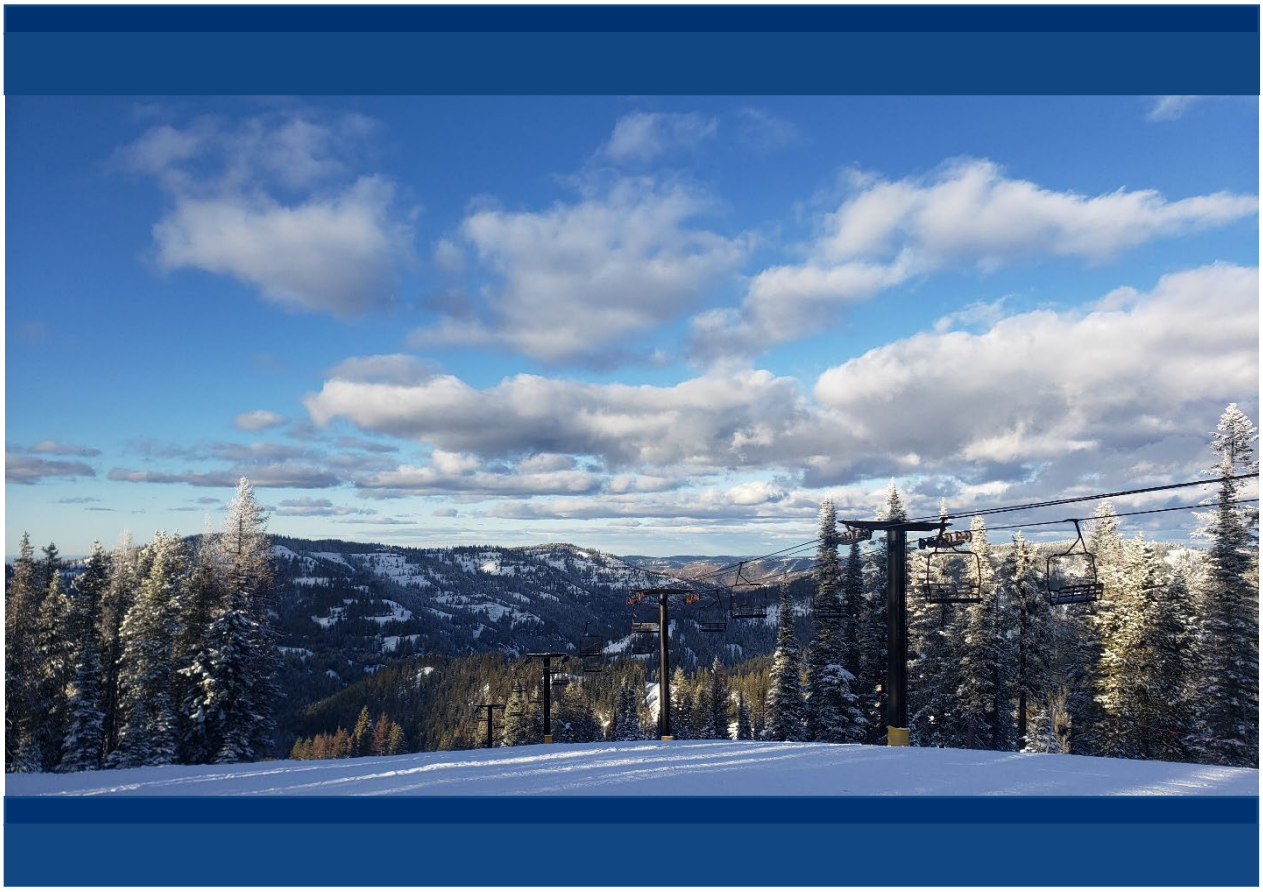
Bluewood
Master Development Plan



May 2022

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CONTENTS

LIST OF TABLES

LIST OF CHARTS

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

A. WHAT IS A MASTER DEVELOPMENT PLAN?

1. THE PURPOSE OF THIS DOCUMENT

This Master Development Plan (MDP) is intended to be the guiding document for future improvements for Ski Bluewood (Bluewood). In addition, this MDP is a vital means of communication between the ski area, the public, and the United States Forest Service (Forest Service). Like many other ski areas across the United States, Bluewood is located on public lands and operates under a Special Use Permit (SUP). Specifically, Bluewood is located on lands administered by Umatilla National Forest (UNF) under a SUP most recently issued December 2011. Forest Service SUPs require the preparation of a MDP that identifies the existing and desired conditions for the ski area and the proposed improvements on the National Forest System (NFS) lands within the permit boundary.

To create this document, Bluewood has engaged in a thorough, structured process of strategic visioning and comprehensive planning as detailed in the following section and in Illustration 1.

First, Bluewood sought to determine the overall ski area vision and guiding goals based on market needs, ski area niche, and long-term outlook. The resulting vision and goal statements form the foundation of this MDP. The questions 'what is important to our guests?' 'What makes our ski area special?' both inform the vision and goal statements, and these statements in turn structure the question 'where should we invest our time, money, and resources?'

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 Appendix A. Design Criteria.

With a vision and goals established, the next step is to inventory existing conditions at the ski area to identify existing strengths, weaknesses, opportunities, and constraints. This is critical information that goes into the ski area planning phase. Details are collected such as the number of lifts and their conditions, the square footage of guest service spaces, and how many parking spaces are available. Physical resources are also inventoried to help identify ideal locations to develop or to avoid due to environmental sensitivity.

The next phase of the MDP process is to analyze existing capacities of various facility components to determine imbalances within the operation. Collectively, this analysis leads to the identification of improvements that would bring existing facilities into better balance, help the ski area to prioritize projects, and help the ski area to operate more efficiently. Accomplishing these goals will result in a well-balanced ski area. The results of this process are documented in this MDP.

This MDP is divided into four chapters, plus appendices:

Chapter 1–Introduction: provides an overview of the plan, summary of Bluewood's location and market, statement of the plan vision and goals, and a summary of the MDP.

Chapter 2–Existing Conditions: describes existing resort facilities for both winter and summer, and evaluates the current balance of resort operations, facilities, and infrastructure. This includes lifts, terrain, guest services, snowmaking, and parking.

Chapter 3–Previously Approved, Not Yet Implemented Projects: inventories previous Forest Service approval documents and projects.

Chapter 4–Upgrade Plan: describes the proposed upgrades and improvements planned at Bluewood.

Appendices A, B and C: provides important master planning considerations which inform and guide the development of the plan including design criteria, an inventory of physical resources, and Forest Service direction.

