included in this total.

Kid's Ski School: Includes all daycare/nursery facilities, including booking areas and lunch rooms associated with ski school functions. Storage and employee lockers directly associated with ski school are included.

Rentals/Repair: All rental shop, repair services, and associated storage areas.

Retail Sales: All retail shops and associated storage areas.

Ticket Sales: All ticketing and season pass sales areas and associated office space.

Public Lockers: All public locker rooms. Any public lockers located along the walls of circulation space are included, as well as the 2 feet directly in front of the locker doors.

Ski Patrol/First Aid: All first aid facilities, including clinic space. Storage and employee lockers directly associated with ski patrol are included in this total.

Administration/Employee Lockers & Lounge/Storage: All administration/employee/storage space not included in any of the above functions.

2. SPACE USE ANALYSIS

Sufficient guest service space should be provided to accommodate the existing resort design day of 4,120 guests per day plus an additional 2% of non-skiing guests, totaling 4,202 guests. Typically, the guest space analysis includes an additional 5% non-skiing guests. A-Basin has fewer non-skiing guests because the resort focuses its offerings on skiers. The distribution of the lift network is utilized to determine guest service needs and space requirements for skier services at base area portals and on-mountain facilities. The lift network is distributed between each guest service facility location according to the number of guests that utilize the lifts and terrain associated with each facility.

In addition to distributing the lift network amongst the base area and on-mountain facilities, guest service needs and the resulting spatial recommendations are determined through a process of reviewing and analyzing the current operations to determine guest service requirements that are specific to the resort. The table below outlines existing space use and recommendations.

Total guest service space allocations and recommendations are shown below in Table 5 and broken out by location in Tables A-2 through A-5. A-Basin is generally undersized compared to its design day, with the most notable deficiencies in public lockers, rentals, ski school, and restaurant seating. The restaurant seating deficiency is the largest deficit, requiring approximately twice the available space. While this is partially offset by outdoor decks, those spaces are not always available due to inclement weather. If there is not enough space for rental operations, the resort may not be able to store enough rental units to accommodate demand. Rentals can be a significant source of revenue for resorts. In addition, they play a role in the new skier's experience because those guests are less likely to have their own equipment. Sold out rental units and long lines point to less time on the snow. The remainder of functions are within the recommended range or above.

Employee spaces, including administration and employee lockers, are higher than recommended and largely concentrated within the base area. Although the space is technically higher than recommended, the administrative space within the base area consists primarily of shared offices with a handful of individual offices. It is difficult for resort employees to find quiet spaces for private conversations due to the abundance of shared space. Employee locker/lounge space appears higher than recommended, but only consist of locker rooms for storing mountain operations employees' uniforms and gear. There is no locker space for those in guest services, food and beverage, rentals, or other departments. The bathroom and changing area spaces are inadequate for employees' needs. There are no true employee break areas for employees to eat lunch, use computers, or rest. A-Basin may consider reconfiguring the base area or creating additional employee space. Providing adequate employee space may play a role in retaining resort employees, reducing turnover, and ensuring operations run smoothly.

Table 5. Space Use Recommendations—Total Resort—Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	1,195	930	1,130
Public Lockers	723	2,780	3,400
Rentals/Repair	2,956	5,560	6,800
Retail Sales	2,180	1,890	2,310
Bar/lounge	3,067	2,840	3,470
Adult Ski School	1,548	1,480	1,810
Kid's Ski School	1,817	2,970	3,630
Restaurant Seating	8,886	14,605	17,006
Kitchen/Scramble	6,913	7,303	8,503
Rest rooms	3,289	2,470	3,010
Ski Patrol	2,828	1,510	1,850
Administration	4,514	3,890	4,760
Employee Lockers/Lounge	2,337	1,560	1,900
Mechanical	2,551	1,350	1,960
Storage	2,760	2,240	3,270
Circulation/Waste	1,740	5,370	7,870
TOTAL SQUARE FEET	49,304	58,748	72,680

Source: SE Group

3. FOOD SERVICE SEATING

At the base area, there are three food and beverage facilities located within the A-Frame. The A-Frame contains a range of grab-and-go to table service facilities between Coffee Corner, 6th Alley Bar and Grill, Marnie's, and The Legends Café. On-mountain, skiers and non-skier guests may enjoy mid-mountain views at Black Mountain Lodge. Only Intermediate to expert skiers can access Steilhang Hut or Il Rifugio.

Turnover Rates

A key factor in evaluating restaurant capacity is the turnover rate of its seats, or the number of times a seat will be utilized in a day. Several factors influence the turnover rate including the ski resort's climate, market orientation, and the type of food service provided. For example, colder weather results in guests spending longer periods of time in the lodge, resulting in lower turnover rates. Also, cafeteria-style dining will have a faster turnover rate than fine dining. At A-Basin, a turnover rate of 3 to 4 was used depending on the facility.

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of three to five times is the standard range utilized in determining restaurant capacity. Fine dining at ski areas typically results in a turnover rate of three, while "fast food" cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at ski areas; for example, on snowy days skiers will spend more time indoors than on sunny days.

An analysis of seating at A-Basin was conducted. Overall, there is a deficit of approximately 391 indoor seats at the resort. The following table summarizes the seating requirements at A-Basin, to reach the requirements of a design day. Base Area and Black Mountain Lodge comprise much of this deficit, indicating a need for more seating at each. Steilhang Hut and Il Rifugio are only accessible to intermediate to advanced skiers and do not require much more seating.

While A-Basin should add more seating to improve the guest experience and reduce crowding, the lack of seating at the resort is generally less severe than shown due to available outdoor seating and the nature of its clientele. Outdoor seating is only available on a "nice day" and there are fewer days with inclement weather (i.e. wind, rain, or very cold temperatures) in the Rocky Mountain region than others. These outdoor seats are available more often than not during Colorado's 300 days of sunshine and create a surplus of seating if they are available. In addition, A-Basin attracts a larger proportion of higher ability level skiers than most resorts. Those skiers who are more experienced and/or ski more frequently are more likely to bring a brown bag lunch to the mountain, or have their grill set up at The Beach and may not use a seat at lunchtime.

Table 6. Restaurant Seats—Existing Conditions

	Base Area	Black Mountain Lodge	Steilhang Hut	Il Rifugio	Resort Total
Lunchtime Demand	2,528	1,330	197	148	4,202
Average Seat Turnover	3.5	3.5	4	3	
Existing Indoor Seats	474	240	48	48	810
Recommended Seats	722	380	49	49	1,201
Difference Existing Indoor Seats and Recommend Seats	-248	-140	-1	-1	-391
Existing Outdoor Seats	130	200	48	48	426

F. EXISTING PARKING AND RESORT ACCESS

Total available parking should be balanced to a resort’s design day. Existing parking calculations and assumptions are shown in Table 7. Like many ski resorts, parking is a significant limiting factor at Arapahoe Basin. When parking is reduced, guests simply cannot access the resort. Guests who drive to A-Basin park in the day-skier parking area. There are no accommodations near Arapahoe Basin, so guests that do not arrive by car are almost exclusively arriving from the SnowStang or Summit Stage bus service.

To increase average vehicle occupancy (AVO) and reduce the parking demand, A-Basin continues to re-evaluate their parking program. Currently A-Basin charges a fee for all parking on weekends and holidays, and incentivizes carpooling by offering free parking to vehicles with four or more passengers. Since implementing this change, A-Basin has seen an increase in guests who carpool on peak days. On peak days, guests park on the highway as a last resort. This is not desirable for A-Basin and its guests due to the frequent traffic over Loveland Pass. A-Basin has worked to minimize the number of days guests park on the highway; however, it still occurs.

The plan also encourages guest and employee bus ridership on the Summit Stage and Front Range SnowStang, organizes employee carpooling information, and implements an employee express shuttle from down valley. According to an Arapahoe Basin Transportation Efficiency Study, Snowstang ridership averaged 26% capacity (approximately 13 riders per trip), lower than nearby resorts Copper Mountain and Loveland Pass. A guest survey showed that the reasons that prevent skiers from riding the bus include low frequency of buses, length of the journey, and distance from the bus stop. Improving bus ridership can remedy the lack of parking space, but will realistically not fix it alone.

The drop-off/admin lot is a paid lot seven days a week. The area experiences congestion due to vehicles dropping off passengers, foot traffic, and parking. The lot could be reconfigured to improve efficiency. The Whiskey Lot and Foxtrot are used as overflow parking when needed but is too far to walk and requires the shuttle service. Unfortunately, the shuttle service must make frequent stops and contributes to the congestion in the base area. Some overflow parking occurs on the highway, but is technically not permitted and may result in tickets or tows.

Based on a design day of 4,120 skiers and 2% additional non-skier guests, A-Basin requires parking for 4,202 guests on a high-volume day. Recent visitation, parking count, and bus ridership data resulted in an assumed AVO of 2.5 persons per vehicle and a ridership rate of 5%. Based on these factors, there is a deficit of approximately 16 parking spaces. Higher visitation days are made possible by a combination of higher AVO and bus ridership and parking on the highway.

Table 7. Recommended Parking—Existing Conditions

	Total
Parking Demand	4,202
# of guests arriving by car (95%)	3,992
# of guest arriving by bus (5%)	210
Required car parking spaces	1,597
Required employee car parking spaces	93
Total required spaces	1,690
Existing parking spaces	1,674
Surplus/deficit	-16

G. EXISTING RESORT OPERATIONS

1. SNOWMAKING

The snowmaking system at A-Basin helps ensure a predictable opening date, high quality conditions early and mid-season.

The 1999 ROD approved 125 acres of snowmaking coverage at A-Basin. A-Basin constructed its snowmaking system in 2002. The snowmaking system at the resort covers approximately 75 acres of terrain. Nine of those acres do not have permanent snowmaking infrastructure installed and are covered by stretching hoses from hydrants in other areas or by pushing man-made snow to these areas with snow cats. A-Basin is not able to make snow to the extent approved in the 1999 ROD and allowed under the resort's water rights due to withdrawal conditions in the 1999 ROD. Refer to Figure 5 for the existing and previously approved snowmaking coverage areas.

Additional snowmaking is needed on key trails such *Upper Wrangler*, *Grizzly Road*, *West Wall* and in Montezuma Bowl and on *Loafer* and *Davis* in the Beavers. Montezuma Bowl has scant vegetation and is primarily south and west facing, so it can take time for snow coverage to be sufficient for grooming and skiing. Snowmaking on popular runs off Zuma would ensure that this lift can remain open early or late in the season. If Zuma can't operate, the resort loses 830 guests from the lift network. While *Loafer* and *Davis* in the Beavers area are not south facing, they can experience poor coverage. These intermediate runs are very popular among less advanced skiers because other terrain in this area is gladed and advanced. Coverage on these two runs will ensure that intermediate skiers can access the Beavers reliably.

Part of the reason A-Basin has not constructed snowmaking infrastructure on the remaining previously approved runs is because the withdrawal conditions in the 1999 ROD limit A-Basin's use of its water rights. A-Basin has water rights that authorize it to divert water from the North Fork of the Snake River in the base area. A-Basin maintains a 0.5 cubic feet per second bypass flow during the majority of the snowmaking season; in October, A-Basin maintains a bypass flow of 1.0 cubic feet per second. In addition to the bypass flow, the withdrawal conditions, which restrain A-Basin's use of its water rights, provide that A-Basin's water withdrawals must be less than or equal to 25% of the stream flow.

A storage reservoir, located adjacent to the maintenance building, with a capacity of 5.5-acre feet is used to provide buffer storage. However, this storage is inadequate during periods when conditions allow A-Basin to run its snowmaking system at full capacity. A-Basin has investigated a number of other locations around the mountain to provide additional storage; however, these have proven to be inadequate or too environmentally impactful to pursue.

2. MAINTENANCE FACILITIES

A-Basin's maintenance facility is located at the west end of the Early Riser Parking Lot adjacent to the snowmaking pond. The facility is approximately 8,500 square feet that accommodates maintenance areas for snow cats, vehicles, snowmaking, lifts, equipment storage, and the waste water treatment system. The waste water facility meets the existing and foreseeable future needs of A-Basin, but the maintenance area may need to be expanded to accommodate future requirements.

3. INFRASTRUCTURE AND UTILITIES

Electric power is supplied to A-Basin by Xcel Energy. The existing service line has a capacity to supply a power load of 1,875 kilowatts. The power supply can be upgraded by 15% without running new lines to the ski area. The current load at A-Basin is approximately 1,800 to 2,000 kilowatts. All power distribution lines to lifts and buildings at the ski area are underground.

4. DOMESTIC WATER AND WASTE WATER TREATMENT

Domestic water is supplied to base area facilities from the North Fork of the Snake River. Water is diverted at a rate of 30 gallons per minute to a treatment system in the basement of the A-Frame. From the A-Frame, water is pumped to a 100,000-gallon storage tank on the east side of the Ramrod trail, at an elevation of 10,970 feet. From the tank, water is supplied to all base area facilities, including the maintenance building. With an average water consumption of eight gallons per person per day, this 24-hour supply is adequate for a daily population of 5,400 people which is 142% of the existing design day.

The Black Mountain Lodge domestic water supply comes from a nearby well that provides water at a rate of 15 to 30 gallons per minute that feeds into three underground storage tanks with 20,000 gallons of capacity each.

A-Basin has an onsite waste water treatment facility permitted and monitored by the State of Colorado. It is shown as part of the Maintenance Facility on Figure 4. The plant has a maximum hydraulic capacity of 35,000 gallons per day. In 1997 A-Basin installed a 25,000-gallon storage tank to accommodate short term high flows that may exceed the daily capacity. For example, if the resort has a peak day flow that exceeds 35,000 gallons, it can hold up to 25,000 additional gallons and treat the excess flow on subsequent days. Over the past three years the highest 30-day average flow was 13,000 gallons. Waste water lines currently connect the plant to the base area facilities and to Black Mountain Lodge. The restrooms located at Patrol Headquarters at the summit as well as both the Il Rifugio and Steilhang are composting toilets and are not connected to the plant.

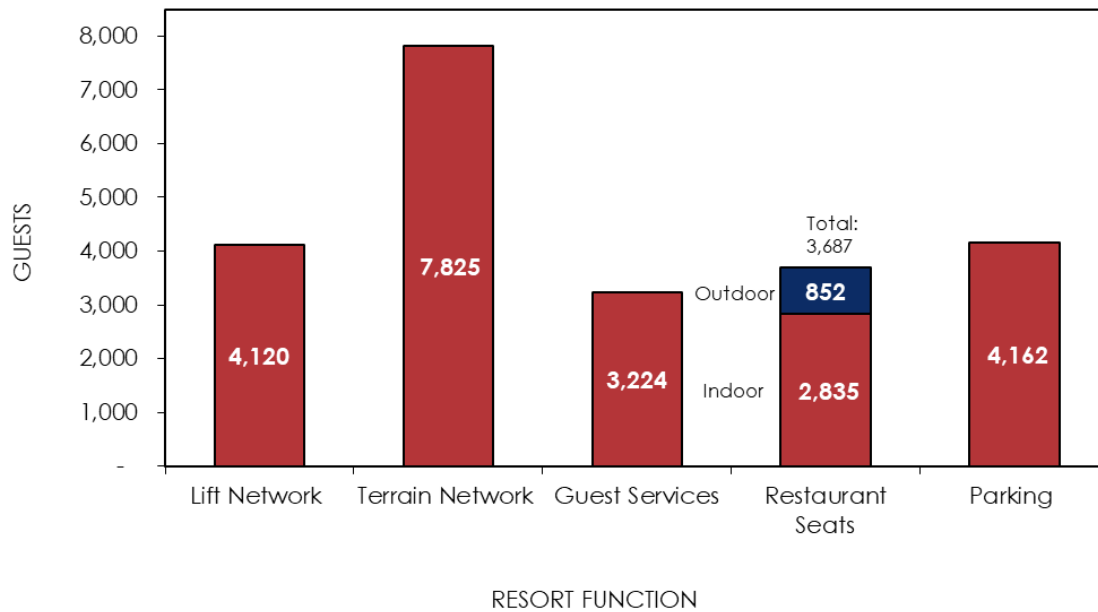
5. MOUNTAIN ROADS

There are 6 miles within Arapahoe Basin's mountain road network. The roads generally function well and provides around the mountain for A-Basin's operations and maintenance teams.

H. RESORT BALANCE

The resort balance chart compares a resort’s various functions, including lifts, terrain, skier services, food service seating, and parking/access, to inform a resort’s design day. These resort functions have been discussed in detail above and are summarized in Chart 3. All functions, with the exception of terrain network, are nearly balanced at A-Basin but have some limiting factors. The terrain network is nearly twice the lift network capability, indicating that the terrain can very easily accommodate the lift network capability. Guest services is the most limiting factor at the resort, with an overall lack of space. The second largest deficiency at A-Basin is indoor restaurant seating, but it is offset by the abundance of outdoor seats and guests who bring their own meal. Parking becomes a limiting factor when AVO is low and/or when visitation is higher than the lift network capability. While conditions appear to be balanced, high volumes of visitors could cause the resort’s facilities to fall out of equilibrium. Projects within the upgrade plan should address existing deficiencies as well as prevent additional scarcities in the future.

Chart 2. Resort Balance—Existing Conditions



I. SUMMER AND MULTI-SEASON OPERATIONS

1. SUMMARY OF THE EXISTING MULTI-SEASON ACTIVITIES AND THE GUEST EXPERIENCE

A-Basin currently provides a handful of alternative recreation opportunities, most of which are contained within the lower mountain, from the Black Mountain Lodge to the base area.

Activities include:

Scenic chairlift rides; guests ride the Black Mountain Express and enjoy the scenery from the Black Mountain Lodge. This is typically scheduled during the summer season.

Disc golf course; a 20-hole course that starts at the base area and meanders around North Fork and the Pallivicini Chair and back to the base.

Weddings and other events; the resort acts as the backdrop to weddings and other events throughout the summer.

Events at the base area and Black Mountain Lodge; numerous events are scheduled to take place from the spring through the late summer. Events include Oktoberfest, trail running and mountain bike races, as well as live concerts.

Hiking and Biking Trails; A-Basin has 5.7 miles of hiking trails and 10.2 miles of biking trails through its SUP area ranging in difficulty from easy to difficult. Guests may choose a guided wildflower hike or explore the slopes on their own.

Via Ferrata; first debuted in Summer 2021, the Via Ferrata is located on the East Wall and offers a unique mountain climbing experience using harnesses, iron rungs, and fixed steel cables. This activity is perfect for guests who want an adventurous day paired with the security of being guided. There are two tours available; one with 900 feet of elevation gain that ends at an abandoned mine and a full day tour to the ridgeline with 1,200 feet of elevation gain.