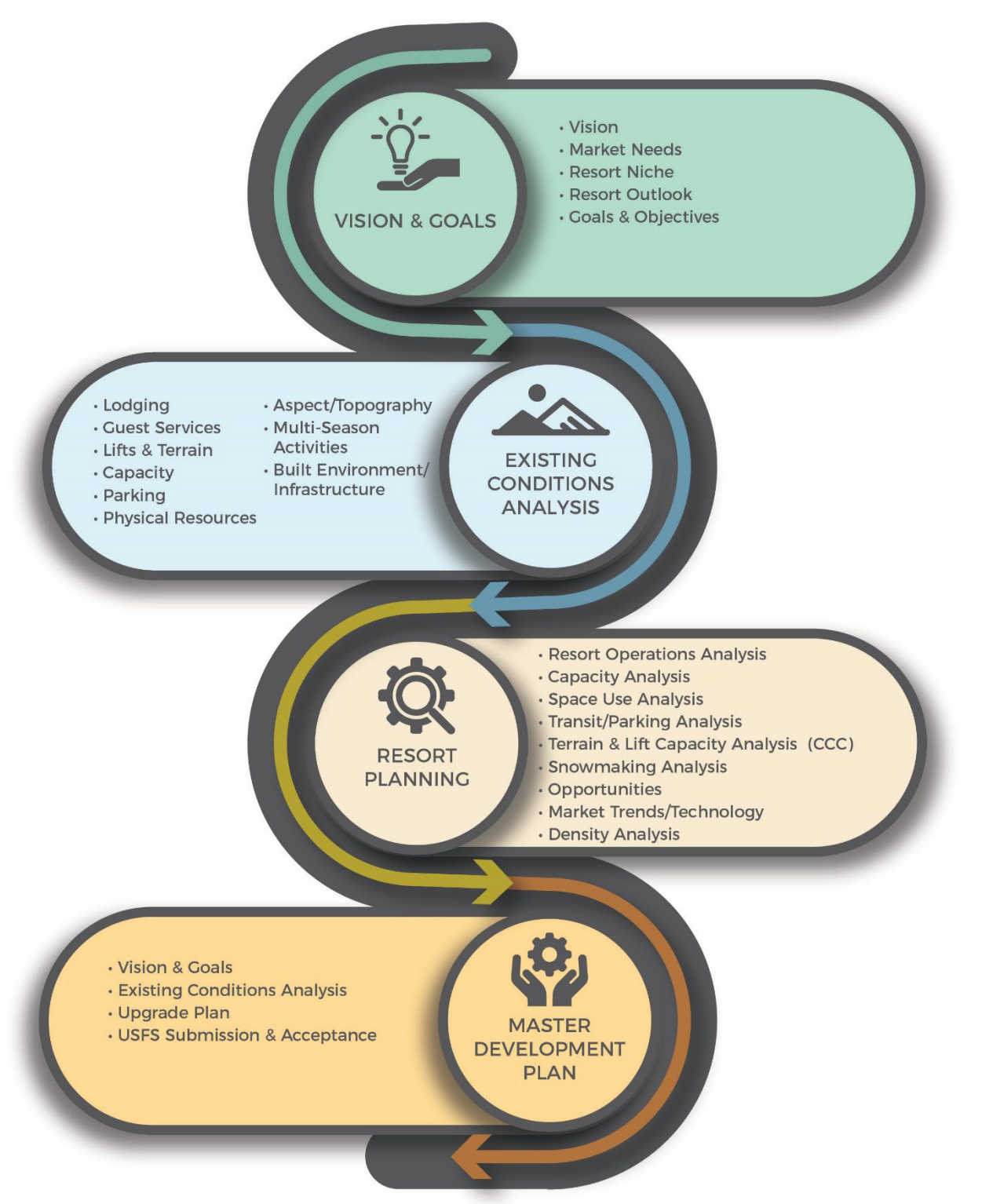
Appendix D–Additional Tables: includes existing and upgrade condition data tables.

2. THE PROCESS: VISION TO IMPLEMENTATION

This MDP was created using an iterative and collaborative process among the ski area, Forest Service personnel who administer the SUP, and SE Group planners. While this MDP contains a vision and outlines planned improvements for Bluewood, Forest Service acceptance of this document as a planning tool for Bluewood 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.

Beyond the Master Planning and NEPA process, additional permitting may be required by county and state bodies. The required permits for project implementation would be determined during the NEPA analysis. Only after the MDP, the NEPA analysis, and the permitting processes are complete may construction begin on a planned project.

Illustration 1. The MDP Process



B. BACKGROUND

1. LOCATION

Bluewood is a ski area located within unincorporated Columbia County, Washington in the heart of the Blue Mountains of southeastern Washington and northeastern Oregon. The ski area is about 20 miles south of the City of Dayton, Washington, and a 50-mile drive east of the nearest metro area, Walla Walla, Washington. The only way to access the ski area by vehicle in winter is from the north along Forest Service Road 64, also known as North Touchet Road. From Walla Walla guests drive along US Route 12 to Dayton in order to access the ski area.

Bluewood is adjacent to the North Fork of the Touchet River, in the traditional hunting territory of the Cayuse People, who are now organized under the Confederated Tribes of the Umatilla Indian Reservation.[1] The ski area is located entirely on land administered by the Walla Walla Ranger District of the UNF and operates under a SUP, the boundaries of which are shown in Figure 2. The SUP incorporates about 1,597 acres, while the current operational boundary of the ski area encompasses approximately 40% of the total SUP area.

2. HISTORY

Planning for a ski area in the northern part of Blue Mountains began in the early 1960s, when the UNF began accepting construction bids. Despite early interest, it took nearly two decades before Bluewood Ski Area began operation. The ski area first opened under Skyline Basin Associates in the 1979-1980 winter season with a single lift, Skyline Express.[2]

In 1981, the Blue Mountains experienced extremely poor snow year, and Skyline Basin Associates filed for bankruptcy. The ski area was repossessed by the Rainier Mortgage Co., who sold the area to Stan Goodell, a small businessman and the former manager of the Mount Hood Ski Patrol, who renamed the ski area "Ski Bluewood."[3] In 1986 Ski Bluewood constructed a new lift, Triple Nickel, and rebuilt the Easy Rider beginner surface lift.

Stan Goodell maintained ownership of the ski area with his wife, Nancy until they retired in 2010. Upon their retirement, a group of long-time Bluewood skiers, spearheaded by Michael Stephenson, formed Bluewood ownership group and purchased the ski area from the Goodells. This group maintains ownership of the ski area through today.[4]

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[1] Confederated Tribes of the Umatilla Indian Reservation, "A Brief History of CTUIR," Tribal Nation, *CTUIR About Page* (blog), accessed January 7, 2022, https://ctuir.org/about/brief-history-of-ctuir/.
[2] Phil Baechler, "Schuss! The Blues Are Gone from Bluewood," *The Spokesman-Review*, March 12, 1980, sec. Regional News.
[3] Associated Press, "New Bluewood Owner out to Make Resort Go," *Lewiston Morning Tribune*, November 16, 1983.
[4] Eric Degerman, "Ski Bluewood's New Owners Not Singing the Blues," *Tri-City Herald*, April 8, 2011, https://www.tri-cityherald.com/sports/outdoors/article32010933.html.

Since 2010, Bluewood has been making improvements to the aging ski area infrastructure. In 2018, the ski area replaced the Easy Rider surface lift with two carpet conveyors and installed a new warming yurt at the summit of Skyline Express. Bluewood ownership group hopes to continue to make improvements to the ski area to ensure the continuation of the family-friendly and community-oriented ski experience.

3. SKI AREA SUMMARY

Bluewood is a small, community-oriented ski area in Blue Mountains of southeastern Washington. The ski area is a winter-oriented regional day use area which provides skiers and riders from Dayton, Walla Wala, and the Tri-Cities of Richland, Pasco, and Kennewick a place to experience a thrilling winter recreational experience. Bluewood has the second-highest base elevation in Washington state and receives an average of over 300 inches of "smoke-dry" powder per season. The ski area is known for providing excellent tree skiing for advanced and expert skiers, as well as a family-friendly atmosphere and world-class grooming for less experienced guests.

Regardless of skill level, all guests at Bluewood can experience the solitude of winter deep in the Blue Mountains. The ski area is one of the few ski areas in the United States to operate completely self-sufficiently. Power is generated on-site using a combination of diesel and renewable generation technologies, while water is pumped from a well on-site and disposed using an advanced septic system. Presently, Bluewood operates exclusively in winter and does not offer any guest services or activities in summer. Table 1 summarizes Bluewood's annual visitation over the last 8 years.

Table 1. Annual Visitation

Season	Winter Visits (guests)	Winter Length (days)
2020/21	45,362	77
2019/20[5]	28,001	63
2018/19	39,294	80
2017/18	28,163	106
2016/17	33,226	85
2015/16	31,707	76
2014/15	14,458	50
AVERAGE	31,460	77

[5] Ski Bluewood closed early in the 2019/20 season due to the COVID-19 Pandemic

C. PLAN VISION AND GOALS

In 2018 Bluewood announced a vision for expansion. Over the next decade, Bluewood's seeks to maintain its nature as a family-friendly ski area with a "hometown, independent feel" while completing deferred maintenance in a way that provides even more features and fun for everyone. In the future Bluewood will continue to operate primarily as a regional day use ski area, but plans to offer some services associated with regional destination ski areas—such as an on-mountain lodge, overnight accommodations, and high-speed detachable lifts—to allow guests from more distant areas of southeastern Washington to stay on-site as part of a "weekend getaway." For both day-use and destination guests, Bluewood will further improve guest services to ensure the ski area continues meeting guest expectations.

D. SUMMARY OF THE UPGRADE PLAN

The upgrade plan, detailed in Chapter 4 and illustrated in Figure 6, implements the vision of Bluewood over the next ten years by making improvements to replace outdated infrastructure and improve the guest experience.

1. LIFTS

- Replace Skyline Express
- Construction of Vintner's Ridge Lift
- Construction of Manilla Springs Lift

2. TERRAIN

- Development of infill runs accessible via the Skyline Express
- Improvement of Vintner's Ridge terrain
- Construction of Manilla Springs terrain area east of Triple Nickel
- Continuation of glading as part of ongoing forest health management work
- Infill run construction and widening as deemed necessary based on usage patterns

3. GUEST SERVICES

- Renovation and expansion of the Bluewood Lodge
- Construction of the on mountain Skyline Lodge
- Construction of new day lodge facility serving Manilla Springs and Triple Nickel terrain areas
- Construction of the Vintner's Ridge warming hut
- Improvements to existing ski patrol facilities throughout the area
- Construction of an overflow lot on Touchet Road and upgrades to the existing parking lot
- Construction of new parking lot off NF-600 for Manilla Springs and Triple Nickel terrain areas
- Development of low-intensity lodging at the Manilla Springs Base Area

4. UTILITIES

- Construction of snowmaking system
- Additional utilities as needed
- Expansion and/or relocation of the existing maintenance facilities

5. OTHER

- Development of non-Alpine skiing activities and trails

6. SUMMER

- Construction of cross country and downhill mountain bike trails
- Construction of hiking trails
- Operation of lifts in summer for scenic rides and bike haul
- Construction of outdoor/indoor summer events venue

CHAPTER 2. EXISTING CONDITIONS

This chapter contains discussion and analysis of existing facilities at Bluewood. All existing lifts, trails, and facilities are depicted on Figure 5. Completion of a thorough ski area inventory is the first step in the master planning process. This inventory includes lifts, trails, the snowmaking system, base area structures, guest services, other ski area functions & activities, parking, operations, and mountain roads. The analysis of the inventoried data involves the application of industry standards to Bluewood's existing conditions. This process allows for the comparison of the ski area's existing facilities to those facilities commonly found at ski areas of similar size and composition.

The overall balance of the existing ski area is evaluated by calculating the capacities of various facility components and then comparing these capacities to the ski area's current Comfortable Carrying Capacity (CCC). This examination of capacities helps to identify strengths, weaknesses, opportunities, and constraints as a ski area. The next step is the identification of improvements that would bring the existing facilities into better equilibrium, which would assist the ski area in meeting the ever-changing expectations of its market. Accomplishing these objectives would result in a well-balanced ski area that provides an adequate array of services and experiences.

A. SUMMARY OF THE EXISTING GUEST EXPERIENCE

Bluewood characterizes itself as "one of Washington's best-kept secrets." It is a regional day use family ski area providing the only lift accessed skiing and snowboarding to the high desert communities of southeastern Washington. During a typical winter season, the ski area opens for skiing and riding Wednesday to Sunday each week, plus holidays.

Bluewood boasts a variety of impressive statistics. It has the second-highest base area elevation of any ski area in Washington State and has an annual snowfall of over 300 inches. Despite its status as a smaller ski area, Bluewood's lift network still provides access to over 400 acres of skiable terrain. Additionally, Bluewood is one of the few ski areas in the United States which is entirely self-sufficient, generating all power and drawing all water from, within the SUP boundary.

Bluewood is the nearest lift-served skiing and riding facility to much of the population of southeast Washington. The nearest ski areas to the south and east of Bluewood are 65 miles away, while to the north and west, ski areas are over 100 miles away. Despite the geographic spread of the communities served, very few skiers stage multi-day visits to Bluewood. The nearest accommodations, which are located in Dayton, are about half an hour drive away.

In the summer, Bluewood does not currently offer guest services while the mountain operation team works to make necessary repairs and prepare for the next winter season. Nevertheless, guests are permitted to access the area to engage in all activities permitted on the UNF. There are several hiking and OHV trails relatively close to or within Bluewood's SUP boundary, and many use the popular Sawtooth Trailhead on Skyline Ridge to access the Wenaha-Tucannon Wilderness for multi-day excursions.

B. EXISTING LIFT NETWORK

Bluewood currently operates two aerial lifts (both fixed-grip triples), as well as two carpet conveyor lifts. The lift network overall is beginning to show signs of age, and both aerial lifts are near the end of their usable life. Table 2 provides a summary of the specifications of the existing lift network.

Skyline Express, a fixed-grip triple chairlift, was the first lift installed at Bluewood in 1978 and functions as the primary out-of-base lift for Bluewood. The lift line ascends from the Bluewood Base Area to Skyline Ridge and provides access to most of the ski area's terrain. The lift has a capacity of 1,100 persons per hour (pph) and takes 9 minutes to ride from bottom to top. The lift's age has started to create problems for Bluewood from both guest services and operational standpoints. The lift is nearing the end of its mechanical lifespan and requires increasingly costly repairs to maintain.

Hourly Capacity vs Design Capacity

Hourly Capacity is defined as the capacity at which the lift would operate assuming all carriers are filled to capacity and that there are no misloads or lift stoppages. Hourly Capacity is based off the maximum speed at which the lift is operated, with the number of carriers typically loaded on the lift.

Hourly Capacity is distinguished from "Design Capacity," which is the capacity when the lift is running at the maximum speed the lift was designed to operate at and with the maximum number of carriers which can be safely placed on the line.

Triple Nickel Chair, a fixed-grip triple chairlift, was constructed in 1986. The lift ascends west from the base area and serves the novice and intermediate terrain on Nickel Ridge and Nickel Bowl. The lift is located adjacent to the base area, but the bottom terminal requires a slight hike up *Waterworks* run to access. Triple Nickel Chair has a capacity of 1,800 pph. While Triple Nickel is slightly newer than Skyline Express, the lift experiences many of the same issues as Skyline Express.

The Easy Rider carpets, both installed in 2018, transport beginner and novice skiers and riders from the base area up the lowest section of *Country Road* run. These surface lifts provide a key beginner zone for first time skiers and riders with a way to learn to turn on a gentle slope and progress their skills.

In addition to uphill capacity provided by the lift network, Bluewood also operates a snowcat shuttle from *Tamarack Trail* to the top of Vintner's Ridge. This shuttle provides a low capacity means for expert skiers and riders to access the off-piste Vintner's Ridge terrain located along the ridge for an additional fee. As the popularity of off-piste skiing has increased, the demand for this shuttle has risen substantially.

Table 2. Lift Specifications | Existing

Lift Name, Lift Type	Top Elev. (ft.)	Bot Elev. (ft.)	Vert Rise (ft.)	Slope Length (ft.)	Avg. Grade (%)	Hourly Capa-city (pph)	Rope Speed (fpm)	Carrier Spacing (ft.)	Year Installed
Skyline Express/C3	5,670	4,549	1,121	4,536	26%	1,100	500	82	1978
Triple Nickel/C3	4,970	4,589	381	1,531	26%	1,800	400	40	1986
Lower Conveyor	4,588	4,572	16	121	14%	600	120	12	2021
Upper Conveyor	4,630	4,588	42	353	12%	600	120	12	2021

Source: SE Group
Notes: C3 = fixed-grip triple

C. EXISTING TERRAIN NETWORK

Evaluation of the existing terrain network requires equal consideration of many factors, including terrain variety and the distribution of terrain by ability level. Assessment of either of these factors on their own will not provide a complete picture of the current state of terrain at the ski area.

Bluewoods existing developed terrain network encompasses approximately 122 acres of developed ski terrain. The ski trail network accommodates the entire range of skier ability levels from beginner to expert under current conditions. For details of the existing conditions terrain specifications, refer to Appendix D.

1. TERRAIN VARIETY

This analysis accounts for two separate types of terrain at Bluewood, totaling approximately 400 skiable acres:

- Lift-accessed, developed runs for beginner, intermediate, and expert skiers and riders—totaling about 122 acres.
- Developed and undeveloped (non-thinned or maintained) glades and natural terrain within the ski area boundary that are routinely skied, adding another 278 acres. This terrain includes terrain along Vintner's Ridge which is accessible via the snowcat shuttle from *Tamarack Trail.*

In addition to these two types of terrain, there is also undeveloped terrain that is less routinely skied within Bluewood's SUP, which totals approximately 1,197 acres.