Aerial Adventure Park and Lil' Kids Adventure Park; these parks are a self-guided activity allowing guests to explore the treetop canopy using ropes, ladders, or other features.

2. THE SUMMER ZONES CONCEPT

Summer Activity Zones are designed to guide decisions about where various summer activities do and don't belong. Using the resort's physical resources and built infrastructure as a guide, they divide a resort's SUP area into distinct polygons. Each polygon is scored along four categories: access, remoteness, naturalness, and infrastructure. Then, scores are summed to designate each polygon's "Zone." There are five levels of Summer Activity Zones, with Zone 1 being most impacted by human activity and Zone 5 being least impacted. The Zone designations in this MDP originate from the A-Basin 2016 Master Development Plan Amendment (2016 MDPA).

3. EXISTING SUMMER ACTIVITY ZONES

A-Basin has a total of 16 existing Summer Activity Zones. They are distributed as follows: two Zone 1 areas, two Zone 2 areas, four Zone 3 areas, three Zone 4 areas, and five Zone 5 areas. Refer to Table 8 for the scoring of each Zone. Refer to Appendix B for a detailed explanation of each Zone's setting, desired experiences, and compatible activities and facilities.

a) Zone 1

Two areas within A-Basin's SUP were designated as Zone 1: Areas 8 and 10. These areas comprise the parking lot, base area, and Black Mountain Lodge.

b) Zone 2

Two areas within A-Basin's SUP were designated as Zone 2: Areas 9 and 13 where summer trails, roads, chairlifts, and other resort infrastructure presently exists. These areas are also the middle portion of the ski area, which is heavily developed.

c) Zone 3

Four areas within the SUP area were designated as Zone 3: Areas 3, 7, 11, and 12. Not all areas which received a Zone 3 designation are equal in characteristics. For example, Area 3 is less accessible and includes a higher degree of remoteness when compared to Area 12; however, both locations scored in the range to be characterized as Zone 3. Area 7 parallels Highway 6, which alters the accessibility, naturalness, and infrastructure characteristics in comparison to the adjacent Area 1. Area 3 hosts a hiking and mountain biking portal for one of the popular trails at A-Basin.

d) Zone 4

Three areas within the A-Basin SUP area were designated as Zone 4: Areas 2, 5, and 14. Areas 5 and 14 (the Beavers and Montezuma Bowl) include ski trails and glading, but development is limited and large tree islands are dominant features. Area 2 (East Wall) possesses a strong feeling of remoteness due to the abundance of nature, remoteness, and topography of the steep alpine terrain.

e) Zone 5

Three areas within the A-Basin SUP area were classified as Zone 5. Areas 1, 4, and 6 were all classified as Zone 5 due to the minimum characteristics valued in the zones scale system (Access, Remoteness, Naturalness, and Infrastructure). All of these areas are on the outskirts of A-Basin's SUP and have minimum to no alteration from their natural environment.

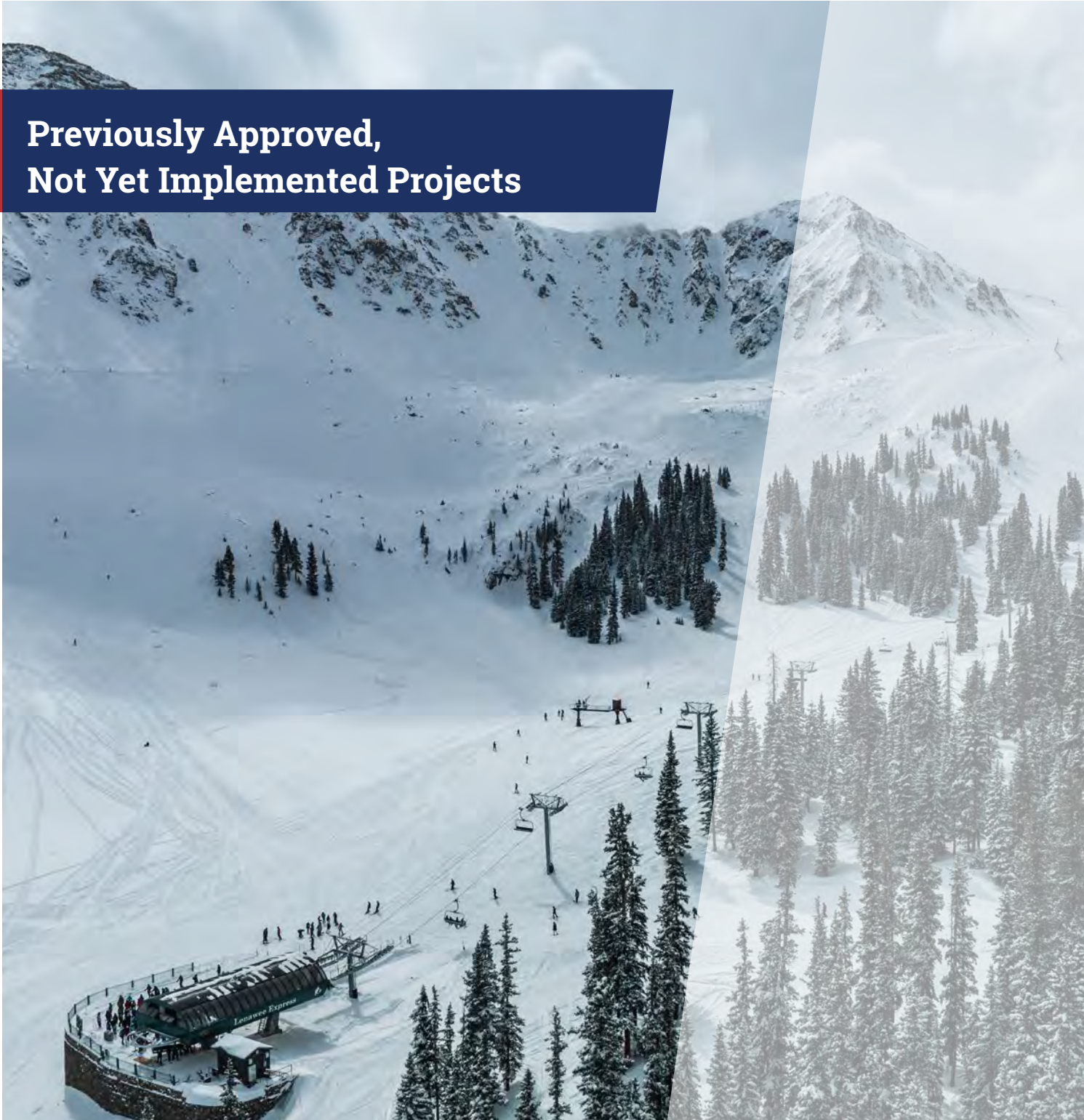
Table 8. Summer Use Zones

Area Boundaries	Score	Appropriate Zone	Area Boundaries	Score	Appropriate Zone
Area 1			Area 8		
Access	3		Access	1	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	1	
Infrastructure	3		Infrastructure	1	
Total Score	12	Zone 5	Total Score	4	Zone 1
Area 2			Area 9		
Access	3		Access	1	
Remoteness	3		Remoteness	1	
Naturalness	2		Naturalness	1	
Infrastructure	3		Infrastructure	2	
Total Score	11	Zone 4	Total Score	5	Zone 2
Area 3			Area 10		
Access	2		Access	1	
Remoteness	2		Remoteness	1	
Naturalness	2		Naturalness	1	
Infrastructure	3		Infrastructure	1	
Total Score	9	Zone 3	Total Score	4	Zone 1
Area 4			Area 11		
Access	3		Access	2	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	3	
Total Score	12	Zone 5	Total Score	8	Zone 3
Area 5			Area 12		
Access	2		Access	2	
Remoteness	2		Remoteness	2	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	3	
Total Score	10	Zone 4	Total Score	9	Zone 3
Area 6			Area 13		
Access	3		Access	2	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	1	
Total Score	12	Zone 5	Total Score	6	Zone 2
Area 7			Area 14		
Access	2		Access	3	
Remoteness	2		Remoteness	3	
Naturalness	2		Naturalness	3	
Infrastructure	2		Infrastructure	2	
Total Score	8	Zone 3	Total Score	11	Zone 4

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4

Previously Approved, Not Yet Implemented Projects



The following upgrades have been previously approved, but have not yet been implemented. Approvals are contained in the 2024 Arapahoe Basin Via Ferrata Phase II Decision Memo (2024 DM), 2021 Food Service and Lenawee Replacement Project Decision Memo (2021 DM), 2020 Arapahoe Basin High Noon Sand Shed Construction and Il Refugio Expansion Decision Memo (2020 DM), 2018 Arapahoe Basin Kitchen Remodel Letter to File, 1999 Arapahoe Basin Master Development Plan Environmental Impact Statement and Record of Decision (1999 ROD), 2001 Arapahoe Basin Lenawee Chairlift Realignment Decision Notice and Finding of No Significant Impact (2001 DN/FONSI), and the 2006 Arapahoe Basin Improvement Plan Final Environmental Impact Statement Record of Decision (2006 ROD). Due to the length of time that has lapsed since some of these approvals, and because the WRNF's Land and Resource Management Plan was revised in 2002, additional site-specific NEPA (re)analysis may be required before A-Basin can implement them.

A. GENERAL UPGRADE OF LIFTS

In the 1999 ROD, the Forest Service states, "In the event that any other lifts require replacement over the term of the A-Basin MDP, they will be replaced with new equipment along their current alignment and with similar uphill hourly capacity."

Lift upgrades may be required in the future to replace older equipment with newer technology. Lift upgrades, with the implementation of best management practices and conditions described within the EIS, are "approved to allow A-Basin to continue to provide a high level of service to its users."

B. LENAWEE MIDWAY STATION

As part of the 2001 DN/FONSI, a mid-station on Lenawee was approved. A-Basin upgraded Lenawee Express in 2022 without implementing the mid-station and does not plan to do so at this time.

C. FOOD SERVICE

In 2018, a new warehouse food storage building was approved as part of the A-frame kitchen expansion decision memo. While the kitchen has been expanded and the service road and utilities have been realigned, A-Basin has yet to construct the approximate 2,200-square-foot storage building which will be used for food storage.

The 2021 DM approved a new food service structure adjacent to the existing Black Mountain Lodge, referred to as the Midway BBQ. This new structure will be about 2,100 square feet and include food service, guest seating, and storage space.

D. SNOWMAKING

The 1999 ROD approved 125 acres of snowmaking. Approximately 75 acres of the snowmaking has been currently constructed, leaving 50 acres to be constructed.

E. TUBING PARK

In an attempt to increase recreational opportunities at A-Basin, a small tubing park was approved in the 1999 ROD for the space directly to the west of the Molly Hogan Lift and beginner area. The overall park would not exceed 550 feet in length and 135 feet in width. Three lanes, separated by three to five-foot berms, would run approximately 300 feet in length. It is anticipated that less than five-acre feet of water would be used for the tubing park. A surface lift would serve the tubing hill and would have a similar alignment as the Molly Hogan Lift. At this time A-Basin does not plan on implementing this project at this time.

F. MOUNTAIN OPERATIONS

The 2020 DM approved the construction of a storage shed in the High Noon parking lot to be used for ice maintenance. By storing sand indoors A-Basin can keep sand dry, reduce maintenance on equipment, and reduce the amount of stored sand migration into the parking lot drainage system.

G. SUMMER IMPROVEMENTS

The 2024 DM approved a second via ferrata within the existing SUP area. Located on the lower East Wall in the East Gully Cliffs area, this via ferrata is designed for entry-level visitors. This second phase includes sections approximately 300 feet long along the cliff bands and takes about three to four hours to complete. A 0.1-mile spur would be added to the existing Half Moon hiking trail to create access. Visitors would hike 0.4 miles from the top of the Black Mountain Express chairlift to access the new via ferrata.

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5

Upgrade Plan



The upgrade plan for A-Basin continues the tradition of “The Legend,” by building on previous planning and approvals. This section discusses the findings of the existing facilities analysis, with the assumption that the base facilities improvements from the Previously Approved, Not Yet Implemented projects, as previously discussed, will be implemented.

Unless stated otherwise, the planned conditions detailed in this section reflect a full build-out scenario, with all projects being completed.

A. SUMMARY OF THE UPGRADE PLAN

The goal of the upgrade plan is to produce a high-quality experience throughout the recreational area. Accordingly, the upgrading plan is tailored to improve A-Basin’s ability to respond to its market/skier demands through the development of an enhanced learning area, improved efficiency of lift operations, better on-mountain connectivity, increased space in guest service facilities, and development of a multi-season recreational presence. This plan should not only improve the ski area’s current market niche, but also help to attract new visitors.

B. UPGRADED LIFT NETWORK

The majority of lifts at A-Basin are relatively new and are well maintained. Upgrades to the lift network in this MDP are focused on improving on-mountain circulation, transporting skiers, and improving the beginner and novice skier experience. A-Basin will continue to limit ticket and pass sales to preserve the guest experience even with the construction of upgrade plan projects.

A pulse gondola is planned at the base area with the main purpose of transporting guests to and from the parking areas. One terminal would be near the entrance of Last Chance and Upper Last Chance and the other would be near the pedestrian tunnel under the highway. Guests could ride either direction. A-Basin currently runs a shuttle system to transport guests to the base area, however, the shuttle also gets caught in the traffic around the parking area. The gondola would eliminate the need for the shuttle system, increasing efficiency and reducing congestion around the parking area. Because the gondola is only used for transporting guests, it would not impact the resort’s lift network capability.

Another gondola is planned to originate at the base area and ascend to the planned on-mountain skier services hub at Sawmill Flats described later in this chapter. A-Basin is constrained by limited base area space and the lack of beginner terrain. With this gondola, beginner guests will be able to ride the gondola to the enhanced learning area at Sawmill Flats and download if they are not yet comfortable skiing back to the base. In addition to transporting skiers to Sawmill Flats, it will provide some additional out-of-base capacity and lift redundancy. This is especially important during the morning staging period when Black Mountain Express experiences long wait times. The Pika Place carpet is planned to be relocated near the Sawmill Flats facility to provide access to on-mountain beginner terrain.

A detachable chairlift, Wrangler lift, is planned from Sawmill Flats to upper *Wrangler*. From there, skiers may access the Lenawee Express. Combined with the gondola, these two new lifts provide redundancy for Black Mountain Express and Pallavicini. The lift's primary purpose, however, is to be the chairlift guests ride after graduating from the carpet at Sawmill Flats. It will run slower than is typical to introduce new skiers to aerial lifts. The installation of the gondola and Wrangler lift will improve the learning experience and enhance skill progression by facilitating access to the gentle terrain on the lower east side of the resort.

Table 9. Lift Specifications—Upgrade Plan

Lift Name, Lift Type	Top Elevation	Bottom Elevation	Vertical Rise	Slope Length	Avg. Grade	Design Capacity	Rope Speed	Carrier Spacing	Lift Maker/ Year Installed
	(ft.)	(ft.)	(ft.)	(ft.)	(%)	(pph)	(fpm)	(ft.)	
Black Mtn Express/DC-4	11,551	10,838	713	2,957	25%	2,000	1,000	120	LPOA/2010
Pallavicini/C-2	12,115	10,790	1,325	3,510	41%	1,200	500	50	LPOA/2020
Beaver's Lift/C-4	12,458	10,958	1,500	4,080	39%	1,800	450	67	LPOA/2018
Lenawee Express/DC-6	12,465	11,450	1,015	4,079	26%	2,380	1,000	151	LPOA/2022
Molly Hogan/C-4	10,870	10,812	58	398	15%	800	250	75	LPOA/2020
Molly's Magic/C	10,836	10,808	28	152	19%	1,500	160	6	2003
Zuma Lift/C-4	12,475	11,362	1,113	4,164	28%	1,900	450	57	LPOA/2007
Sawmill Flats/C	11,287	11,273	14	120	12%	1,200	160	6	Relocated
Lazy J Tow/S	12,478	12,462	16	375	4%	1,200	325	16	2007
Sawmill Flats/DG-8	11,273	10,848	425	1,915	23%	1,800	800	213	Planned
Wrangler/DC-4	11,515	11,270	245	1,684	15%	1,800	800	107	Planned
Park n Ride/FG-6x3x4	10,993	10,883	110	973	11%	500	338	973	Planned

Source: SE Group

Notes:

C2 = fixed-grip double chairlift / C3 = fixed-grip triple chairlift / DC4 = detachable four-passenger chairlift / DG-8 = eight-passenger gondola / FG-6x3x4 = Fixed-grip gondola, 6 passenger cabins, 4 groups or 3 cabins per group / C = Carpet / S = Surface Lift

C. UPGRADED TERRAIN NETWORK

Small, strategic changes are planned at A-Basin to improve on-mountain circulation and the beginner experience. An enhanced learning area from the top to the bottom of the planned Wrangler lift is planned to improve the experience for lower ability levels. On the east side of the resort below the East Wall, the terrain is gentler and more suitable for beginner-to-low intermediate skiers. Currently, *Wrangler* is the only novice route down from Black Mountain Express, has an average grade suitable for beginners, but has some steep portions new skiers may find intimidating. The planned Wrangler lift, the gondola, and the enhanced learning area will facilitate access to this area for less experienced skiers. The long, wide, and gentle ski run is ideal for beginners who have progressed beyond the carpet.

A skiway is planned to be improved in Zuma Bowl near *Miner’s Glade* because another groomable ski route is needed in the area to increase utilization of the western side of Montezuma and to help with on-mountain winter operations in Montezuma Bowl. It will be wide enough to accommodate a snowcat and will not significantly increase skiable acreage.

1. TERRAIN DISTRIBUTION BY ABILITY LEVEL

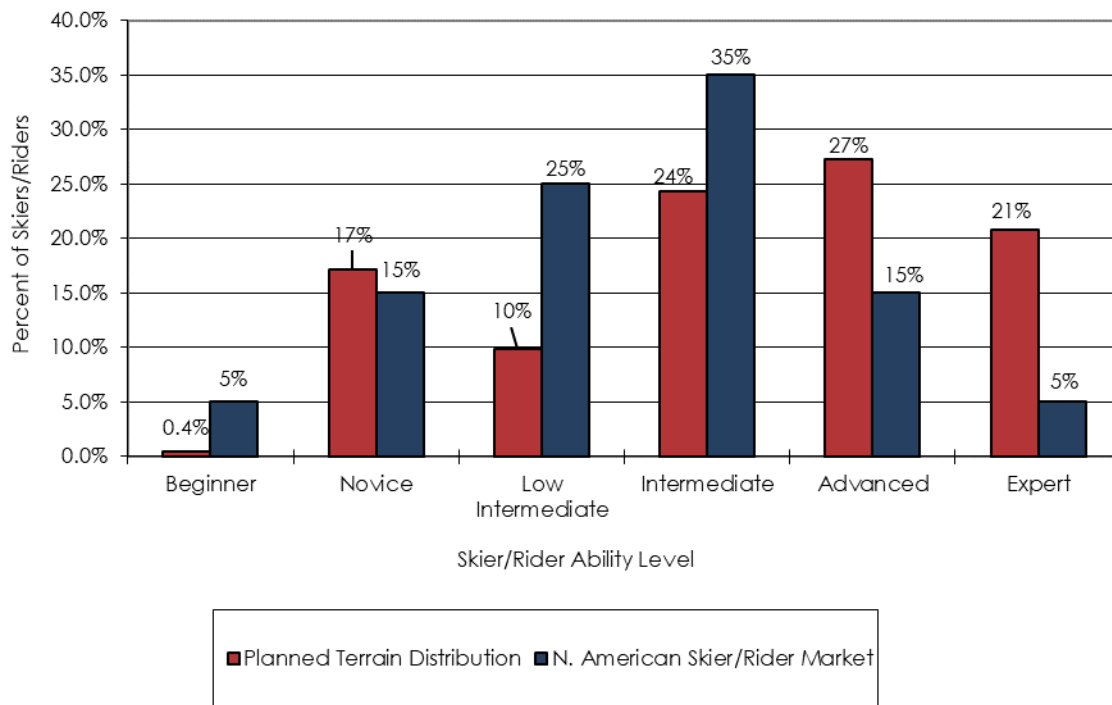
Under the upgrade plan, the terrain distribution by ability level remains the same. However, access to existing lower ability level terrain will be improved. While the portion of *Wrangler* that will be served by the new Wrangler lift is technically novice because of a slightly steeper pitch near the top, it will be acceptable for more advanced beginners. This nuance would effectively increase the percentage of beginner terrain to a level that is much closer to the market demand.

Table 10. Terrain Distribution by Ability Level—Upgrade Plan

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider On-Trail (guests)	Skier/Rider Distribution (%)	Skier/Rider Market (%)	A-Basin Market (%)
Beginner	0.6	26	0%	5%	2%
Novice	50.3	906	17%	15%	7%
Low Intermediate	37.3	522	10%	25%	18%
Intermediate	128.2	1282	24%	35%	20%
Advanced	288.1	1441	27%	15%	30%
Expert	366.1	1098	21%	5%	23%
TOTAL	870.7	5,276	100%	100%	100%

Source: SE Group

Chart 3. Terrain Distribution by Ability Level—Upgrade Plan



D. UPGRADED DESIGN DAY ANALYSIS

1. LIFT NETWORK CAPABILITY

A detailed evaluation of A-Basin’s upgraded lift network was completed for this MDP, as shown in the table below. In the upgrade plan, A-Basin’s design day is calculated at 4,840 guests—an increase of 720 from its existing 4,120 guests. Most of this increase comes from the planned Wrangler lift, the primary purpose of which is to improve the experience of the lower ability level skier at A-Basin. The Park n’ Ride Gondola does not contribute capability to the overall lift network capabilities because it will solely be used for transporting guests from one place to another. Even with an increase in lift network capability, A-Basin plans to continue limiting ticket sales to preserve the guest experience.

Table 11. Lift Network Capability—Upgrade Plan

Lift Name, Lift Type	Slope Length (ft.)	Vertical Rise (ft.)	Design Capacity (pph)	Operating Hours (hrs.)	Up- Mountain Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly (pph)	VTF/ Day (000)	Vertical Demand (ft./day)	Lift Network Capability (guests)
Black Mtn Express/ DC-4	2,957	713	2,000	7.50	10	5	1,700	9,097	11,214	810
Pallavicini/C-2	3,510	1,325	1,200	7.00	5	5	1,080	10,017	18,979	530
Beaver's Lift/ C- 4	4,080	1,500	1,800	6.50	0	5	1,710	16,673	21,484	780
Lenawee Express/DC-6	4,079	1,015	2,380	6.50	10	10	1,904	12,567	15,009	840
Molly Hogan/ C- 4	398	58	800	6.50	0	10	720	271	1,724	160
Molly's Magic/ C	152	28	1,500	6.50	0	15	1,275	233	2,658	90
Zuma Lift/C-4	4,164	1,113	1,900	6.50	0	5	1,805	13,061	15,583	840
Sawmill Flats/C	120	14	1,200	6.50	0	15	1,020	93	1,655	60
Lazy J Tow/S	375	16	1,200	6.50	100	0	-	0	1,602	-
Sawmill Flats/ DG8	1,915	425	1,800	6.50	50	10	720	1,989	11,022	180
Wrangler/DC4	1,684	245	1,800	6.50	5	10	1,530	2,437	4,428	550
Park n Ride/FG- 6x3x4	973	110	500	7.00	100	0	-	0	0	-
TOTAL	24,407		18,080				13,464	66,438		4,840

Source: SE Group

Notes:

C2 = fixed-grip double chairlift / C3 = fixed-grip triple chairlift / DC4 = detachable four-passenger chairlift / DG-8 = eight-passenger gondola / FG-6x3x4 = Fixed-grip gondola, 6 passenger gondola, 4 groups of 3 cabins per group / C = Carpet / S = Surface Lift

2. DENSITY ANALYSIS

As shown in the following table, A-Basin's average density index in the upgrade plan is 58%—an improvement in utilization relative to A-Basin's current density of 49%. Since this upgrade density index is still below 100%, guests at A-Basin will continue to enjoy a high-quality recreation experience. However, strategic lift additions and upgrades will increase the use of currently-underutilized terrain—particularly lower ability level terrain on the east side.

As discussed in Chapter 3, overall resort efficiency is becoming an increasingly important factor in the industry, relating not only to operational efficiency, but also efficiency of the design and layout of the resort. A balanced resort would ideally have a trail network served by the fewest lifts possible, while maintaining circulation routes and service to all ability levels and types of skiers.

a) Lift Network Efficiency

Lift Network Efficiency is the amount of effort and cost required to operate and maintain the lift network. As noted in Chapter 3, optimally, and as a planning goal, the average capability per lift would likely be close to 1,000. Industry-wide, the average capability per lift is approximately 650. For the upgrade plan, the average per lift is 586, down slightly from existing conditions. This is primarily driven by the new Sawmill Flat gondola that has a 50% up-mountain access role. The slight decrease in lift network efficiency is outweighed by the benefit of providing a higher quality beginner area and a more meaningful learning progression at A-Basin in the planned Sawmill Flats area.

b) Terrain Network Efficiency

Terrain Network Efficiency refers to the amount of effort required to properly maintain a resort's terrain. From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. Terrain Network Efficiency increases under the upgrade plan. The overall density index increases from 49% to 59%, and overall trail density increases from four skiers per acre to six skiers per acre. This implies that the lift network better serves the terrain network, and the terrain is better utilized with improvements from the upgrade plan.

Table 12. Density Analysis – Upgrade Plan

Lift Name	Lift Network Capability	Guest Dispersement				Terrain Area (acres)	Density Analysis			
		Support Fac./Milling (guests)	In Lines (guests)	On Lift (guests)	On Terrain (guests)		Terrain Density (guests/ac.)	Desired Density (guests/ac.)	Diff. (+/-)	Index (%)
Black Mtn Express/DC4	810	203	227	84	296	57.6	5	11	-6	45%
Pallavicini/C2	530	133	162	126	109	147.2	1	3	-2	33%
Beaver's Lift/C4	780	195	114	233	238	121.9	2	5	-3	40%
Lenawee Express/DC6	840	210	159	129	342	171.6	2	7	-5	29%
Molly Hogan/C4	160	48	60	19	33	3.5	9	17	-8	53%
Molly's Magic/C	90	30	21	20	19	0.5	37	35	2	106%
Zuma Lift/C4	840	210	60	278	292	338.3	1	5	-4	20%
Sawmill Flats/C	60	20	17	13	10	0.2	42	35	7	120%
Sawmill Flats/DG8	180	54	24	29	73	8.5	9	17	-8	53%
Wrangler/DC4	550	165	128	54	203	21.0	10	16	-6	63%
TOTAL	4,840	1,268	972	752	1,377	870.2	5	9	-4	58%

Source: SE Group

Notes:

Lift Types: DC-6 = detachable six-passenger chairlift / DC-4 = detachable four-passenger chairlift / C-4 = fixed-grip quad chairlift / C-2 = fixed-grip double chairlift / C = carpet / S = surface lift

The Lazy J Tow and Park and Ride Gondola were not included in the density analysis because they are transport lifts and do not contribute to the overall lift network capability.

E. UPGRADED GUEST SERVICES FACILITIES, FOOD SERVICE SEATING & SPACE USE ANALYSIS

1. GUEST SERVICES

A new skier services hub is planned at Sawmill Flats. The new building is intended to address existing deficiencies in space and provide a higher quality guest experience. The new building will be home to a learning center, additional food and beverage service and seating, some office space, and other functions such as restrooms. Rentals for the ski school can be located here, streamlining the process for ski school guests at Sawmill Flats and traditional guests at the base. The building is planned as an approximately 10,000 square feet footprint with multiple stories.

One major benefit of an on-mountain enhanced learning center is that it allows lower ability level guests to experience the mountain beyond the base area. Guests can experience a deeper connection with the outdoors when moved away from more developed areas. From the new facility, skiers can enjoy scenic views of the East Wall while they are learning. By moving the resort's beginners to a different part of the mountain, it will alleviate some congestion at the base area as well. There is potential to convert the learning center building at the base area to restaurant seating. There is potential to move some employee space, such as lockers and ski patrol space, to the new skier services hub. Once other functions are removed from the base area, A-Basin can alleviate existing deficiencies with extra space. For example, the ski school building could become additional seating or rental space.

2. SPACE USE ANALYSIS

Space use recommendations based upon an increased design day of 4,840 are detailed in Table 13. Overall, approximately 15,000 square feet to 30,000 square feet of additional space is needed. The bulk of this space will be located at the new Sawmill Flats building. It should be noted that certain buildings, Black Mountain Lodge for example, have smaller recommended ranges under the upgrade plan. This is due to the Sawmill Flats guest services building absorbing excess demand from those buildings, reducing pressure on facilities.

Table 13. Space Use Recommendations—Total Resort—Upgrade Plan

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	1,090	1,330
Public Lockers	3,270	3,990
Rentals/Repair	6,530	7,990
Retail Sales	2,220	2,720
Bar/lounge	3,330	4,070
Adult Ski School	1,740	2,130
Kid's Ski School	3,490	4,260
Restaurant Seating	17,170	19,993
Kitchen/Scramble	8,585	9,997
Rest rooms	2,890	3,530
Ski Patrol	1,780	2,180
Administration	4,570	5,590
Employee Lockers/Lounge	1,830	2,240
Mechanical	1,580	2,310
Storage	2,640	3,860
Circulation/Waste	6,320	9,240
TOTAL SQUARE FEET	69,035	85,430

SOURCE: SE Group

3. FOOD SERVICE SEATING

Under the upgrade plan, the seating deficiency will be exacerbated. However, the construction of the Sawmill Flats facility will drastically relieve pressure on the Black Mountain Lodge. Previously, the Black Mountain Lodge was short 140 seats. While there will still be a need for seating at the base area, Sawmill Flats will absorb ski school guests that currently exist at the base area. As previously discussed, the base area shortage can be alleviated by reconfiguring space to create new seating. Approximately 330 seats will be required at the new Sawmill Flats facility, a third of which would be dedicated to students of the ski school in all-day programs. Il Rifugio and Steilhang Hut remain fairly balanced.

Overall, the resort will require approximately 600 additional seats upon full buildout of the upgrade plan. Abundant outdoor seating offsets some of this need when weather allows. As previously mentioned, A-Basin's clientele are more likely to bring a brown-bag option than those of more traditional resorts. These factors combined with space reconfiguration and new food and beverage facilities at Sawmill Flats will balance seating to the resort's design day.

Table 14. Restaurant Seats—Upgrade Plans

	Base Area	Black Mountain Lodge	Steilhang Hut	Il Rifugio	Sawmill Flats	Resort Total
Lunchtime Demand	2,519	904	197	172	1,145	4,937
Average Seat Turnover	3.5	3.5	4	3	3.5	
Existing Indoor Seats	474	240	48	48	--	810
Recommended Seats	720	258	49	57	327	1,412
Difference	-246	-18	-1	-9	-327	-602
Existing Outdoor Seats	130	200	48	48	--	426

F. UPGRADED PARKING AND RESORT ACCESS

Total available parking should be balanced with the resort's design day for a peak visitation day. Guests arrive at A-Basin by personal vehicles, the Summit Stage, Front Range SnowStang, or charter buses. As mentioned in Chapter 3, parking is limited at A-Basin. Efforts to encourage public transit ridership and higher AVO have helped in recent years; however, access and parking to A-Basin continues to be an issue. A-Basin has diligently been working to encourage higher AVO with carpooling incentives. They hope to expand the program and have recently been able to utilize 75 parking spaces for employees approximately 1.5 miles away. A-Basin also completed a parking study to analyze structured parking but it was determined not to be feasible.

To further provide seamless connectivity from the parking areas to the base and onto the mountain, A-Basin has envisioned multiple improvements. The administration and drop-off lot is planned to be reconfigured to make better use of the space and to provide improved circulation in this critical drop-off area for guest arrival and public transit. This may include adding additional electric vehicle chargers or adding an acceleration lane to the highway. Two new parking areas have been planned at Moose Hollow and an extension of Upper Last Chance. The Moose Hollow parking area is planned adjacent to the existing CDOT maintenance facility with approximately 200 spaces. It is planned to have ski-in, ski-out access and to have a pedestrian bridge to provide access across the highway. The parking area off of Upper Last Chance is planned to have approximately 195 spaces. A bridge or natural bottom culvert is envisioned to span the creek between the two parking areas. Skiers and riders could also ski to the underpass, similar to what skiers currently do when parking in the Last Chance lot.

Parking is outlined in Table 15. With an increased design day of 4,840 and an additional 2% of non-skiing guests, parking is necessary for approximately 4,937 guests. Assuming the same AVO and bus ridership as existing, there is a slight surplus in parking. The surplus is desired to accommodate the increase in projected visitation, prevent guests from parking on the highway, and eliminate the need for a shuttle for guests from further parking areas. If the AVO dips below 2.5, this surplus will decrease. Before the planned lots are built, A-Basin plans to continue to implement measures to incentivize carpooling and that program will evolve as needed to continue to address guest and parking demands. To increase public transit ridership, A-Basin will improve its public transit drop-off and pick-up area and continue collaborating with local municipalities.

As previously mentioned, A-Basin will still manage the level of ticket and pass sales to ensure that parking lots and other functions are not overwhelmed.

Table 15. Recommended Parking—Upgrade Plan

	Total
Parking Demand	4,937
# of guests arriving by car (95%)	4,690
# of guest arriving by bus (5%)	247
Required car parking spaces	1,876
Required employee car parking spaces	122
Total required spaces	1,998
Existing parking spaces	1,674
Planned parking spaces	2,069
Surplus/deficit	71

G. UPGRADED RESORT OPERATIONS

1. SNOWMAKING

A-Basin plans to make snow on 65 additional acres, bringing its total snowmaking coverage to 140 acres. 24 of the additional 65 acres were previously approved in the 1999 ROD. The additional 41 acres are described below and represent A-Basin’s strategic planning and determination on how to most effectively utilize its snowmaking system to support a high-quality guest experience.

Approximately 25 acres of snowmaking in Montezuma Bowl are planned to ensure the lift can remain open during times of low snow early or late in the season. As previously mentioned, the Montezuma Bowl lift supports approximately 830 guests. If this lift cannot operate, the A-Basin lift network would be constrained. The area is primarily south and west facing, exposed to afternoon sun and wind, so snowmaking would ensure reliable coverage. Coverage is planned down portions of *Shining Light* and *Columbine* to ensure there is a route down from Zuma.

On *Loafer* and *Davis* runs in the Beavers, 21 acres of snowmaking are planned to ensure those intermediate routes have a quality snow surface and are skiable during low snow years. Beavers primarily consists of advanced terrain and glades, so intermediate guests would not be able to ski this area if *Loafer* and *Davis* were not open.

On the frontside, there is planned coverage on *Humbug*, *West Gully*, and near the bottom of *Upper Wrangler* and *Shooting Gallery*, ensuring an additional route is available off of Lenawee Express. Some additional coverage is planned on *Grizzly Road*, near *West Wall*, and on the ridge between the Frontside and the Beavers to facilitate skier circulation. To support the development of the Sawmill Flats area and new *Wrangler* lift, snowmaking is planned under the lift line of the *Wrangler* lift, on *Middle Wrangler*, *Chisholm Trail*, and *North Fork*. Combined, this totals 19 acres on the frontside.

A-Basin’s water rights authorize the resort to divert water for snowmaking from the North Fork of the Snake River from September 1 to December 31. Water is diverted into a 5.5 acre-feet reservoir where it is

stored until ready to be used. The 1999 ROD limits A-Basin's diversions to 25% of the streamflow in the North Fork of the Snake River. In addition to the withdrawal requirement, the resort maintains a minimum bypass flow of 0.5 cfs at the diversion at all times except for October, when a 1.0 cfs minimum bypass flow is required to mitigate impacts to fish spawning. The minimum bypass flow naturally dips below the requirement mid-December to early January, at which point A-Basin stops diverting. Otherwise, A-Basin's diversions do not cause the stream to drop below the minimum bypass flow.

The withdrawal conditions restrain A-Basin's use of its water rights. A-Basin will propose a modification to the withdrawal conditions to allow expanded snowmaking coverage from A-Basin's water rights while protecting the environment and natural resources.

A-Basin's two decades of monitoring data demonstrate that A-Basin's snowmaking diversions have not impacted environmental conditions and support a modification to the withdrawal condition. The 1999 ROD mandated a five-year monitoring plan to measure impacts to fish and insect populations, streamflow levels, stream chemistry, and stream morphology. Snowmaking was found to have no impact on these factors and no changes were suggested. A-Basin has continued to monitor fish populations.