Within Bluewood's terrain network, there is a developed ski trail network that consists of named, defined, lift-served, maintained (groomed) ski trails. These trails represent the baseline of the terrain at any ski area and are shown in Appendix D. These trails are where most guests ski and are usually the only place to ski during the early season, periods of poor or undesirable snow conditions, avalanche closures, and certain weather conditions.

Terrain Typology at Bluewood

1. DEVELOPED ALPINE TERRAIN – The existing developed, or formalized, alpine terrain network at Bluewood consists of the resort's named, defined, lift-serviced, maintained trails. Despite the importance of undeveloped, alternate-style terrain, formalized runs represent the baseline of the terrain at ski areas, as they are where the majority of guests ski and/or ride. Additionally, developed terrain is usually the only place to ski or ride during the early season, periods of poor or undesirable snow conditions, during avalanche closures, and in certain weather conditions. As such, the developed trail network represents an accurate picture of the acreage utilized by the average skier or rider on a consistent basis, as well as that used by virtually all guests during such conditions. Thus, the full capacity of the resort must be accommodated by the total acreage of the developed terrain network, rather than relying on undeveloped terrain (which is not always available).

2. UNDEVELOPED TERRAIN – Undeveloped terrain consists of unnamed terrain that is routinely skied. The topography within the existing ski area includes steeper terrain and glades intermingled within, and outside of, the developed and maintained terrain network. There are also densely-treed and less accessible gladed areas, consisting primarily of the natural (non-thinned or maintained) forested areas between the defined skiing areas and ski runs, and also accounts for some of the less accessible treed areas at Bluewood.

3. UNDEVELOPED, NOT ROUTINELY SKIED TERRAIN – This terrain type consists of major blocks of terrain within the SUP that are challenging to access due to dense vegetation or terrain barriers.

2. TERRAIN DISTRIBUTION BY ABILITY LEVEL

This terrain distribution analysis considers the 122 acres within the developed terrain network at Bluewood. As shown in Table 3, the ideal skier ability breakdown is 5% for beginner, 15% for novice, 25% for low intermediate, 35% intermediate, 15% advanced and 5% for expert. The current terrain distribution at Bluewood shows a surplus of beginner and intermediate terrain compared to the skier and rider market, and a deficit in novice, low intermediate and expert terrain.

Ability Level

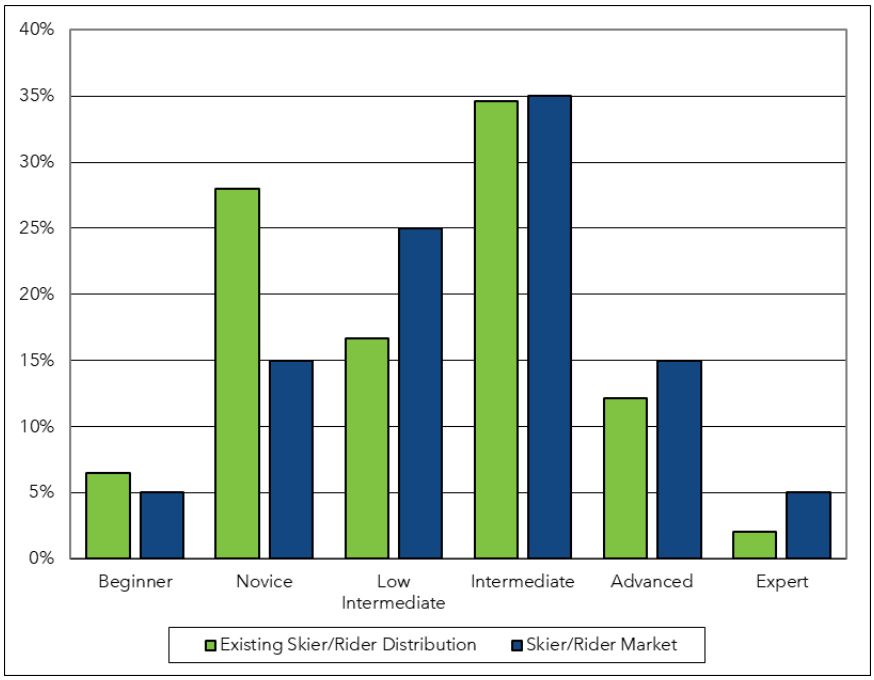
It should be noted there is a substantial difference between the ski run ability level ranking approach used in this document and that used by all U.S ski areas on their trail map and on-mountain trail signs. The established approach used at all resorts in the country is to make the ranking be relative 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 MDP 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 done to determine terrain capacity and ability level distribution by capacity. 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 3. Terrain Distribution by Ability Level | Existing

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Skier/Rider Distribution (%)	Skier/Rider Market (%)
Beginner	2.9	87	6%	5%
Novice	24.9	374	28%	15%
Low Intermediate	15.9	223	17%	25%
Intermediate	46.3	463	35%	35%
Advanced	23.1	162	12%	15%
Expert	9.0	27	2%	5%
TOTAL	122.1	1,335	100%	100%

Source: SE Group

Chart 1. Terrain Distribution by Ability Level | Existing



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.

D. EXISTING CAPACITY ANALYSIS

1. COMFORTABLE CARRYING CAPACITY

A detailed calculation of Bluewood's existing CCC was completed for this MDP, as shown in Table 4. Under existing conditions, Bluewood's CCC is calculated at 1,120 guests.

What is Comfortable Carrying Capacity

In ski area planning, a CCC is established, which represents an at-one-time guest population to which all ski functions are balanced. The design capacity is a planning parameter that is used to establish the acceptable size of the primary facilities of a resort: ski lifts, ski terrain, guest services, restaurant seats, building space, utilities, parking, etc.

Accordingly, the design capacity does not normally indicate a maximum level of visitation or a "cap" on visitation, but rather the number of visitors that can be "comfortably" accommodated on a daily basis. Design capacity is typically equated to a resort's fifth or tenth busiest day, and peak-day visitation at most resorts is at least 10% higher than the design capacity.

The accurate estimation of the CCC of a mountain is a complex issue and is the single-most important planning criterion for the resort. Related skier service facilities, including base lodge seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain's true capacity.

CCC is derived from the resort's supply of vertical transport (the vertical feet served combined with the uphill hourly capacities of the lifts) and demand for vertical transport (the aggregate number of runs desired multiplied by the vertical rise associated with those runs). The CCC is calculated by dividing vertical supply (VTF/day) by vertical demand, and factors in the total amount of time spent in the lift waiting line, on the lift itself, and in the descent.

Table 4. Comfortable Carrying Capacity | Existing

Lift Name, Lift Type	Slope Length (ft.)	Vertical Rise (ft.)	Hourly Capacity (pph)	Oper. Hours (hrs.)	Up-Mountain Access Role (%)	Misloading /Lift Stoppage (%)	Adj. Hr. Cap (pph)	VTF/ Day (000)	Vertical Demand (ft./day)	CCC (guests)
Skyline Express/C3	4,536	1,121	1,100	7.00	5	10	935	7,339	13,705	540
Triple Nickel/C3	1,531	381	1,800	7.00	0	10	1,620	4,316	9,659	450
Lower Conveyor	121	16	600	7.00	0	10	540	60	1,511	40
Upper Conveyor	353	42	600	7.00	0	10	540	159	1,834	90
Total	6,541		4,100				3,635	11,874		1,120

Table 5. Density Analysis | Existing

		Guest Disbursement				Density Analysis				
Lift	CCC	Milling (guests)	In Lines (guests)	On Lift (guests)	On Terrain (guests)	Area (acres)	Density (guests/acre)	Trl. Density (guests/acre)	Diff. (+/-)	Index (%)
Skyline Express/C3	540	135	47	141	217	100.6	2	10	-8	20%
Triple Nickel/C3	450	113	54	103	180	18.7	10	12	-2	83%
Lower Conveyor	40	10	9	9	12	1.2	10	30	-20	33%
Upper Conveyor	90	23	9	26	32	1.7	18	30	-12	60%
Totals	1,120	281	119	279	441	122.1	7	13	-6	52%

2. DENSITY ANALYSIS

The density analysis in this section compares the uphill and downhill capacities at Bluewood. 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 CCC 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 Capacities

An important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by comparing the uphill, at-one-time capacity of each individual lift pod (CCC) 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 that is available within each lift pod. The trail density analysis compares 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).