2. AVALANCHE MITIGATION

In keeping with industry trends that are moving away from military grade artillery and towards remote avalanche mitigation systems, A-Basin plans to install remote systems along the East Wall and west side of Montezuma Bowl to facilitate avalanche control operations in terrain that can be dangerous to access. A-Basin currently uses avalaunchers, but rounds are costly and the technology is being phased out in favor of remote avalanche controllers.

3. SUP BOUNDARY ADJUSTMENT

A-Basin plans to expand the SUP area by five acres to accommodate the planned Upper Upper Last Chance lot. No other ski area operations are planned to occur in this area.

4. MAINTENANCE FACILITIES

A new maintenance facility is planned near the existing maintenance facility to expand shop and storage space. The new building will be approximately 4,000 square feet to accommodate additional vehicle maintenance bays.

5. INFRASTRUCTURE AND UTILITIES

Water, sewer, and electric is planned to be connected to the new facility at Sawmill Flats. It will be connected to nearby existing power and sewer lines. The resort plans to drill another well to ensure sufficient water supply. In addition, A-Basin plans to install fiber internet over the entire mountain.

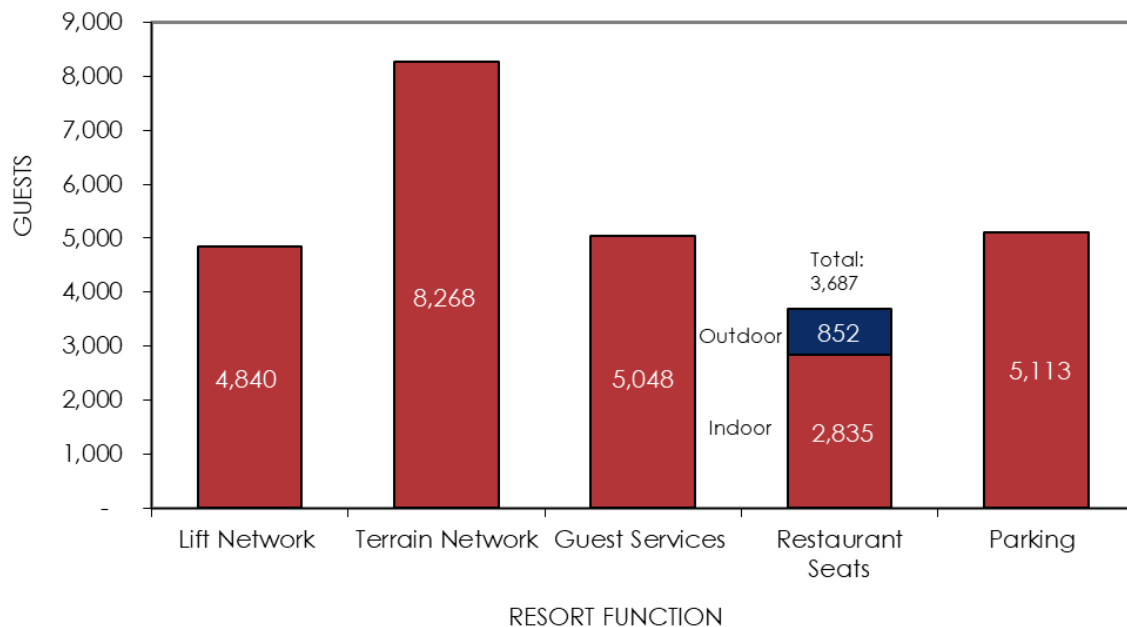
6. MOUNTAIN ROADS

Road improvements might be needed to construct the Sawmill Flats skier services facility; however, no new on mountain roads are planned.

H. RESORT BALANCE

The purpose of the upgrade plan projects is to elevate the experience for guests of all ability levels and fix operational inefficiencies. The new lifts increase the lift network capability, but the increase is concentrated on the lower east side of the mountain. Beginner-to-intermediate skiers will have better access to the gentler terrain on the lower east portion of the mountain. The new learning facility at Sawmill Flats will bring guest service space into balance with the rest of the resort, allowing space to be reconfigured at the base area and establishing an on-mountain skier services hub for both guests and employees. The construction of new parking lots will accommodate the increased design day levels but parking will continue to be a limiting factor if AVO drops. Restaurant seating will be addressed with reconfigurations in the base area and the Sawmill Flats facility, as well as existing outdoor decks.

Chart 4. Resort Balance—Upgrade Plan



I. UPGRADED SUMMER AND MULTI-SEASON OPERATIONS

To enhance existing summer operations, Arapahoe Basin is planning various summer improvements. The resort is planning to add to its summer trail offerings, including ten miles of new trail in the Beavers, Steep Gullies, and the frontside. The trails were designed by the International Mountain Bicycling Association and will have features such as banks, rocks, berms, and speed control. A-Basin does not plan on offering lift-served mountain biking at this time. Certain trails will be designated as uphill, downhill, or both to prevent congestion on popular trails.

A small connector trail is planned to link the Via Ferrata and Half Moon trails to hikers.

A new interpretive amphitheater for multi-season events is planned near the bottom terminal of Lenawee Express. It will be accessed from the base and the top of Black Mountain Express by hiking trails.

A-Basin plans to offer camping in Last Chance parking lot or the planned Moose Hollow parking lot supervised by a camp host. Established campsites may include picnic tables, RV hookups, and vault toilets. Trash and maintenance would be managed by the resort.

A-Basin plans to build four 150 square-foot cabins with outdoor decks available for rent during summer and winter. These would be a day-use basecamp for skiers or hikers and enrich the on-mountain experience for patrons. The cabins would have electricity for heat and lights, but no other utilities. Architecture would be consistent with other on-mountain buildings.

Summer zones will stay largely the same with the exception of the Sawmill Flats area. That area, previously designated as Zone 2 within A9, will be designated as Zone 1 within a new area, A15. The area will only include the area surrounding the top terminal of the gondola, the bottom terminal of the Wrangler lift, and the Sawmill Flats building. Summer zones under the upgrade plan are detailed in Table 16.

Table 16. Summer Use Zones

Area Boundaries	Score	Appropriate Zone
Area 1		
Access	3	
Remoteness	3	
Naturalness	3	
Infrastructure	3	
<i>Total Score</i>	12	Zone 5
Area 2		
Access	3	
Remoteness	3	
Naturalness	2	
Infrastructure	3	
<i>Total Score</i>	11	Zone 4
Area 3		
Access	2	
Remoteness	2	
Naturalness	2	
Infrastructure	3	
<i>Total Score</i>	9	Zone 3
Area 4		
Access	3	
Remoteness	3	
Naturalness	3	
Infrastructure	3	
<i>Total Score</i>	12	Zone 5
Area 5		
Access	2	
Remoteness	2	
Naturalness	3	
Infrastructure	3	
<i>Total Score</i>	10	Zone 4
Area 6		
Access	3	
Remoteness	3	
Naturalness	3	
Infrastructure	3	
<i>Total Score</i>	12	Zone 5
Area 7		
Access	2	
Remoteness	2	
Naturalness	2	
Infrastructure	2	
<i>Total Score</i>	8	Zone 3

Area Boundaries	Score	Appropriate Zone
Area 8		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
<i>Total Score</i>	4	Zone 1
Area 9		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	2	
<i>Total Score</i>	5	Zone 2
Area 10		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
<i>Total Score</i>	4	Zone 1
Area 11		
Access	2	
Remoteness	1	
Naturalness	2	
Infrastructure	3	
<i>Total Score</i>	8	Zone 3
Area 12		
Access	2	
Remoteness	2	
Naturalness	2	
Infrastructure	3	
<i>Total Score</i>	9	Zone 3
Area 13		
Access	2	
Remoteness	1	
Naturalness	2	
Infrastructure	1	
<i>Total Score</i>	6	Zone 2
Area 14		
Access	3	
Remoteness	3	
Naturalness	3	
Infrastructure	2	
<i>Total Score</i>	11	Zone 4
Area 15		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
<i>Total Score</i>	4	Zone 1



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Figure 1: Vicinity Map

Legend



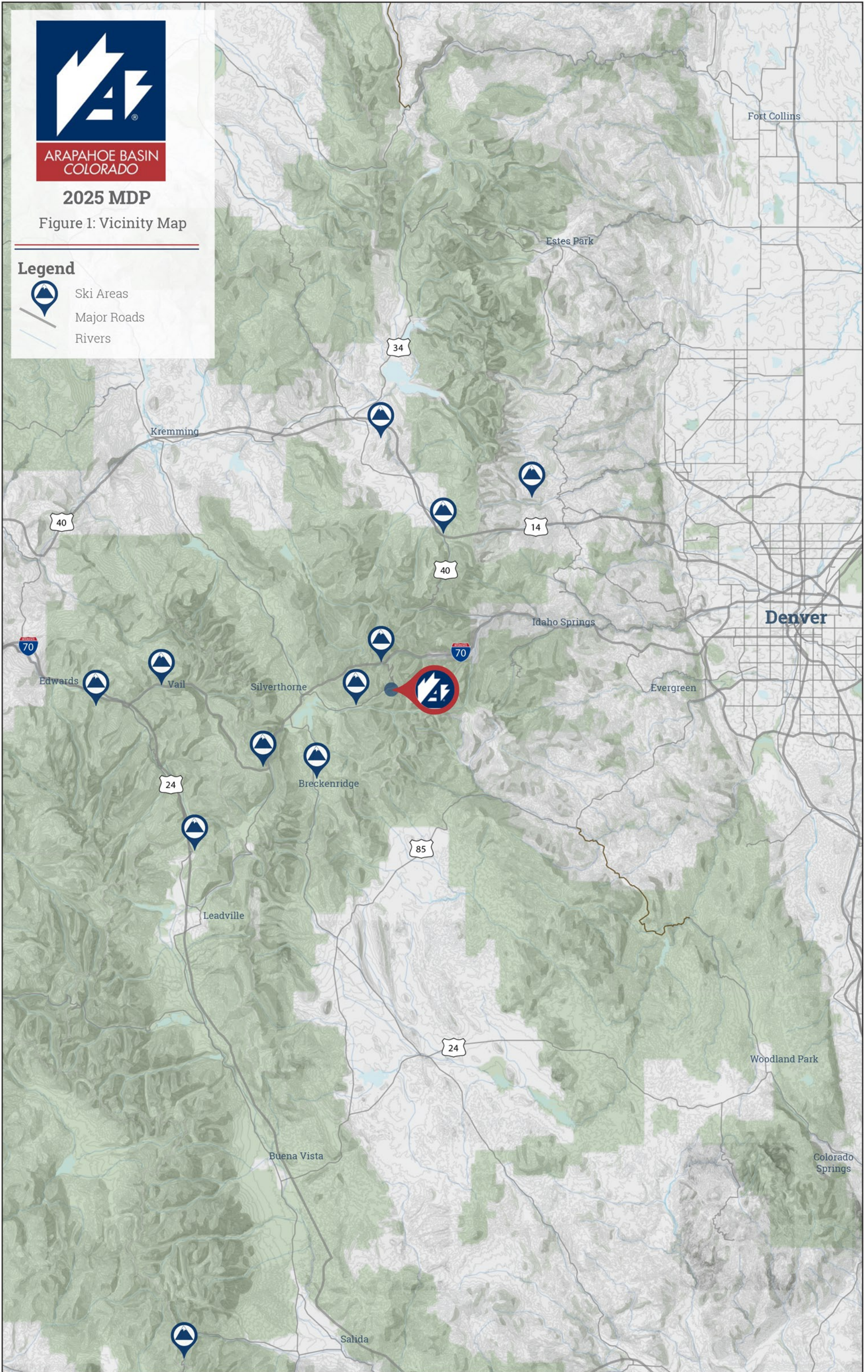
Ski Areas



Major Roads



Rivers





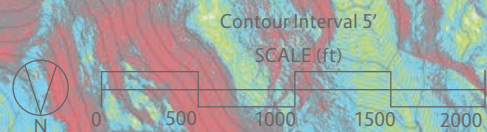
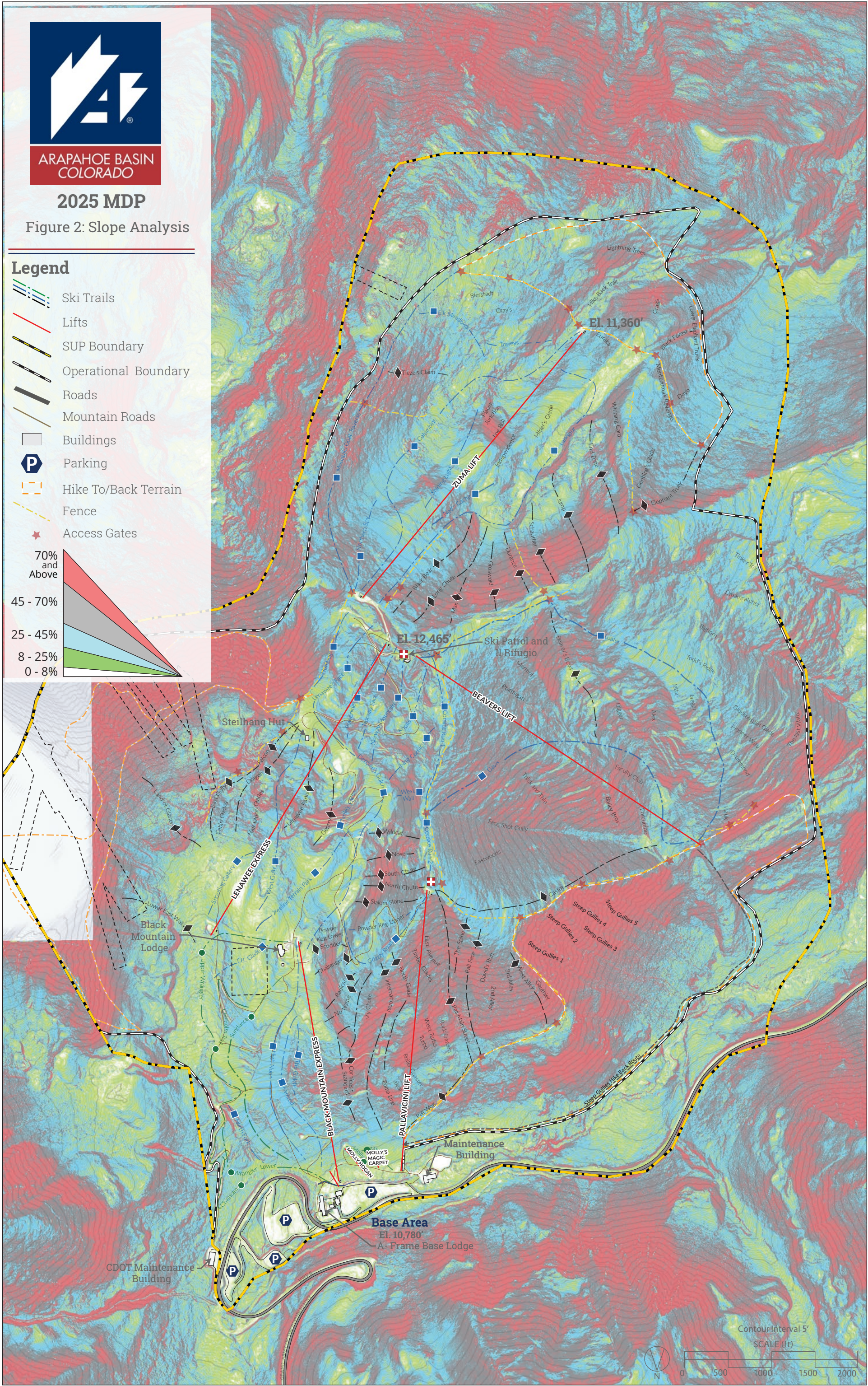
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Figure 2: Slope Analysis

Legend

- Ski Trails
 - Lifts
 - SUP Boundary
 - Operational Boundary
 - Roads
 - Mountain Roads
 - Buildings
 - Parking
 - Hike To/Back Terrain Fence
 - Access Gates
-
- 70% and Above
- 45 - 70%
- 25 - 45%
- 8 - 25%
- 0 - 8%



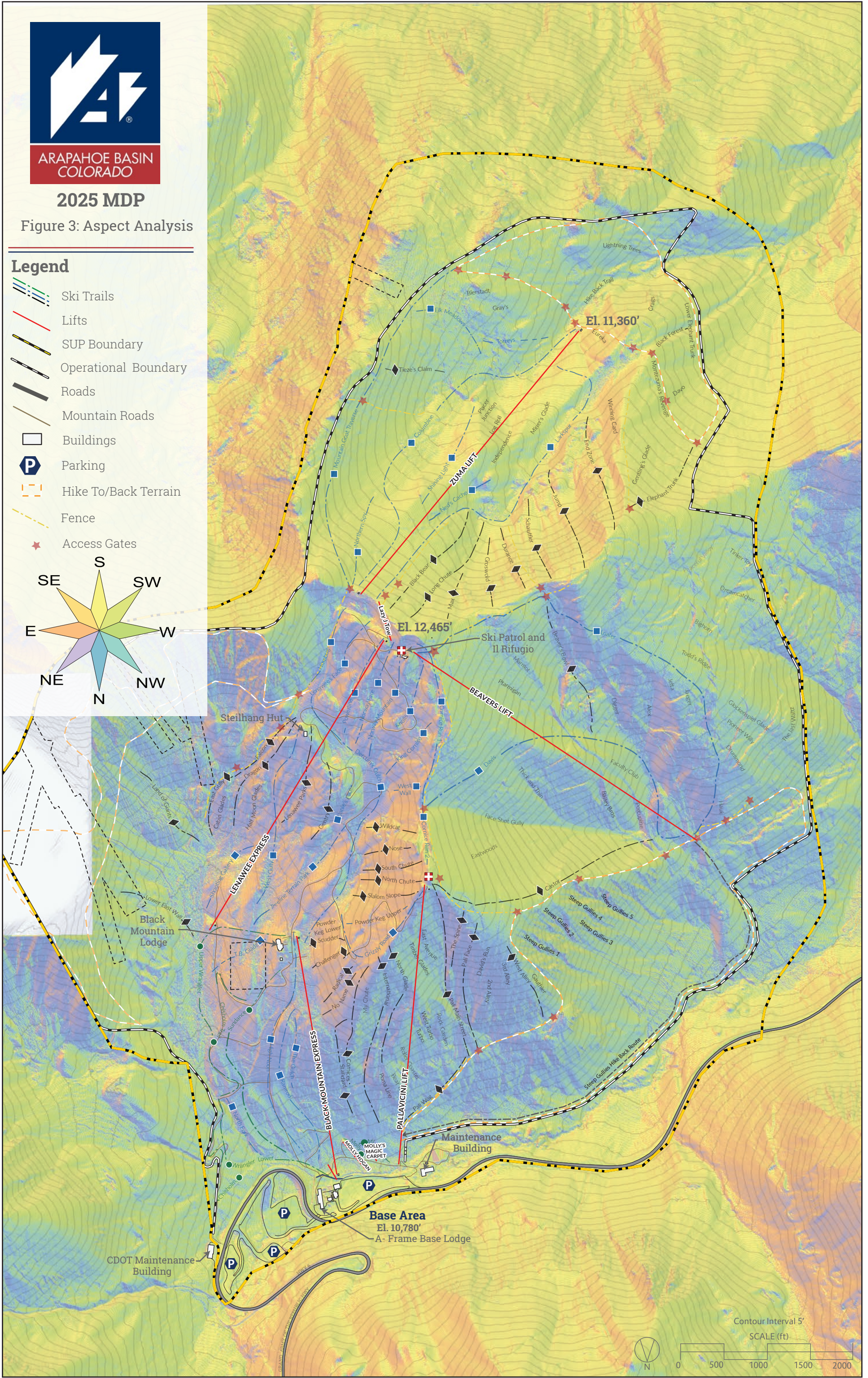
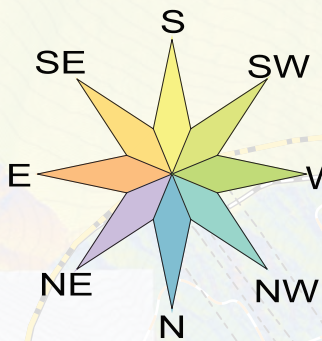