Table 5 shows that the average trail density at Bluewood is 7 skiers per acre, which is substantially lower than the calculated target density of 14 skiers per acre. It is not uncommon for ski areas to have lower trail densities than the target density, as generally lower trail densities reflect a higher quality recreation experience and less instances of overcrowding on trails. Nevertheless, the difference between the calculated target density of 14 skiers per acre and the actual density indicates underutilization of the existing terrain beyond what is necessary and appropriate to maintain a lower-density guest experience. This level of underutilization suggests that there could comfortably be more skiers/riders on the terrain at any one time than there are at current visitation levels. This situation indicates that the amount of effort required to properly maintain the quantity of terrain could be disproportionately high when compared to the overall number of skiers/riders on the mountain. Therefore, it may be beneficial to increase Bluewood's skiers per acre by increasing the capacities of existing lifts or adding new lifts.

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 by the lift network. The energy and costs related to the lifts include power use, operational labor, maintenance costs and labor, 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 the capacity and circulation requirements of the ski area.

One way to analyze Lift Network Efficiency is to calculate the average CCC per lift at a given ski area. While this calculation does not relate to the overall capacity of the ski area, it can indicate if (1) the ski area is not getting maximum utilization out of its lifts, or (2) if there are more lifts than necessary for the capacity levels of the ski area. When calculating this average, conveyors used for teaching, as well as lifts that are used for access only, are not included. Optimally, and in general, the average CCC per lift would likely be close to 1,000 guests. Industry-wide, the average CCC per lift is approximately 650. The average CCC per lift at Bluewood is 495, which reflects a below-average lift network efficiency. This lower average CCC is typical of a smaller, community-oriented resort. Nevertheless, Bluewood would be able to serve its guests more efficiently with a higher average capacity lift network.

b) Terrain Network Efficiency

A parallel of the terrain density analysis is an analysis that provides an indication of the efficiency of the terrain network as compared to the lift network serving it. In this usage, the term "Terrain Network Efficiency" refers to the amount of effort required to properly maintain the terrain (e.g., costs related to snowmaking, grooming, energy, ski patrol, summer trail maintenance, administration, etc.).

From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. A terrain density index of 100% would imply that the ski area had exactly the right amount of terrain to match target densities. Bluewood has an index of 52%, meaning that densities are 48% that of target densities. In other words, Bluewood has a shortage of lift capacity relative to its terrain network. It is important to note that only the developed terrain network is used in these calculations, because it is largely the developed terrain that incurs core operational and maintenance costs.

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

1. GUEST SERVICES

Guest service facilities constitute an essential component of the recreation experience at ski areas. These areas provide visitors with shelter from the elements, bathrooms, food and beverages; the capacity of these facilities is important in understanding whether the needs of visitors are being met.

Bluewood's existing guest services are primarily offered at the Bluewood Base Area.[6] The Bluewood Lodge at the bottom terminal of Skyline Express serves as the primary on-mountain food service location and houses the ticket office, ski school operations, ski patrol, and some administrative offices. In addition to the Bluewood Lodge, Bluewood also uses a nearby temporary sprung structure, as the primary storage and service site for the ski areas rental operation, known as "The Hub."

[6] In media and marketing materials, Bluewood typically refers to the lodge at the base of Skyline Express as "Main Lodge" or simply "The Lodge." The term "Bluewood Lodge" is used in this document to distinguish the facility from planned facilities from which guests would be able to stage.

Bluewood also operates two yurts on the mountain. One yurt, referred to as "Sunspot", is the only on-mountain guest services facility at Bluewood, and is located at the top terminal of the Skyline Express triple lift. This facility sells snacks and grab-and-go meals, as well as providing an alternative location for guests to rest and warm up. The second yurt is located near the other base area facilities and serves as a rest stop and a secondary restaurant, serving barbeque for guests who want an alternative to traditional resort fare.

Bluewood's current guest services facilities concentrate most ski area services in a central locale. This can be convenient for guests but can also cause substantial congestion during high demand periods. The limited service available at the single on-mountain guest service site is also problematic, as it requires most guests on the mountain to return to the single base area. This movement of skiers and riders leads to congestion in the base area.

2. SPACE USE ANALYSIS

Table 6 compares the current space use allocation of the guest service functions at Bluewood to industry norms for a ski area of a similar market orientation and regional context. The recommended ranges are determined based on Bluewood's calculated CCC of 1,120 plus an additional 5% for non-skiing or riding guests. As shown in the following table, the square footage of Bluewood's existing guest service space roughly matches what is necessary to provide effective guest services for the ski area's capacity. Nevertheless, there are some functions which have a moderate space shortage, including ticket sales and administrative functions. Bluewood should maintain the alignment of space allocation with ski area lift capacity by expanding guest services facilities in tandem with any increase in ski area CCC.

Space Use Planning

To provide a balanced resort experience, sufficient guest service space should be provided to accommodate the existing resort CCC. The distribution of the CCC is used to determine guest service capacities and space requirements at base area and on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with each facility.

In addition to distributing the CCC between the base area and on-mountain facilities, guest service capacity needs and the resulting spatial recommendations are determined through a process of reviewing and analyzing the current operations to determine specific guest service requirements that are unique to the resort.

Space Use Planning (cont.)

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 guest and employees).

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 two 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.

Table 6. Space Use | Existing | Resort Total

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	184	250	310
Public Lockers	0	760	920
Rentals/Repair	2,250	1,790	2,020
Retail Sales	605	530	650
Bar/lounge	500	790	970
Adult Ski School	0	400	490
Kid's Ski School	1,291	810	990
Restaurant Seating	3,762	3,710	4,530
Kitchen/Scramble	645	1,160	1,420
Rest rooms	650	690	840
Ski Patrol	434	420	520
Administration	311	530	650
Employee Lockers/Lounge	0	210	260
Mechanical	445	330	480
Storage	500	540	810
Circulation/Waste	1,500	1,300	1,920
TOTAL SQUARE FEET	13,077	14,220	17,780

Source: SE Group

3. FOOD SERVICE SEATING

Other than the Sunspot yurt at the top of Skyline Express, all food service seating is found on the top two floors the Bluewood Lodge. Seating in the Bluewood Lodge is divided between a restaurant area on the top floor, an indoor 'brown bag' lunch area on the second floor, and a pub on the second floor.

Turnover Rates

A key factor in evaluating restaurant capacity is the turnover rate of the seats. That is, the number of times a seat will be utilized in a day. Several factors influence the turnover rate including the ski resorts' 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 Bluewood a seat turnover rate of 4 has been assumed.

In total, the Bluewood Lodge has approximately 242 indoor seats available for guests. An additional 20 seats are available at the Sunspot yurt. Therefore, Bluewood has a total of 262 seats available for guests. With a turnover rate of four, this leaves Bluewood approximately 51 seats short of being able to comfortably seat all guests when at its CCC. Further details of the seating arrangement are provided in Table 7.

Table 7. Restaurant Seats | Existing

	Base Area	On-Mountain	Total
Lunchtime Capacity (CCC)	1,041	135	1,176
Average Seat Turnover	4	4	
Existing Seats	242	20	262
Required Seats	260	34	294
Difference	-19	-14	-32

Source: SE Group

Note that while the overall seating capacity is close to balanced, there are deficiencies of both base area and on-mountain seats, with a more notable seating shortage for on-mountain facilities. While the base area is only short approximately 7% of its required seats, on-mountain facilities are short approximately 41% of their required seats. This imbalance leads to issues, as almost all skiers and riders return to the Bluewood Lodge to eat lunch, leading to congestion within the lodge. Should Bluewood construct lifts which do not depart from the Bluewood Base Area (thus increasing overall capacity without increasing out-of-base capacity), this problem may compound. Therefore, it is recommended that any expansion at Bluewood be accompanies by a concomitant expansion of seating not in the existing Bluewood Lodge, such as additional on-mountain seating or at a new base area.