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Figure 3: Aspect Analysis

Legend

- Ski Trails
- Lifts
- SUP Boundary
- Operational Boundary
- Roads
- Mountain Roads
- Buildings
- Parking
- Hike To/Back Terrain
- Fence
- Access Gates



Contour Interval 5'
SCALE (ft)
0 500 1000 1500 2000

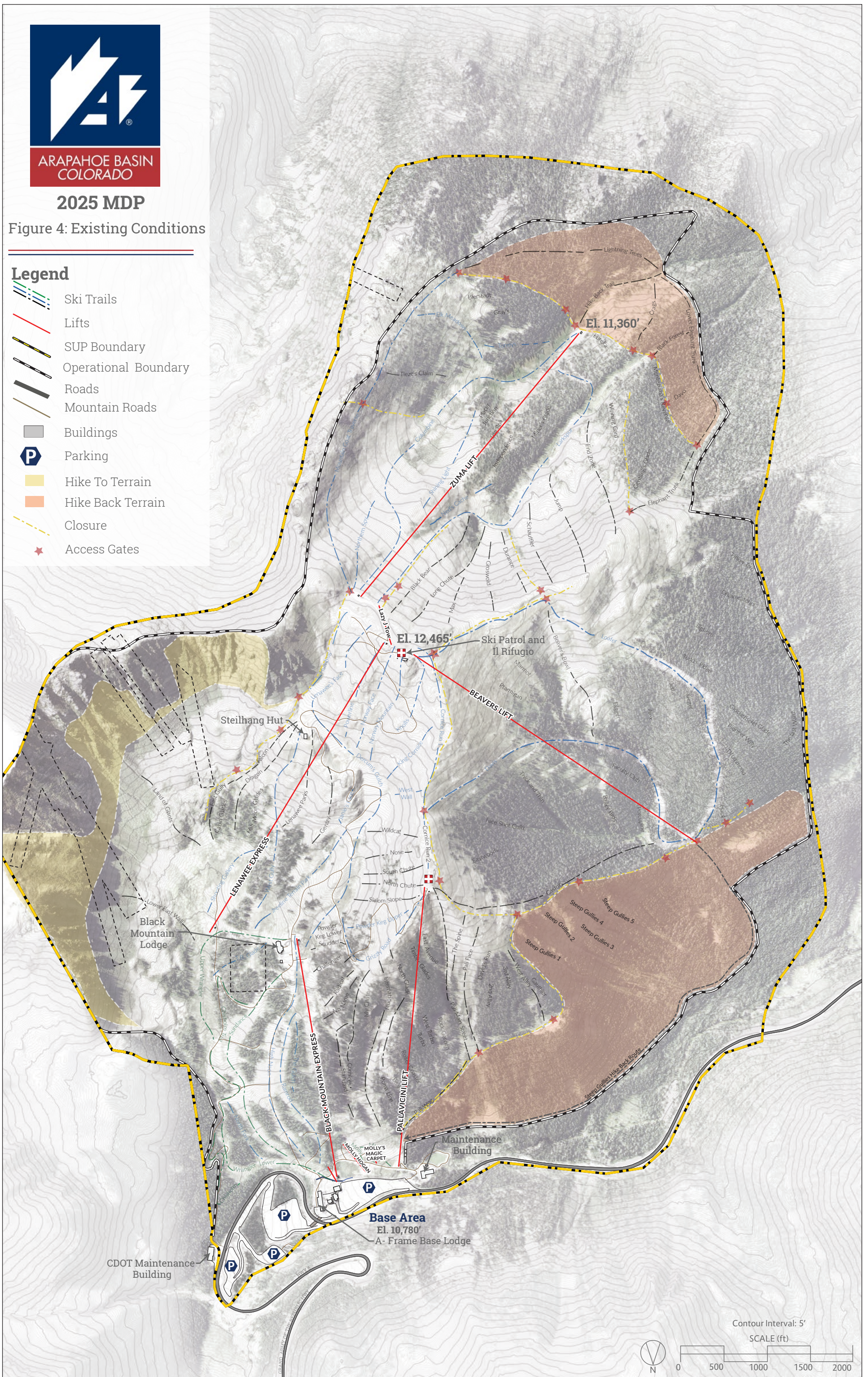


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Figure 4: Existing Conditions

Legend

- Ski Trails
- Lifts
- SUP Boundary
- Operational Boundary
- Roads
- Mountain Roads
- Buildings
- Parking
- Hike To Terrain
- Hike Back Terrain
- Closure
- Access Gates



Contour Interval: 5'
SCALE (ft)



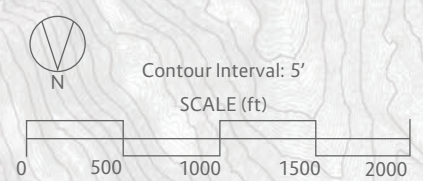
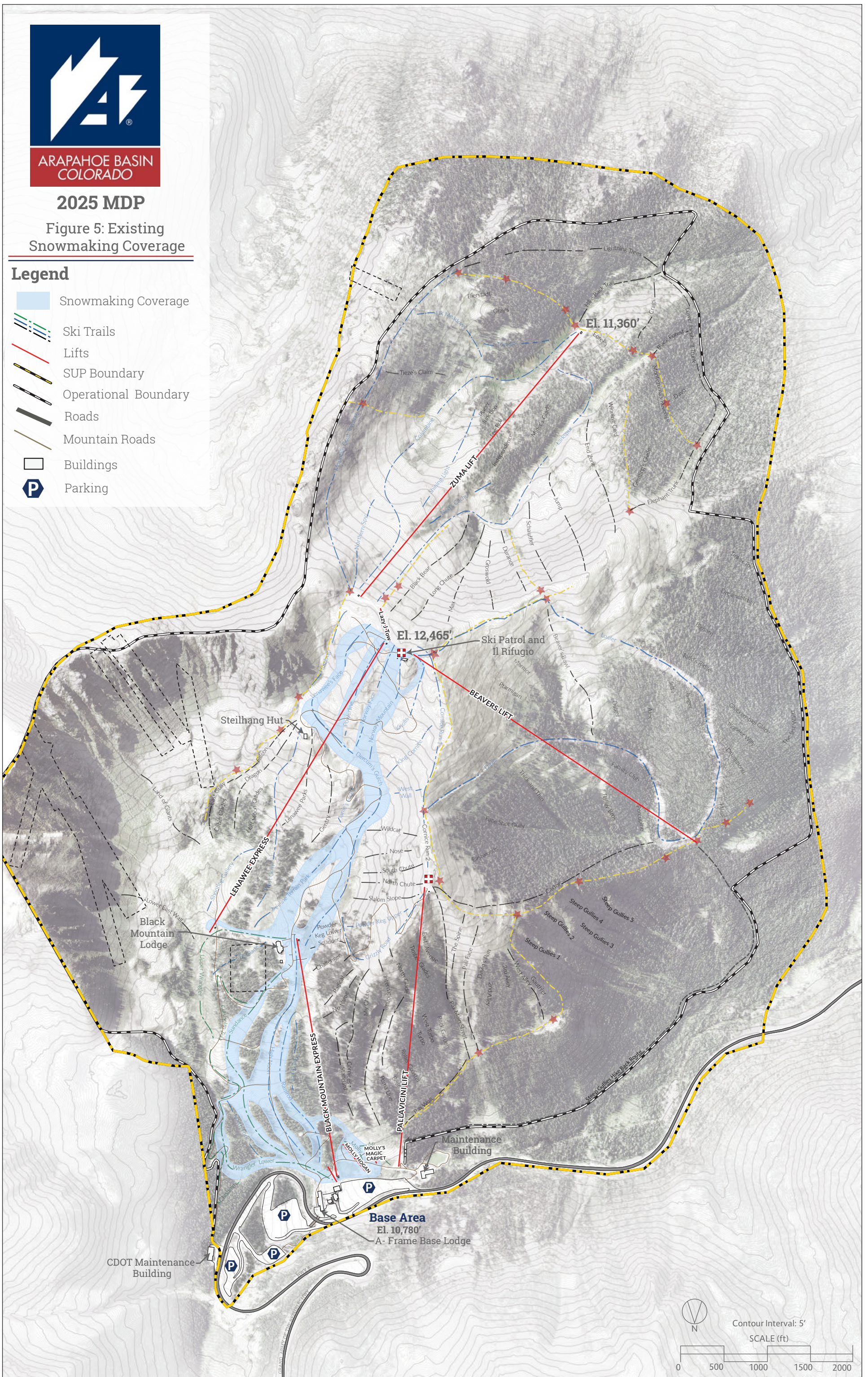


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Figure 5: Existing Snowmaking Coverage

Legend

- Snowmaking Coverage
- Ski Trails
- Lifts
- SUP Boundary
- Operational Boundary
- Roads
- Mountain Roads
- Buildings
- P Parking





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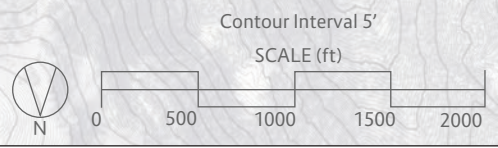
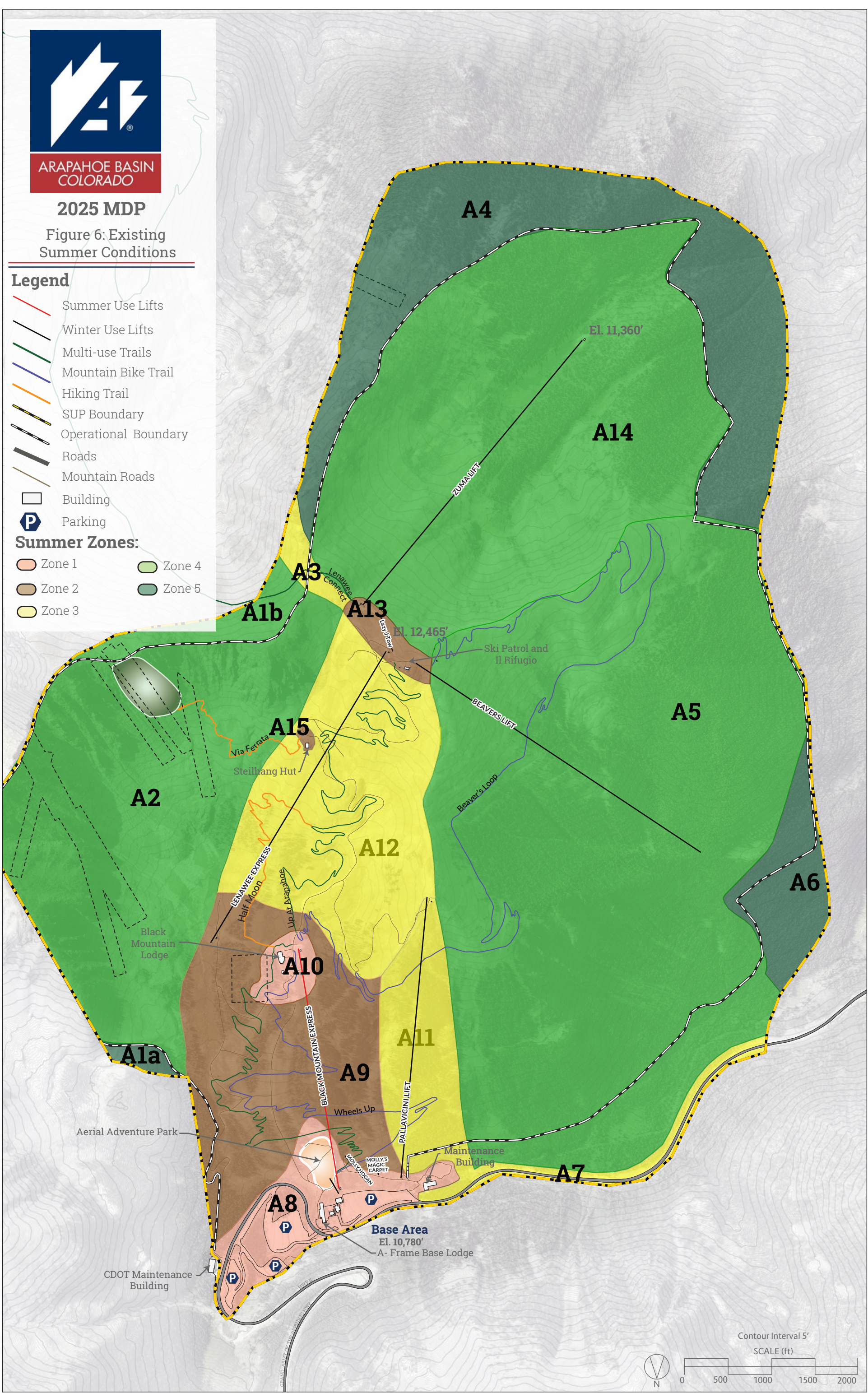
Figure 6: Existing
Summer Conditions

Legend

- Summer Use Lifts
- Winter Use Lifts
- Multi-use Trails
- Mountain Bike Trail
- Hiking Trail
- SUP Boundary
- Operational Boundary
- Roads
- Mountain Roads
- Building
- Parking

Summer Zones:

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5



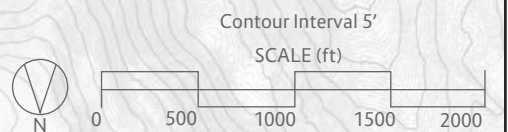
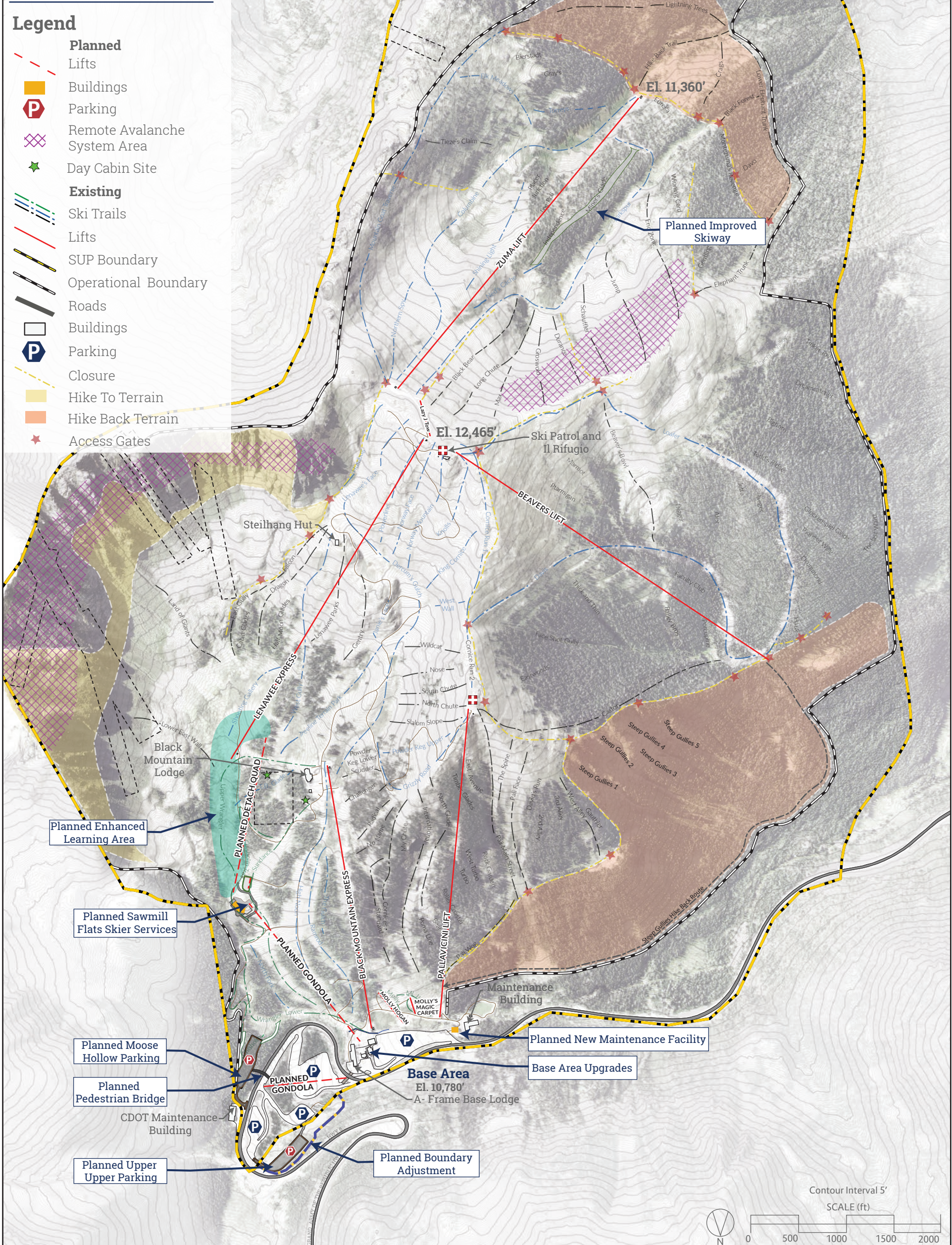