F. EXISTING PARKING CAPACITY AND SKI AREA ACCESS

Nearly all guests at Bluewood access the ski area by personal vehicle. All parking at Bluewood is currently located north of the Bluewood Base Area. The lot is a mixture of pavement and gravel and can accommodate about 525 cars. As shown in Table 8, the existing lot falls slightly short of fulfilling Bluewood's needs based on CCC. On days that the ski area is at or over capacity, the parking lot exceeds capacity, resulting in a negative guest experience. Bluewood is currently constructing a 200-car overflow lot to the north of the existing lot on Bluewood Road.

Table 8. Parking Conditions | Existing

	Total
Number of guests arriving by car	1,176
Number of guests arriving by shuttle service	59
Guests Per Car	2.3
Required guest car parking spaces	486
Required bus parking spaces[7]	2
Required employee car parking spaces	47
Total required spaces	540
Existing parking spaces	525
Surplus/Deficit	-15

Source: SE Group

G. EXISTING SKI AREA OPERATIONS

1. SNOWMAKING AND GROOMING

Bluewood does not currently have snowmaking infrastructure on the mountain. Bluewood operates a grooming fleet of 2 vehicles, which groom all traditional trails each night.

2. MAINTENANCE FACILITIES

All ski area maintenance is based out of the first floor of the Bluewood Lodge. This facility, constructed in 1979, has one maintenance bay and a small amount of space for storage and small projects. This space is insufficient for the current maintenance needs of Bluewood and should be expanded.

[7] Each bus space is assumed to take up 4.5 personal automobile parking spaces

3. INFRASTRUCTURE AND UTILITIES

All utilities, including electricity, water and heat are managed in a closed system on-site. Electricity is provided by two generators. The "Day Generator" is a 250-watt diesel generator located in the Bluewood Lodge. This generator runs when the ski area is operating and provides all power needed to operate the ski area. The "Night Generator" is also a diesel generator located in the Bluewood Lodge which provides approximately 80 kilowatts and can power basic lighting and infrastructure at night or if the Day Generator fails.

Bluewood maintains on-mountain connectivity using a Radio Dispatch System based out of the main Ski Patrol building. Internet and phone connectivity is provided by the Starlink Low-Earth-Orbit Satellite Internet System.

4. CULINARY WATER AND WASTEWATER TREATMENT

Domestic water is drawn from an on-mountain well between *Skyline* and *Huckleberry* trails and stored in a water tower near the top of the *Waterworks* run. Water is then purified and piped to the Bluewood Lodge.

Sewage is collected and deposited in a storage tank north of the Bluewood Lodge. From there, it is purified using a self-contained mineral-oil sewage system, and the clean water deposited back into the watershed. The solid components are trucked out weekly. This wastewater system works for the current operations. However, upgrading these systems would allow for a more efficient operations at existing capacity levels and would be necessary should other facilities be implemented.

5. MOUNTAIN ROADS

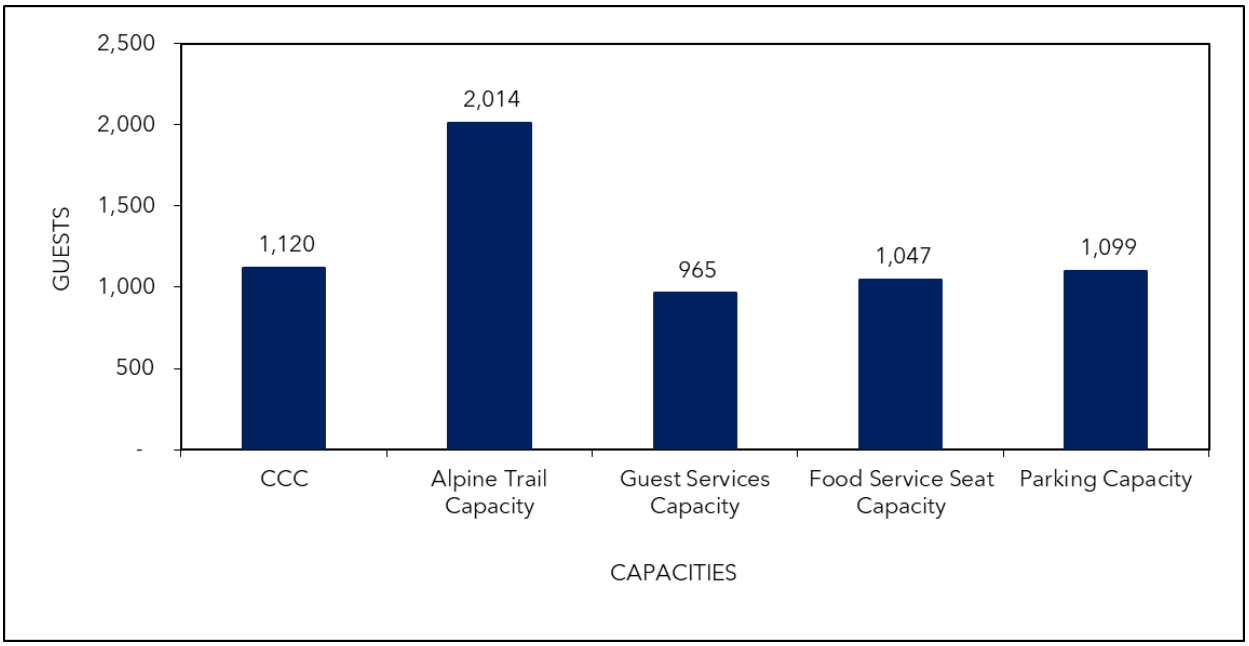
Bluewood maintains several on-mountain roads to perform maintenance and operations. These roads also connect at several points to existing, Forest Service maintained roads. Together, these roads provide access for required maintenance of Bluewood's infrastructure. Bluewood maintains approximately 4.25 miles of mountain road within its permit area.

H. SKI AREA CAPACITY BALANCE AND LIMITING FACTORS

Bluewood's visitation pattern is common for a regional ski area. The majority of Bluewood's visitation occurs on weekends and holidays, and the ski area exceeds its CCC (1,120) on peak days. During typical peak conditions, lift lines are modestly crowded. Even on peak days, ski runs remain generally low density.

The ski area's capacities are graphically depicted in Chart 2. This chart illustrates that Bluewood is generally a relatively well-balanced ski area. Nevertheless, the chart shows the potential opportunity for Bluewood to increase the capacity of its lift network, and the reveals the potential to make incremental improvements to guest service facilities to improve guest experience.

Chart 2. Ski Area Capacity Balance | Existing



I. SUMMER OPERATIONS

Bluewood does not currently engage in any summer guest-facing operations. Ski area activity during the summer is restricted to maintenance work and winter preparation.

CHAPTER 3. PREVIOUSLY APPROVED PROJECTS, NOT YET IMPLEMENTED

The projects discussed in this section have been previously approved through the NEPA process but have not yet been implemented. Prior to project implementation the Forest Service would review project consistency with Forest Plan standards and guidelines and determine if additional analysis is warranted due to new or changed conditions. When previously approved projects are ready for implementation Bluewood would communicate with UNF prior to implementation to ensure all necessary investigations are completed.

The only recent previous approval pertaining to Bluewood's SUP area is the 2016 *Decision Memo for the Ski Bluewood Surface Lift Project*. This document approved the installation of three surface lifts to the east of the Bluewood Base Area. Two of these lifts were installed in 2021, while the third has not yet been implemented. All three lifts were identified as categorically excluded from analysis under an EA or EIS as, combined, installation of these three lifts required a disturbance of less than five acres of land. Bluewood plans to complete the implementation of this third carpet as part of the upgrade plan.

CHAPTER 4. UPGRADE PLAN

This upgrade plan has been assembled to improve the quality of the recreational experience at Bluewood. Together the planned upgrades would help the ski area address deferred maintenance and improve access while maintaining Bluewood's hometown, independent feel. Over the next decade Bluewood plans to install new lifts, develop new terrain, and expand its guest service facilities. As part of the planning process, Bluewood has worked to ensure ski area balance, as well as alignment of planned changes with both the ski area's design criteria and Forest Service policy direction. Note that the planned projects would not occur within bull trout (*Salvelinus confluentus*) critical habitat, which is located downstream of the project area.

A. SUMMARY OF THE UPGRADE PLAN

At its core, Bluewood's upgrade plan centers on a planned expansion and new base area within the western segment of the ski area's existing SUP area, along with improvements to existing facilities within the operational boundary. Together, these upgrades would improve ski area access by creating a secondary ingress location and improving the existing Bluewood Base Area. These upgrades would also increase Bluewood's CCC by 1,350 guests and add 97 new acres of developed terrain to the ski area.

Bluewood plans to implement the facilities and terrain discussed in this MDP over the course of several years. Decisions on the order and pace of construction would be made in consultation with the UNF based on capital availability and market conditions.

B. UPGRADED LIFT NETWORK

Bluewood is planning to construct three new lifts as well as upgrade the existing Skyline Express to a detachable quad. The three new lifts would include a carpet conveyor, a detachable quad, and a fixed-grip quad. A qualitative discussion of the lifts and their function within the ski area is provided in the following section and a quantitative summary of upgraded lift specifications can be found in Table 9.

1. SKYLINE EXPRESS REPLACEMENT

Skyline Express is planned to be replaced within its existing alignment with a detachable quad. The upgrade would improve the guest experience and circulation out of the existing Bluewood Base Area. The new lift is planned to operate at a higher capacity than the existing Skyline Express triple chairlift and would increase Bluewood's CCC by 750 guests per day. Additionally, the higher speed of the lift means that guests would be able to spend more time skiing and less time on the lift.

2. MANILLA SPRINGS

The new Manilla Springs Lift is planned to be a high-speed detachable quad that would ascend northern Vintner's Ridge, due west of existing Bluewood Base Area. This lift would provide skiers access to a part of Bluewood's SUP area that has never been lift- or cat-accessible within the ski area's operational boundary and would increase Bluewood's CCC by 550 guests per day. The bottom terminal of the Manilla Springs Lift would be accessible from the top of Triple Nickel, as well as well as from the top terminal of the new Vintner's Ridge Lift.

The bottom terminal of the Manilla Springs Lift would anchor the new Manilla Springs Base Area, a secondary staging area one drainage to the west of Bluewood Base Area. A detailed discussion of the improvements planned in this base area can be found in Sections E and F of this chapter.

3. VINTNER'S RIDGE

Bluewood plans to install a new lift ascending from *Lower Tamarack* run to the top of the southern part of Vintner's Ridge. Vintner's Ridge falls within Bluewood's current SUP Boundary and is made accessible to advanced and expert skiers and riders by way of a ski area-operated snowcat shuttle from *Upper Tamarack Trail*.

Bluewood has long intended to make this area accessible by lift. A lift alignment was previously cut and is shown as previously approved on Figure 6. However, the currently planned Vintner's Ridge alignment, which would be longer than the previously approved alignment and have different top and bottom terminal locations, is the preferred alignment to service more terrain and allow for better circulation.

Extending the lift network to the top of Vintner's Ridge would create a variety of improvements to the guest experience. Most importantly, a lift would provide a substantially higher guest throughput than the current snowcat-based arrangement, meaning more guests would be able to access the ridge with minimal additional staffing. In addition, lifts tend to provide a more comfortable travel experience than crowding people into a snowcat. Finally, the lift in its currently planned alignment is designed to integrate with the planned Manilla Springs terrain network, allowing guests an alternative means access the Manilla Springs Base Area. The Vintner's Ridge Lift would support an additional 510 guests per day at the resort.

As part of this upgrade, several new trails are planned to be cut along Vintner's Ridge, making the terrain area accessible for intermediate and low-intermediate skiers. For further details on terrain upgrades see Section C of this chapter.

4. CONVEYOR 3

As discussed in Chapter 3, Bluewood has received approval from the UNF to construct a third carpet conveyor lift adjacent to the two existing carpet lifts constructed in 2021. This lift would improve the beginner and novice experience at Bluewood by providing these new skiers and riders more space to practice their skills before going up the chairlift for the first time.

Table 9. Lift Specifications | Upgrade

Lift Name, Lift Type	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Slope Length (ft.)	Avg. Grade (%)	Actual Capacity (pph)	Rope Speed (fpm)	Carrier Spacing (ft.)	Lift Maker/ Year Installed
Skyline Express/DC4	5,670	4,549	1,121	4,536	26%	2,000	1,000	120	*Upgrade*
Triple Nickel/C3	4,970	4,589	381	1,531	26%	1,800	400	40	Borvig / 1986
Lower Conveyor	4,588	4,572	16	121	14%	600	120	12	2021
Upper Conveyor	4,630	4,588	42	353	12%	600	120	12	2021
Third Conveyor	4,664	4,633	31	303	10%	600	120	12	*Planned*
Vintner's Ridge Lift /C4	5,671	4,858	813	2,913	29%	1,800	500	67	*Planned*
Manilla Springs Lift/DC4	5,592	4,555	1,037	3,951	27%	2,000	1,000	120	*Planned*

Source: SE Group
Notes:
C3 = fixed-grip triple chairlift / *DC4* = detachable four-passenger chairlift

C. UPGRADED TERRAIN NETWORK

The planned lift network described previously would open substantial new terrain for skiers and riders of all levels to the east of Bluewood's existing terrain. Bluewood plans to develop new terrain throughout the planned operational area, as well as to develop new runs within the existing Skyline terrain area. All told, a total of 97 acres are planned to be developed across thirty new runs throughout the ski area: fifteen in the Manilla Springs terrain area; eight off Vintner's Ridge Lift; and seven infill runs accessible from Skyline Express. In addition, Bluewood plans to create several new areas of undeveloped, gladed terrain, and to implement several targeted terrain improvements in existing lift-accessed terrain. These terrain improvements and expansions have been planned to balance with lift network capacity to create an operationally effective ski area with a great guest experience. These new runs, as well as the expansion of undeveloped terrain, would improve Bluewood's ability to match the demand for lift-served skiing by visitors through increasing the diversity and expanse of terrain at Bluewood.

1. SKYLINE EXPRESS TERRAIN

Seven infill runs are planned within the current terrain area accessible by Skyline Express. Two new runs are planned to be constructed west of *Skyline* trail towards *Tamarack*. These trails would improve access to the bottom terminal of the new Vintner's Ridge lift and improve circulation throughout the ski area. Two advanced runs are planned to be cleared in the gladed area between *Skyline* and *Huckleberry* runs. This area would give advanced skiers and riders additional terrain on which to improve their skills before heading off-piste. In addition, the construction of the runout trail at the bottom of the valley would make lapping the existing *Green Giant* and *Rated R* glades substantially easier and increase the speed with which ski patrol can evacuate guests from the popular surrounding undeveloped terrain. Two additional trails—one advanced trail and one intermediate trail—are planned on the eastern edge of Bluewood's operational boundary. In total, approximately 14 acres of new developed terrain are planned within the Skyline Express terrain area.

2. MANILLA SPRINGS TERRAIN

Manilla Springs terrain would service intermediate skiers and riders. With fifteen new runs (totaling 57 acres) and three new gladed areas, this terrain expansion would give guests at Bluewood a new area to explore and improve their skills. The terrain is also planned to be integrated with both Vintner's Ridge and Tripel Nickel terrain, giving skiers and riders an alternative route to Bluewood Base Area and easing congestion on *Tamarack Trail*.