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Figure 7: Upgrade Plan

Legend

- Planned**
- - - Lifts
- Buildings
- P Parking
- ▨ Remote Avalanche System Area
- ★ Day Cabin Site
- Existing**
- Ski Trails
- Lifts
- SUP Boundary
- Operational Boundary
- Roads
- Buildings
- P Parking
- - - Closure
- Hike To Terrain
- Hike Back Terrain
- ★ Access Gates





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Figure 8: Snowmaking Upgrade Plan

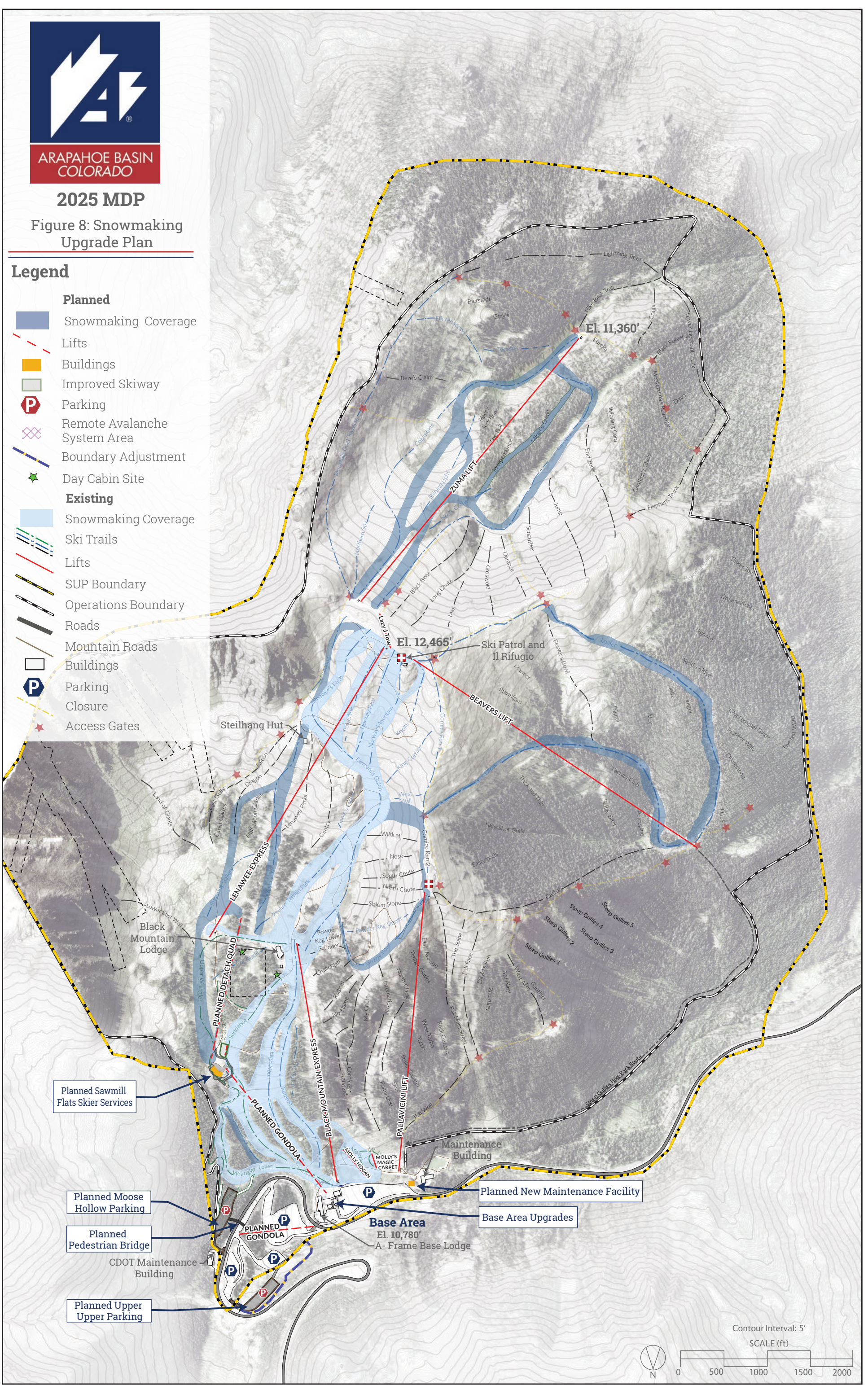
Legend

Planned

- Snowmaking Coverage
- Lifts
- Buildings
- Improved Skiway
- Parking
- Remote Avalanche System Area
- Boundary Adjustment
- Day Cabin Site

Existing

- Snowmaking Coverage
- Ski Trails
- Lifts
- SUP Boundary
- Operations Boundary
- Roads
- Mountain Roads
- Buildings
- Parking
- Closure
- Access Gates



Planned Sawmill Flats Skier Services

Planned Moose Hollow Parking

Planned Pedestrian Bridge

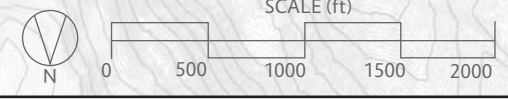
Planned Upper Upper Parking

Planned New Maintenance Facility

Base Area Upgrades

Base Area
El. 10,780'
A-Frame Base Lodge

Contour Interval: 5'
SCALE (ft)





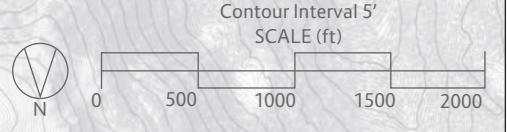
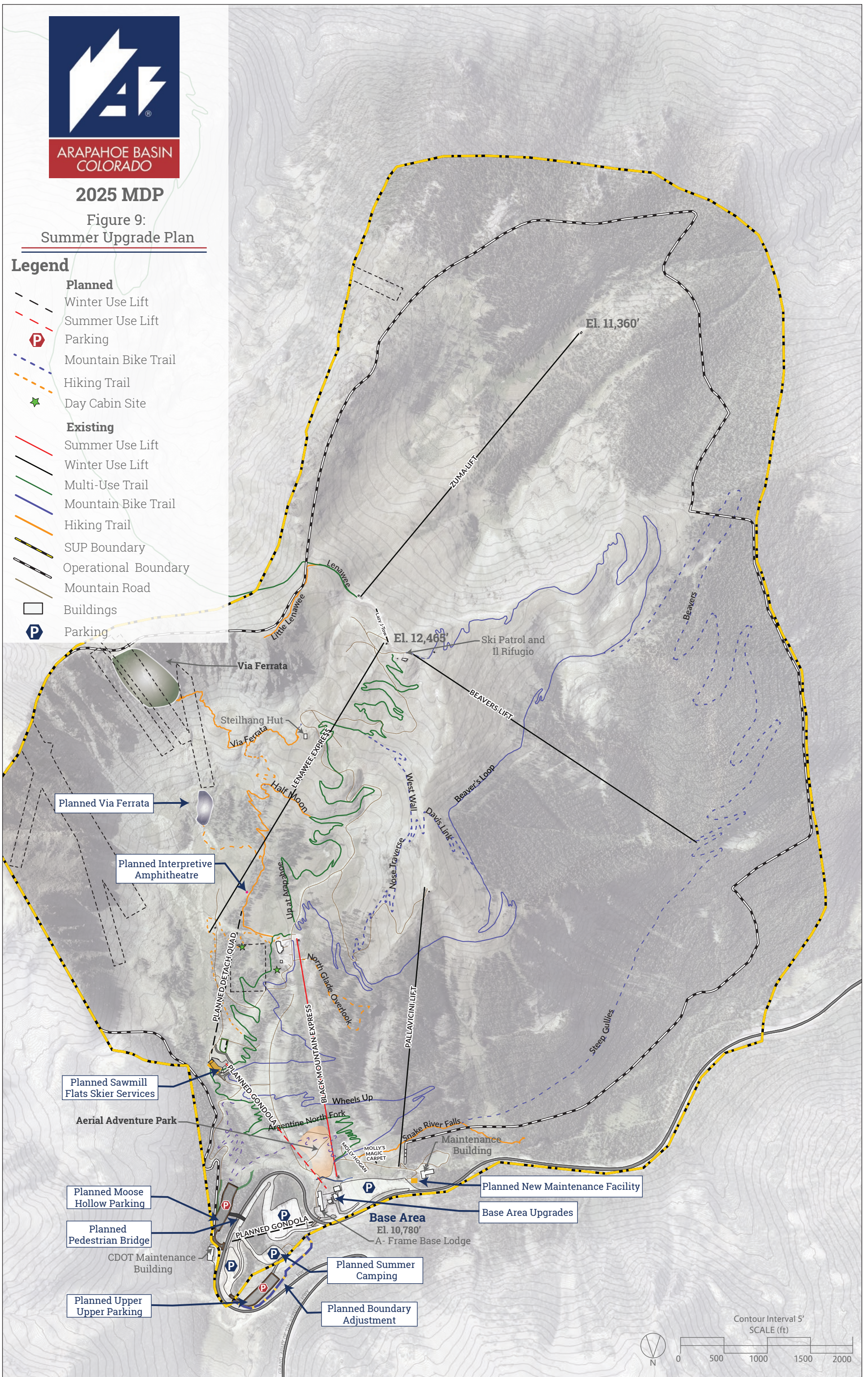
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Figure 9:
Summer Upgrade Plan

Legend

- Planned**
- - - Winter Use Lift
- - - Summer Use Lift
- P** Parking
- - - Mountain Bike Trail
- - - Hiking Trail
- ★ Day Cabin Site
- Existing**
- Summer Use Lift
- Winter Use Lift
- Multi-Use Trail
- Mountain Bike Trail
- Hiking Trail
- SUP Boundary
- Operational Boundary
- Mountain Road
- Buildings
- P** Parking



Legend

- Planned Lifts
- Buildings
- Parking
- Boundary Adjustment
- Day Cabin Site

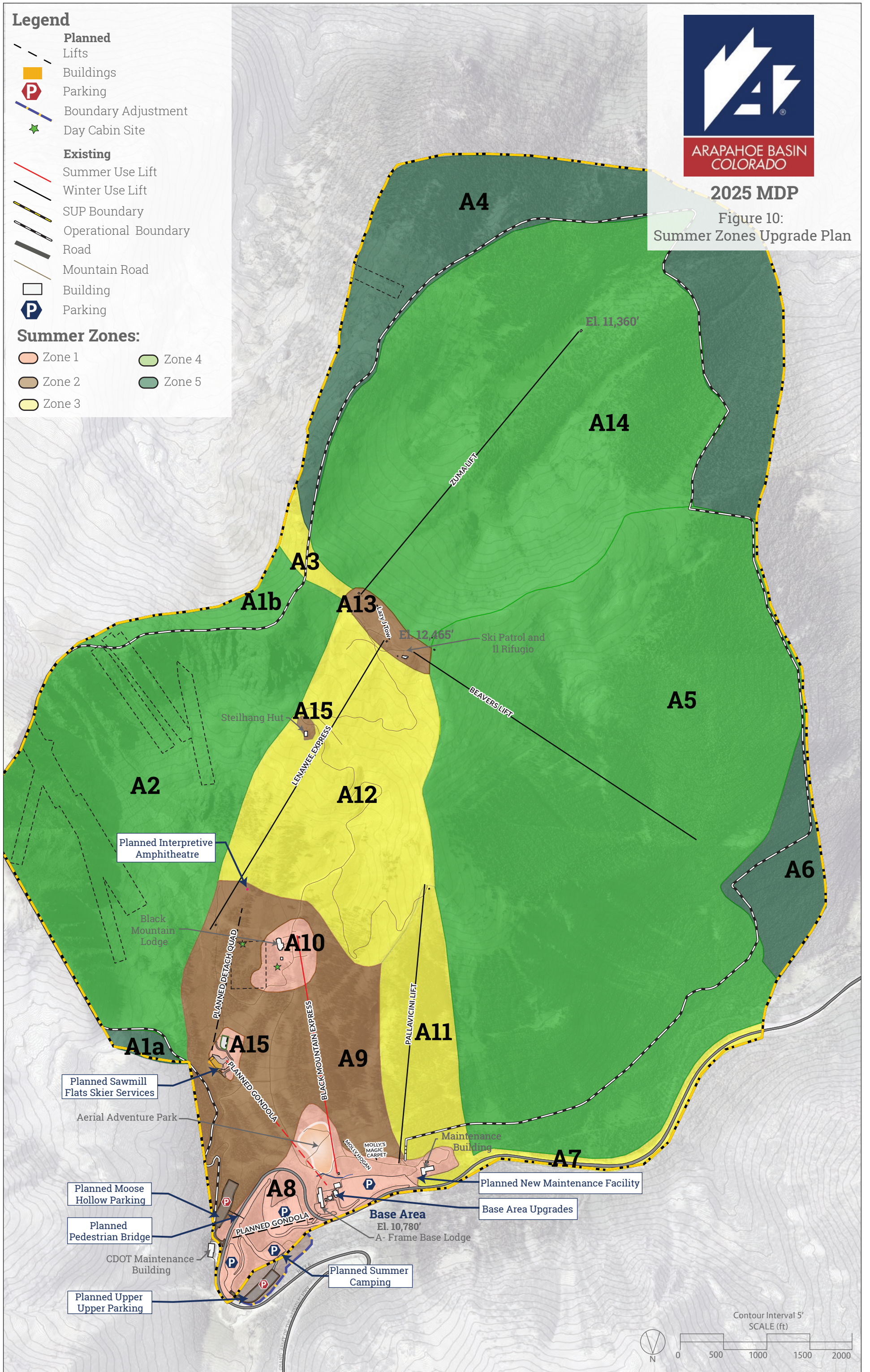
- Existing Summer Use Lift
- Winter Use Lift
- SUP Boundary
- Operational Boundary
- Road
- Mountain Road
- Building
- Parking

- Summer Zones:**
- Zone 1
 - Zone 2
 - Zone 3
 - Zone 4
 - Zone 5



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Figure 10:
Summer Zones Upgrade Plan



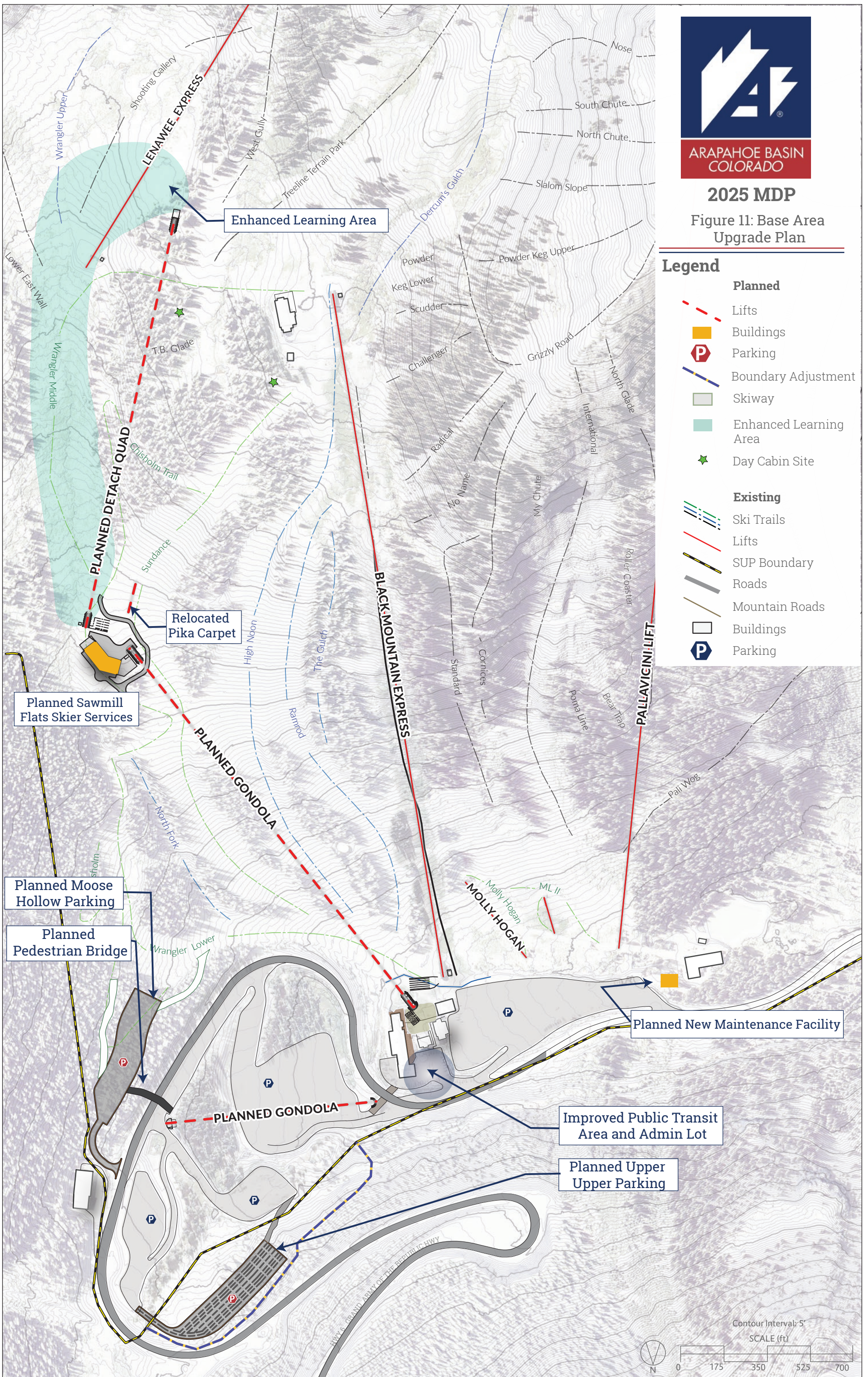


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Figure 11: Base Area Upgrade Plan

Legend

- Planned**
 - Lifts
 - Buildings
 - Parking
 - Boundary Adjustment
 - Skiway
 - Enhanced Learning Area
 - Day Cabin Site
- Existing**
 - Ski Trails
 - Lifts
 - SUP Boundary
 - Roads
 - Mountain Roads
 - Buildings
 - Parking



A

Additional Tables



Table A-1. Terrain Specifications—Existing Conditions

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
1-01L Wrangler Lower	11,162	10,841	321	2,083	133	6.4	16%	29%	Novice
1-01M Wrangler Upper	11,547	11,292	255	2,168	247	12.3	12%	27%	Novice
1-02 Chisholm Trail	11,427	11,167	259	2,349	31	1.7	11%	16%	Novice
1-03 Chisholm	11,132	11,003	129	1,492	41	1.4	9%	18%	Novice
1-04 North Fork	11,170	10,959	211	811	80	1.5	27%	36%	Intermediate
1-05 Sundance	11,508	10,920	587	2,688	190	11.8	22%	33%	Novice
1-06 High Noon	11,552	10,901	651	2,842	201	13.1	24%	37%	Intermediate
1-07 Ramrod	11,446	10,868	578	2,012	131	6.1	30%	41%	Intermediate
1-08 The Gulch	11,436	11,176	260	812	70	1.3	34%	42%	Advanced
1-09 Exhibition	11,449	10,833	616	1,994	170	7.8	33%	62%	Expert
1-10 Terrain Park	11,530	11,469	61	382	111	1.0	16%	18%	Novice
1-11 Molly Hogan Upper	10,977	10,798	179	864	236	4.7	21%	27%	Low Intermediate
2-01 Cornice Run II	12,113	12,064	49	611	113	1.6	8%	18%	Novice
2-02 Wildcat	12,067	11,810	257	659	301	4.5	43%	61%	Expert
2-03 Nose	12,100	11,753	347	750	268	4.6	53%	60%	Expert
2-04 South Chute	12,088	11,719	369	781	117	2.1	54%	73%	Expert
2-05 Slalom Slope	12,043	11,694	349	751	188	3.2	53%	61%	Expert
2-06 North Chute	12,106	11,702	404	829	189	3.6	56%	66%	Expert
2-07 Grizzly Road	12,108	11,684	424	1,844	83	3.5	24%	37%	Intermediate
2-08 Radical	11,748	11,483	265	654	99	1.5	45%	57%	Expert
2-09 Standard	11,792	10,967	825	2,052	133	6.2	44%	71%	Expert

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
2-10 13 Cornices Upper	11,542	11,350	192	424	63	0.6	51%	66%	Expert
2-11 My Chute	11,758	11,451	307	596	115	1.6	60%	72%	Expert
2-12 International	11,849	10,889	961	2,216	214	10.9	48%	70%	Expert
2-13 North Glade	11,884	11,523	361	727	335	5.6	58%	70%	Expert
2-14 Bear Trap	11,208	10,882	326	748	160	2.7	49%	69%	Expert
2-15 Roller Coaster	11,773	11,040	733	1,746	220	8.8	47%	71%	Expert
2-16 Rock Garden	11,389	11,028	361	788	261	4.7	52%	70%	Expert
2-17 East Avenue	12,016	11,628	388	784	152	2.7	57%	64%	Expert
2-18 Pali Main Street	12,087	11,068	1,019	2,187	214	10.7	53%	62%	Expert
2-19 The Spine	11,907	11,612	295	564	148	1.9	62%	69%	Expert
2-20 Pali Face	11,863	11,083	780	1,595	221	8.1	56%	74%	Expert
2-21 4th Alley	11,745	11,096	649	1,269	143	4.2	60%	91%	Expert
2-22 Pali Wog	11,128	10,848	279	2,036	51	2.4	14%	36%	Advanced
2-23 Pali Cornice	12,110	11,906	204	650	64	1.0	33%	43%	Advanced
4-01 Humbug	12,413	12,157	256	939	151	3.3	28%	44%	Intermediate
4-02 Lenawee Face	12,435	12,134	301	1,165	422	11.3	27%	42%	Low Intermediate
4-03 Powerline	12,459	12,023	436	1,330	113	3.5	35%	47%	Intermediate
4-04 Norway Face	12,453	12,018	435	1,376	250	7.9	34%	50%	Intermediate
4-05 Norway Mountain Run	12,442	11,976	466	1,387	145	4.6	36%	50%	Intermediate
4-06 Knolls	12,447	11,975	472	1,553	250	8.9	32%	52%	Intermediate
4-07 King Cornice	12,284	11,955	329	888	282	5.8	41%	57%	Advanced

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
4-08 West Wall	12,111	11,923	188	372	595	5.1	59%	63%	Advanced
4-09 Cornice Run	12,453	12,070	383	2,100	90	4.4	19%	34%	Intermediate
4-10 Dercum's Gulch	12,127	11,539	588	3,401	296	23.1	18%	38%	Intermediate
4-11 Falcon	12,111	11,760	350	1,058	78	1.9	36%	57%	Expert
4-12 Dragon	12,106	11,574	532	1,551	134	4.8	37%	58%	Expert
4-13 West Gully	12,109	11,531	578	2,261	131	6.8	27%	52%	Advanced
4-14 Lenawee Parks	12,101	11,709	392	1,242	363	10.4	34%	56%	Expert
4-15 Gentry	12,017	11,736	279	1,053	319	7.7	29%	70%	Expert
4-16 Jamie's Face	11,954	11,808	142	476	286	3.1	36%	54%	Advanced
4-17 East Gully	11,770	11,524	238	797	82	1.5	32%	47%	Advanced
4-18 Treeline Terrain Park	11,798	11,512	285	2,023	164	7.6	14%	39%	Advanced
4-19 Shooting Gallery	11,614	11,456	158	1,121	453	11.7	14%	42%	Intermediate
5-01 Molly Hogan 1	10,870	10,813	57	430	205	2.0	13%	20%	Novice
5-02 Molly Hogan 2	10,852	10,795	57	464	95	1.0	12%	20%	Novice
6-01 Molly's Magic Carpet	10,837	10,809	28	168	133	0.5	17%	17%	Beginner
7-01 End Zone	12,160	11,597	563	1,475	408	13.8	42%	69%	Expert
7-02 Jump	12,252	11,711	541	1,357	619	19.3	44%	69%	Expert
7-03 Schaufler	12,256	11,740	516	1,211	286	7.9	48%	75%	Expert
7-04 Durrance	12,248	11,810	438	911	294	6.2	55%	76%	Expert
7-05 Grosword	12,309	11,836	474	986	367	8.3	55%	76%	Expert
7-06 Max	12,407	12,042	365	730	327	5.5	58%	74%	Expert
7-07 Long Chute	12,507	11,808	699	1,722	173	6.9	45%	56%	Advanced

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
7-08 Black Bear	12,480	11,853	627	1,623	367	13.7	42%	57%	Expert
7-09 Larkspur	12,467	11,459	1,009	4,571	227	23.8	23%	56%	Advanced
7-10 Independence	11,830	11,552	278	1,138	110	2.9	25%	48%	Advanced
7-11 Shining Light	12,054	11,673	381	1,360	343	10.7	29%	45%	Advanced
7-12 Columbine	12,448	11,357	1,092	4,598	458	48.4	25%	48%	Advanced
7-13 Northern Spy	12,458	12,088	369	1,111	385	9.8	35%	47%	Advanced
7-14 Mountain Goat Traverse	12,471	11,818	653	4,323	158	15.6	15%	34%	Advanced
7-15 Tieze's Claim	12,063	11,715	348	776	916	16.3	50%	63%	Expert
7-16 Elk Meadows	11,925	11,645	281	1,046	477	11.5	28%	35%	Advanced
7-17 Ned's Cache	12,062	11,807	254	862	170	3.4	31%	42%	Advanced
B-1 Alex	11,825	11,294	532	1,231	105	3.0	48%	61%	Expert
B-2 Bailey Bros.	11,445	11,089	355	748	57	1.0	54%	68%	Expert
B-3 Beaver Bowl	12,183	11,585	598	1,696	185	7.2	38%	63%	Expert
B-4 Bighorn	11,944	11,275	669	1,799	103	4.3	40%	57%	Expert
B-5 Castor	12,037	11,004	1,032	2,624	124	7.5	43%	62%	Expert
B-6 Davis	12,061	10,964	1,097	4,218	84	8.2	27%	55%	Intermediate
B-7 Digger	11,917	11,414	503	1,286	130	3.8	43%	53%	Expert
B-8 Dreamcatcher	11,832	11,300	532	1,639	142	5.4	35%	56%	Advanced
B-9 Drummond	11,405	11,070	335	791	96	1.7	47%	65%	Expert
B-10 Eastwoods	12,088	11,454	634	1,362	77	2.4	53%	62%	Expert
B-11 Face Shot Gully	12,058	11,003	1,054	2,891	49	3.2	40%	60%	Expert
B-12 Faculty Club	11,487	11,175	313	610	56	0.8	60%	68%	Expert

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
B-13 Glockenspiel Glade	11,630	11,159	471	1,262	203	5.9	40%	53%	Advanced
B-14 Hauk	11,147	11,010	137	312	133	1.0	49%	52%	Advanced
B-15 Jaeger	11,678	10,988	690	1,790	101	4.2	42%	58%	Expert
B-16 Jetta	11,746	11,145	601	1,524	147	5.1	43%	65%	Expert
B-17 Loafer	12,446	10,965	1,481	5,640	93	12.0	27%	52%	Intermediate
B-18 Marmot	12,360	11,693	667	1,851	188	8.0	39%	52%	Advanced
B-19 Peaceful Valley	12,033	11,408	625	2,911	43	2.9	22%	39%	Expert
B-20 Pioneer Willy	11,510	11,124	386	938	212	4.6	45%	65%	Expert
B-21 Porcupine	11,637	11,005	632	1,563	64	2.3	45%	71%	Expert
B-22 Ptarmigan	12,416	11,791	624	1,751	264	10.6	38%	50%	Advanced
B-24 The Last Waltz	11,396	10,991	405	3,637	32	2.7	11%	30%	Low Intermediate
B-25 Thick & Thin	11,900	11,275	625	1,253	80	2.3	58%	67%	Expert
B-26 Tinker Toy	11,720	11,326	394	1,240	203	5.8	34%	51%	Expert
B-27 Todd's Ridge	11,907	11,178	729	2,322	116	6.2	33%	47%	Advanced
G-01 T.B. Glade	11,512	11,416	96	677	701	10.9	14%	19%	Novice
G-02 Powder Keg Upper	11,982	11,719	262	745	425	7.3	38%	49%	Advanced
G-03 Powder Keg Lower	11,687	11,617	71	190	385	1.7	40%	42%	Advanced
G-05 Challenger	11,721	11,538	183	450	276	2.9	45%	58%	Expert
G-06 No Name	11,718	11,459	258	708	155	2.5	39%	58%	Expert
G-07 13 Cornices Lower	11,325	11,115	210	390	138	1.2	64%	70%	Expert

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
G-08 Bear Trap	11,176	10,861	316	765	170	3.0	46%	63%	Expert
G-09 Turbo	11,437	10,992	445	910	94	2.0	57%	93%	Expert
G-18 Lynx Lane	11,510	11,480	30	275	56	0.4	11%	16%	Novice
G-10 West Turbo	11,544	10,999	545	1,096	82	2.1	58%	95%	Expert
G-11 Timber Glades	11,688	11,403	285	585	550	7.4	56%	67%	Expert
G-12 David's Run	11,713	11,415	298	545	145	1.8	66%	69%	Expert
G-13 2nd Alley	11,794	11,398	396	812	336	6.3	56%	66%	Expert
G-14 3rd Alley	11,576	11,135	442	839	336	6.5	62%	77%	Expert
G-14 Scudder	11,708	11,565	143	331	238	1.8	48%	57%	Expert
G-15 Gauthier	11,697	11,112	586	1,102	157	4.0	64%	81%	Expert
G-16 Cabin Glades	11,746	11,536	210	614	157	2.2	37%	45%	Advanced
G-17 Half Moon Glades	11,852	11,576	276	674	360	5.6	45%	64%	Expert
Zuma Cornice	12,398	12,099	299	2,631	42	2.6	12%	34%	Low Intermediate
X-1-East Wall Traverse	12,172	11,894	238	3,958	10	0.9	6%	46%	Advanced
X-2 Land of Giants	12,045	11,528	517	1,584	928	33.7	35%	62%	Expert
X-3 Lower East Wall	11,889	11,432	458	1,695	750	29.2	28%	46%	Advanced
ZG-03 Winning Card	11,921	11,530	391	1,254	354	10.2	33%	46%	Advanced
ZG-05 Eureka	11,544	11,371	163	543	789	9.8	32%	45%	Advanced
ZG-06 Miner's Glade	11,819	11,490	329	1,436	446	14.7	24%	46%	Advanced
ZG-07 Log Roll	11,851	11,574	276	627	372	5.4	50%	71%	Expert
ZG-08 Placer Junction	11,699	11,551	148	338	330	2.6	49%	60%	Expert

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
ZG-09 Torreys	11,649	11,378	271	994	335	7.6	29%	53%	Advanced
ZH-07 Gray's	11,815	11,498	317	1,202	588	16.2	27%	36%	Intermediate
ZH-08 Bierstadt	11,858	11,641	217	998	703	16.1	22%	33%	Low Intermediate
ZH-09 Lightning Traverse	11,819	11,340	479	1,556	103	3.7	33%	58%	Expert
1-12 Pika Place	10,845	10,841	4	73	70	0.1	5%	5%	Beginner
Lazy J Connector	12,471	12,458	13	314	34	0.2	4%	5%	Intermediate
TOTAL				182,516		870.73			

Table A-2. Space Use Recommendations—Base Area—Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	1,195	930	1,130
Public Lockers	723	2,780	3,400
Rentals/Repair	2,956	5,560	6,800
Retail Sales	2,180	1,890	2,310
Bar/lounge	3,067	2,840	3,470
Adult Ski School	1,548	1,480	1,810
Kid's Ski School	1,817	2,970	3,630
Restaurant Seating	3,681	8,667	10,112
Kitchen/Scramble	4,938	4,334	5,056
Rest rooms	2,252	1,480	1,810
Ski Patrol	1,595	910	1,110
Administration	4,514	3,890	4,760
Employee Lockers/Lounge	2,337	1,560	1,900
Mechanical	1,300	1,060	1,560
Storage	550	1,770	2,600
Circulation/Waste	1,232	4,240	6,240
TOTAL SQUARE FEET	35,885	46,361	57,698

Source: SE Group

Table A-3. Space Use Recommendations—Black Mountain Lodge—Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services		-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	3,849	4,560	5,320
Kitchen/Scramble	1,565	2,280	2,660
Rest rooms	822	780	950
Ski Patrol	-	480	590
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	543	220	310
Storage	907	360	520
Circulation/Waste	-	870	1,260
TOTAL SQUARE FEET	7,686	9,550	11,610

Source: SE Group

Table A-4. Space Use Recommendations—Steilhang Hut—Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	-	-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	556	590	689
Kitchen/Scramble	270	295	344
Rest rooms	109	120	140
Ski Patrol	-	70	90
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	458	30	40
Storage	615	50	70
Circulation/Waste	160	120	170
TOTAL SQUARE FEET	2,168	1,276	1,543

Source: SE Group

Table A-5. Space Use Recommendations—II Rifugio—Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	-	-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	800	787	886
Kitchen/Scramble	140	394	443
Rest rooms	106	90	110
Ski Patrol	1,233	50	60
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	250	40	50
Storage	688	60	80
Circulation/	348	140	200
TOTAL SQUARE FEET	3,565	1,561	1,828

Source: SE Group

Table A-6. Terrain Specifications—Upgrade Plan

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
G-18 Lynx Lane	11,510	11,480	30	275	56	0.4	11%	16%	Novice
G-10 West Turbo	11,544	10,999	545	1,096	82	2.1	58%	95%	Expert
G-11 Timber Glades	11,688	11,403	285	585	550	7.4	56%	67%	Expert
G-12 David's Run	11,713	11,415	298	545	145	1.8	66%	69%	Expert
G-13 2nd Alley	11,794	11,398	396	812	336	6.3	56%	66%	Expert
G-14 3rd Alley	11,576	11,135	442	839	336	6.5	62%	77%	Expert
G-14 Scudder	11,708	11,565	143	331	238	1.8	48%	57%	Expert
G-15 Gauthier	11,697	11,112	586	1,102	157	4.0	64%	81%	Expert
G-16 Cabin Glades	11,746	11,536	210	614	157	2.2	37%	45%	Advanced
G-17 Half Moon Glades	11,852	11,576	276	674	360	5.6	45%	64%	Expert
Zuma Cornice	12,398	12,099	299	2,631	42	2.6	12%	34%	Low Intermediate
X-1-East Wall Traverse	12,172	11,894	238	3,958	10	0.9	6%	46%	Advanced
X-2 Land of Giants	12,045	11,528	517	1,584	928	33.7	35%	62%	Expert
X-3 Lower East Wall	11,889	11,432	458	1,695	750	29.2	28%	46%	Advanced
ZG-03 Winning Card	11,921	11,530	391	1,254	354	10.2	33%	46%	Advanced
ZG-05 Eureka	11,544	11,371	163	543	789	9.8	32%	45%	Advanced
ZG-06 Miner's Glade	11,819	11,490	329	1,436	446	14.7	24%	46%	Advanced
ZG-07 Log Roll	11,851	11,574	276	627	372	5.4	50%	71%	Expert
ZG-08 Placer Junction	11,699	11,551	148	338	330	2.6	49%	60%	Expert
ZG-09 Torreys	11,649	11,378	271	994	335	7.6	29%	53%	Advanced
ZH-07 Gray's	11,815	11,498	317	1,202	588	16.2	27%	36%	Intermediate
ZH-08 Bierstadt	11,858	11,641	217	998	703	16.1	22%	33%	Low Intermediate

APPENDIX A. ADDITIONAL TABLES

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
ZH-09 Lightning Traverse	11,819	11,340	479	1,556	103	3.7	33%	58%	Expert
Sawmill Flats Carpet	11,287	11,270	17	150	65	0.2	11%	12%	Beginner
Lazy J Connector	12,471	12,458	13	314	34	0.2	4%	5%	Intermediate
Total				182,592		870.85			

Table A-7. Space Use Recommendations—Base Area—Upgrade Plan

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	1,195	1,090	1,330
Public Lockers	723	3,270	3,990
Rentals/Repair	2,956	6,530	7,990
Retail Sales	2,180	2,220	2,720
Bar/lounge	3,067	3,330	4,070
Adult Ski School	1,548	350	430
Kid's Ski School	1,817	700	850
Restaurant Seating	3,681	8,638	10,077
Kitchen/Scramble	4,938	4,319	5,039
Rest rooms	2,252	1,470	1,800
Ski Patrol	1,595	910	1,110
Administration	4,514	3,200	3,910
Employee Lockers/Lounge	2,337	1,280	1,570
Mechanical	1,300	1,010	1,480
Storage	550	1,680	2,470
Circulation/Waste	1,232	4,030	5,920
TOTAL SQUARE FEET	35,885	44,026	54,756

Source: SE Group

Table A-8. Space Use Recommendations—Black Mountain Lodge—Upgrade Plan

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	-	-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	3,849	3,098	3,614
Kitchen/Scramble	1,565	1,549	1,807
Rest rooms	822	530	650
Ski Patrol	-	330	400
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	543	150	210
Storage	907	250	360
Circulation/Waste	-	590	850
TOTAL SQUARE FEET	7,686	6,497	7,891

Source: SE Group

Table A-9. Space Use Recommendations—Steilhang Hut—Upgrade Plan

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	-	-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	556	590	689
Kitchen/Scramble	270	295	344
Rest rooms	109	120	140
Ski Patrol	-	70	90
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	458	30	40
Storage	615	50	70
Circulation/Waste	160	120	170
TOTAL SQUARE FEET	2,168	1,276	1,543

Source: SE Group

Table A-10. Space Use Recommendations—II Rifugio—Upgrade Plan

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	-	-	-
Public Lockers	-	-	-
Rentals/Repair	-	-	-
Retail Sales	-	-	-
Bar/lounge	-	-	-
Adult Ski School	-	-	-
Kid's Ski School	-	-	-
Restaurant Seating	800	918	1,033
Kitchen/Scramble	140	459	517
Rest rooms	106	100	120
Ski Patrol	1,233	60	80
Administration	-	-	-
Employee Lockers/Lounge	-	-	-
Mechanical	250	40	60
Storage	688	70	100
Circulation/Waste	348	170	230
TOTAL SQUARE FEET	3,565	1,818	2,140

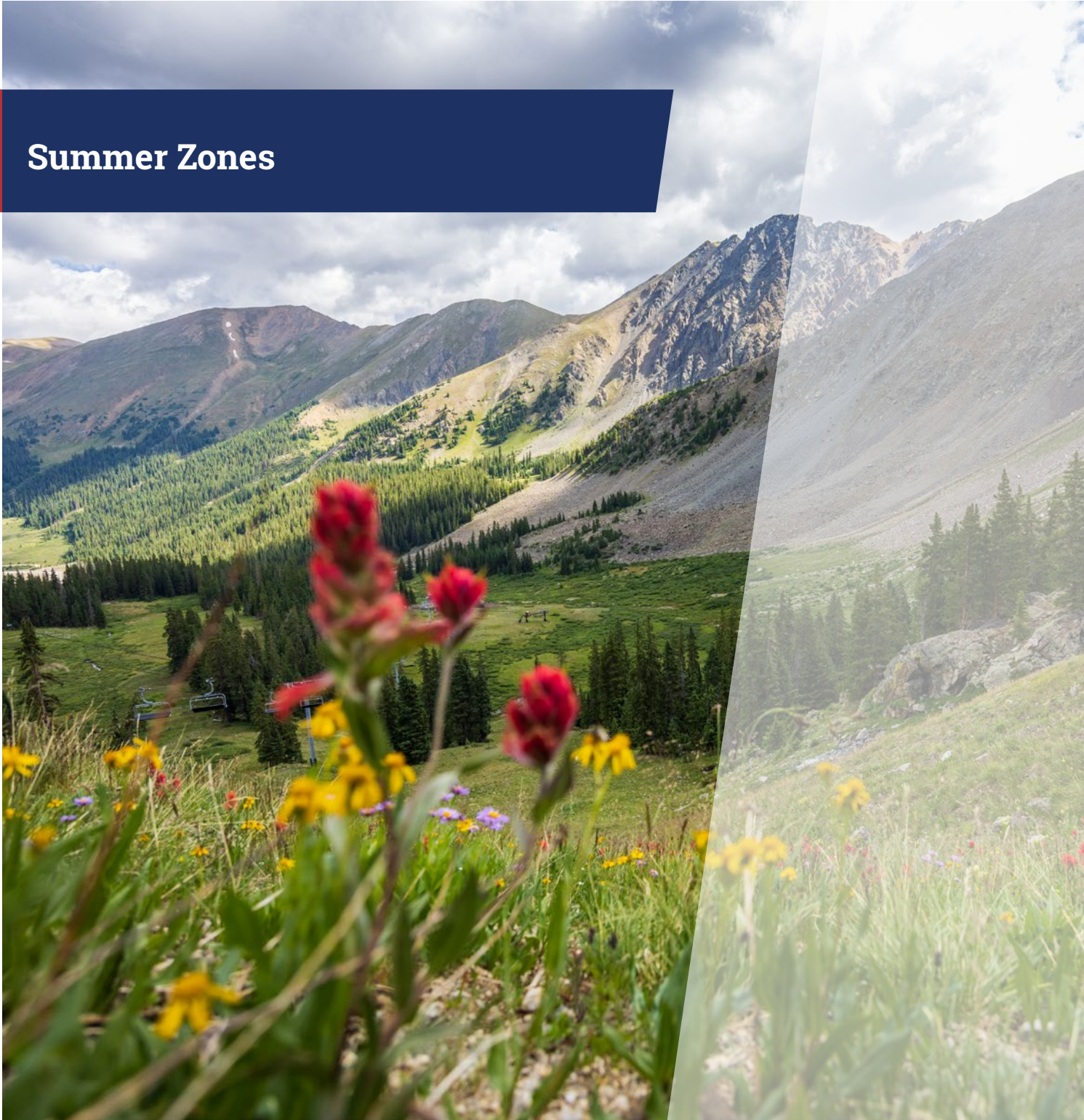
Source: SE Group

Table A-11. Space Use Recommendations—Sawmill Flats—Upgrade Plan

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	-	-
Public Lockers	-	-
Rentals/Repair	-	-
Retail Sales	-	-
Bar/lounge	-	-
Adult Ski School	1,390	1,700
Kid's Ski School	2,790	3,410
Restaurant Seating	3,926	4,580
Kitchen/Scramble	1,963	2,290
Rest rooms	670	820
Ski Patrol	410	500
Administration	1,370	1,680
Employee Lockers/Lounge	550	670
Mechanical	350	520
Storage	590	860
Circulation/Waste	1,410	2,070
TOTAL SQUARE FEET	15,419	19,100

B

Summer Zones



APPENDIX B. SUMMER ZONES

Summer zoning designations were created in the 2016 Addendum to the 2012 MDP. Through the planning process, five distinct zones have been identified within the A-Basin special use permit (SUP) area. These zones consider several characteristics similar to the ROS, including:

- Access – the number and function of roads within the area
- Remoteness – how far removed an individual feels from human activity
- Naturalness – the extent and intensity of development and disturbance within the area
- Infrastructure – the amount of and proximity to the built environment

Each of these characteristics is to be considered within the context of A-Basin as a developed ski area. Existing summer recreation and maintenance occurs throughout developed portions of the ski area; therefore, no area within the developed ski area is off limits to administrative access and maintenance.

The first step in the zone designation process was a careful consideration of the setting and the proximity to infrastructure supporting snow sports. Features such as watershed, topography, vegetation structure, level of existing disturbance, and existing infrastructure, as well as past NEPA approval requirements were considered in establishing area boundaries across the entire SUP area. The exercise resulted in the creation of fourteen areas unique in their location and/or features.

The second step of the zone designation process was applying a score for each characteristic on a scale of 1 to 3, with 1 being the most disturbed and 3 being the least disturbed. The Summer Zones figure illustrates the zone designations within the A-Basin's SUP area. Table 1 describes the characteristics of each zone, and Table 2 provides information about each zone at A-Basin. These tables are found on pages 10 and 11 of this report.

Because summer and multi-season uses are continually being developed and activities that do not currently exist may be popular within the next several years, a list of compatible activities is provided for each zone. The intent of the list of compatible activities is to allow for a certain amount of flexibility, since it is impossible to foresee exactly what new activities will be developed over this time. A-Basin will continue to work with the Forest Service to ensure that proposed summer and multi-season activities are suitable for the setting and desired experience within each zone.

a) Zone 1

Setting

The existing setting of Zone 1 is highly developed and disturbed. Within Zone 1, the built environment dominates the landscape. Within the context of the overall SUP area, the following summarizes the setting in Zone 1:

- Road access and roads are prevalent, including parking and transportation hub;
- Considerable human activity (people recreation and/or resort operations) occur within and proximate to this setting—there is little to no feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) dominate the area; and
- Infrastructure, including chairlifts and buildings, are present.

Two areas were designated as Zone 1: Areas 8 and 10. These areas comprise the parking lot, base area, and Black Mountain Lodge.

Desired Experience

Within Zone 1, guests are expected to encounter a high concentration of other guests and feel completely safe within their surroundings. The level of development will reflect the current setting and function of these areas as hubs of activity and portals to other activities across the ski area. Most guests visiting Zone 1 will initially access it from Highway 6 and the parking lot area. Guests will also access Area 10 via the Black Mountain Express or hiking and mountain biking trails. Within Zone 1, the concepts identified in the Forest Service's Built Environment Image Guide (BEIG) will be followed to ensure appropriate design guidelines for both landscape architecture and built architecture are followed. Zone 1 abuts Zone 2 on the fringes of developed on-mountain areas. This allows guests to experience a gradual transition between the built environment (Zone 1) and more-natural areas that still contain activities and facilities blending with the area's natural setting (Zone 2). Area 8 abuts two Zone 3's: sharing borders with Area 7 and Area 11 along the western edges. Zone 1 will offer interpretive opportunities in a developed setting, with goals of enhancing guests' understanding of the natural environment as they prepare to venture into less-developed areas.

Compatible Activities and Facilities

Services and activities in Zone 1 include food and beverage operations, parking, shelter and emergency services, restroom facilities, landscaped areas, and other activities. At A-Basin, in addition to the Zone 1 within the base area, Zone 1 serves as the on-mountain hub, from which guests will access surrounding activities and refuel between activities. Typically, guests will first access these areas via the base area or after riding the Black Mountain Express chairlift; however, guests could also access Zone 1 under their own power from the surrounding, limited trail network. A-Basin currently hosts minimal multi-season recreational activities, including weddings and events at the Black Mountain Lodge, and hiking, mountain biking, and other leisurely summer recreational activities. These activities are intended to expose guests to summer recreational opportunities on NFS lands.

Activities on NFS lands within Zone 1 may include challenge courses; canopy tours; zip lines; singletrack, flow, and larger, more developed mountain biking trails; a mountain biking skills park; hiking trails; climbing walls; more developed pathway systems; equestrian trails and facilities; and other natural resource-based recreation activities. In summary, activities appropriate in Zone 1 would rely more heavily on lift-service and guest services, and they would be activities that concentrate people resulting in a diminished sense of remoteness. The activities would not compromise the existing skiing which occurs in Zone 1 during winter months.

b) Zone 2

Setting

The setting of Zone 2 is less disturbed when compared with Zone 1 and provides more naturalness due to a lesser degree of disturbance from the surrounding ski area. The setting of Zone 2 contains areas of disturbance from ski trail and chairlift development, but guests can still find some degree of remoteness and naturalness depending on their location within the zone.

Within the context of the overall SUP area, the following summarizes the setting in Zone 2:

- Road access and roads are present;
- Human activity (people recreating) occurs within and proximate to this setting—there is little feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) are evident in the area, but past disturbance blends with the landscape; and
- Infrastructure, including chairlifts and buildings, are present.

Two areas within A-Basin's SUP area were designated as Zone 2: Areas 9 and 13 where summer trails, roads, chairlift and other resort infrastructure presently exists. These areas are also the middle portion of the ski area, which is heavily developed.

Desired Experiences

Most guests will access Zone 2 from Zone 1, from surrounding Areas 9 and 13. In moving between these zones, guests will transition from the built environment to a setting characterized by both developed and passive activities proximate to existing infrastructure and facilities, but still offering a more natural feel. For some guests of A-Basin, this may be their first real experience in the mountains, and providing a safe, comfortable environment for exploration is critical to the success of Zone 2 and the overall program of activities and experiences. Zone 2 provides the initial opportunity for guests to learn about and engage in their natural surroundings through hands-on recreational, interpretive, and educational offerings. Zone 2 serves as a buffer between higher levels of development within Zone 1 and on private lands, and the more natural settings of Zones 3 and 4.

Compatible Activities and Facilities

Passive activities within Zone 2 include educational/interpretive opportunities, sightseeing, and light hiking. Zone 2 will provide enhanced sightseeing opportunities when compared to Zone 1. Potential activity offerings include zip lines; canopy tours; interpretative opportunities; extended hiking trails; singletrack and developed mountain biking trails; and other natural resource-based activities. A-Basin's clientele expects to be challenged, and the activities within Zone 2 would be planned to meet that challenge.

As mentioned above, Zone 2 serves two primary purposes: to provide activities in a natural setting in proximity to existing infrastructure and services, and to provide a buffer between Zones 3 and 4 and more developed areas within Zone 1 and on private lands. Thus, areas within Zone 2 serve as transitional zones, encouraging guest exploration into more natural portions of the National Forest in a setting that still feels comfortable for less-experienced Forest users. The setting of Zone 2 and the activities that occur within will offer sufficient challenge for first-time guests, and will prepare others to venture into the less developed areas of Zones 3 and 4. Overall, developed activities requiring infrastructure are appropriate within Zone 2, but would entail a lesser concentration of guests compared to Zone 1.

c) Zone 3

Setting

Generally speaking, Zone 3 includes areas where existing chairlifts are present; however, this was not the determining factor for the designation. Within the context of the overall SUP area, the following summarizes the setting in Zone 3:

- Road access and roads are present, but limited to certain areas;
- Human activity (people recreating) can be seen at a distance or is out of sight from within this setting—a stronger feeling of remoteness is present;
- The area is moderately disturbed by ski area activity, including vegetation removal from ski trail development and some ground disturbance; and
- Infrastructure, including chairlifts and buildings, are present.

Four areas within the SUP area were designated as Zone 3: Areas 3, 7, 11, and 12. Not all of the areas which received a Zone 3 designation are equal in characteristics. For example, Area 3 is less accessible and includes a higher degree of remoteness when compared to Area 12; however, both locations scored in the range to be characterized as Zone 3. Area 7 parallels Highway 6, which alters the accessibility, naturalness, and infrastructure characteristics in comparison to the adjacent Area 1. Area 3 hosts a hiking and mountain biking portal for one of the popular trails at A-Basin.

Desired Experiences

The majority of guests will access Zone 3 via hiking or biking trails leading out of Zone 3 and into Zone 2. This will allow guests to tier their NFS lands experience and exposure as they increase their relation to the four zoning characteristics going from Zone 1 or 2 and into Zone 3. Once in Zone 3, guests will have a variety of opportunities to engage in their surroundings in a more natural and remote environment as their seclusion and distance from resort infrastructure increases.

The desired experience in Zone 3 will be achieved through the activities offered there. Guests will enjoy nature hikes with interpretive signage that will provide education on their biological, cultural, and historical surroundings. Guests would hike or mountain bike to locations with views of adjacent and distant mountain bowls and terrain. Opportunities for self-guided tours, or dispersed travel also exist. Mountain biking trails would be less developed than cross-country oriented trails and the trail network would be less dense compared to Zone 2.

Compatible Activities and Facilities

Activities include single-track mountain biking trails; scenic chairlift rides; hiking trails; and other similar natural resource-based activities. Activities within Zone 3 will not require substantial modifications to natural topography to facilitate construction and will require limited infrastructure to support the activity. Existing ski area development (ski trails and chairlifts) exist to varying degrees within Zone 3, and potential seasonal and year-round facilities and activities will be consistent with the level of existing development for the ski area operation.

d) Zone 4

Setting

The setting of Zone 4 is more remote and provides a great degree of naturalness. Ski area development is limited and, where ski trails are present, larger tree islands prevail. Within the context of the overall SUP area, the following summarizes the setting in Zone 4:

- Little to no road access occurs;
- Human activity (people recreating and/or resort operations) is distant or out of sight facilitating a high degree remoteness;
- The area is completely natural or has limited disturbance; and
- Infrastructure, including a chairlift and small buildings, are present.

Three areas within the A-Basin SUP area were designated as Zone 4: Areas 2, 5, and 14. Areas 5 and 14 (the Beavers and Montezuma Bowl) include ski trails and glading, but development is limited and large tree islands are dominant features. Area 2 (East Wall) possesses a strong feeling of remoteness due to the abundance of nature, remoteness, and topography of the steep alpine terrain.

Desired Experiences

In Zone 4, guests will connect with the more natural setting in a relatively undisturbed environment. Dispersed hiking opportunities will allow guests to experience areas of the National Forest where natural processes are more evident, allowing for educational opportunities that are not available in more developed zones. The setting in Zone 4 will directly affect the guest experience, and maintaining a more remote setting with opportunities for solitude will meet the guests' expectations.

Compatible Activities and Facilities

Activities will promote the surroundings and inform guests of similar environments throughout the National Forest. Activities include slower-moving actions to match the setting and character, which provide even greater opportunities for environmental education and exposure to unique environments. These activities include hiking trails with signage and interpretation, and single-track mountain biking trails. Activities within Zone 4 will require minimal site modification to maintain the current level of naturalness. In this zone, the low density of guests is expected to maintain the feeling of remoteness. In Zone 4, additional infrastructure would be limited to signage.

e) Zone 5

Zone 5 is the least developed of all the zones. Three areas within the A-Basin SUP area were classified as Zone 5. Areas 1, 4, and 6 were all classified as Zone 5 due to the minimum characteristics valued in the zones scale system (Access, Remoteness, Naturalness and Infrastructure). All of these areas are on the outskirts of A-Basin's SUP and have minimum to no alteration from their natural environment.

Setting

The setting in Zone 5 is undisturbed by ski area activities. Zone 5 includes high alpine environments and large, intact vegetation habitats. Very few people recreate in these areas of the SUP boundary. No ski area

roads or infrastructure are present in Zone 5. Within the context of the overall SUP area, the following summarizes the setting in Zone 5:

- No ski area roads are present;
- Human activity (people recreating and/or resort operations) is predominately out of sight, so one would feel completely remote;
- Area is undisturbed by ski area activity; and
- Ski area infrastructure is only visible at a distance.

Desired Experiences

Zone 5 represents the most remote sectors within the SUP and is only accessible by dispersed hiking. The desired experience is remote and more natural. Guests within this zone would not expect to encounter many other guests.

Compatible Activities and Facilities

The areas with the Zone 5 designation would be left as is with no developed seasonal or year-round activities or facilities. Dispersed hiking by the public occurs and will continue to occur within these areas.