3. VINTNER'S RIDGE TERRAIN

The Vintner's Ridge terrain area is planned to be developed in such a way that it would continue to provide excellent tree and glade skiing while also giving intermediate and advanced skiers an opportunity to experience the area. The existing snowcat track to the top of Vintner's Ridge from *Upper Tamarack Trail* would be widened to provide a low intermediate route off Vintner's Ridge. The previously cut lift line, while not planned to be used for the lift itself, would instead be improved into an advanced run. Much of the terrain surrounding this run would be left undeveloped, either gladed or in its natural state, to provide expert skiers and riders with desirable off-piste terrain. Several runs would be cleared to the north of Vintner's Ridge top terminal for intermediate and advanced skiers and to provide access to Manilla Springs. Approximately 19 acres of new developed terrain are planned within the Vintner's Ridge terrain area.

4. OTHER TERRAIN IMPROVEMENTS

In addition to the core projects identified in the upgrade plan, Bluewood plans to do a variety of other terrain improvements on approximately 7 acres of existing terrain. Specifically, Bluewood plans to widen and regrade runs throughout its existing operational area. This trail work would improve circulation at chokepoints and improve the overall guest experience.

5. TERRAIN DISTRIBUTION BY ABILITY LEVEL

As can be seen in Table 10 and Chart 3, the planned terrain upgrade roughly maintains Bluewood's existing terrain distribution by ability level. The plan does result in a substantial increase in the proportion of the ski area's terrain capacity which serves advanced and expert skiers and riders, while bringing beginner and novice terrain closer in line with market demands. Note that the change in novice terrain represents a shift in the proportion of this terrain relative to the rest of Bluewood's terrain and is not an actual decrease. The most notable deviation from the market is in low intermediate terrain, which, following upgrade, would make up 33% of the ski area's terrain capacity (as opposed to 25% of skiers and riders who prefer advanced terrain). This deviation is within acceptable bounds.

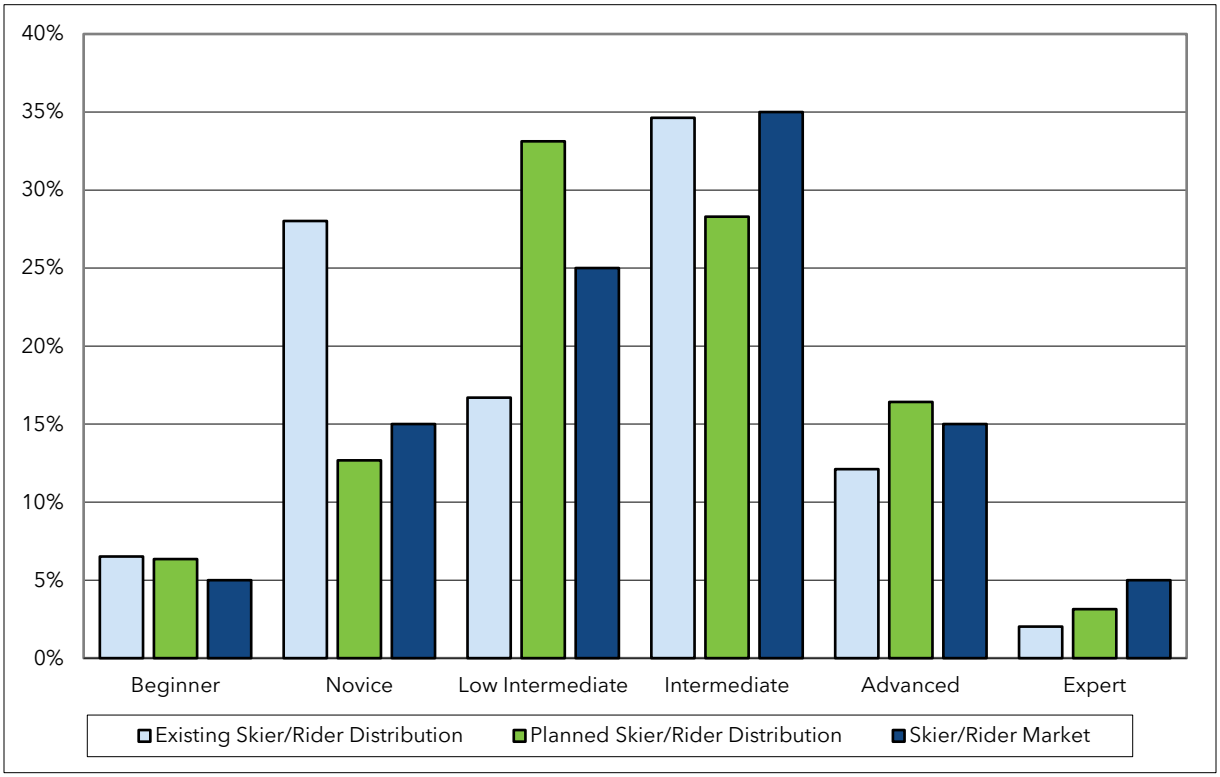
Overall Bluewood would continue to be a well-balanced ski area following the planned upgrades, and all deviations from the market demands are within acceptable bounds and in alignment with Bluewood's vision and goals.

Table 10. Terrain Distribution by Ability Level | Upgrade

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Skier/Rider Distribution (%)	Skier/Rider Market (%)
Beginner	4.9	146	7%	5%
Novice	16.2	292	13%	15%
Low Intermediate	54.5	763	33%	25%
Intermediate	65.1	651	28%	35%
Advanced	54.0	378	16%	15%
Expert	24.1	72	3%	5%
TOTAL	218.8	2,302	100%	100%

Source: SE Group

Chart 3. Terrain Distribution by Ability Level | Upgrade



D. UPGRADED CAPACITY ANALYSIS

1. COMFORTABLE CARRYING CAPACITY

The calculation of Bluewood's CCC under the Upgrade Plan is an important measure by which the ski area's overall balance of facilities can be evaluated and planned. As discussed, CCC is a measure of the daily capacity of the ski area and, as such, represents the planning parameter around which the rest of the ski area components should be balanced. With the upgrades described in this MDP, the CCC of the ski area is projected to be 2,470 guests.

Refer to Table 11 for a detailed breakdown of the capacities of each lift in the upgraded network.

2. DENSITY ANALYSIS

As discussed in Chapter 3, a ski area is most operationally efficient when uphill lift capacity and downhill run capacity are balanced. Both lift network and terrain network efficiencies were considered when planning upgrades for Bluewood. As a result, this plan improves both lift and terrain network efficiencies at Bluewood. Refer to Table 12 for a summary of the density analysis under upgrade conditions.

a) Lift Network Efficiency

The upgraded lift network excluding all existing and new carpet lifts, has a mean CCC of 565 guests, 70 more than the mean CCC of the existing lift network. This increase is a result of the upgrade of several core lifts to detachable quads. As noted in Chapter 2, the maximally efficient mean lift capacity is approximately 1,000 guests per lift and the industry average is currently about 650 guests per lift. Therefore, while Bluewood's lift network efficiency would continue to be below average, which is typical of a smaller, community-oriented resort, the planned conditions represent an improvement over the existing condition.

b) Terrain Network Efficiency

The planned upgrades at Bluewood increase the efficiency with which Bluewood's lift system serves the terrain network. Following the completion of this upgrade plan, Bluewood would have a density index of 55%, meaning that, on average, runs would be at 55% of target densities when all lifts are operating at their comfortable capacity. This is a 3% increase over the 52% network efficiency found for Bluewood's existing conditions.

Table 11. Comfortable Carrying Capacity | Upgrade

Lift Name, Lift Type	Slope Length (ft.)	Vertical Rise (ft.)	Hourly Capacity (pph)	Oper. Hours (hrs.)	Up-Mountain Access Role (%)	Misloading /Lift Stoppage (%)	Adj. Hr. Cap (pph)	VTF/ Day (000)	Vertical Demand (ft./day)	CCC (guests)
Skyline Express/DC4	4,536	1,121	2,000	7.00	15	5	1,600	12,559	16,812	750
Triple Nickel/C3	1,531	381	1,800	7.00	0	10	1,620	4,316	9,659	450
Lower Conveyor	121	16	600	7.00	0	10	540	60	1,511	40
Upper Conveyor	353	42	600	7.00	0	10	540	159	1,834	90
Third Conveyor	303	31	600	7.00	0	10	540	118	1,542	80
Vintners Ridge Lift/C4	2,913	813	1,800	7.00	0	10	1,620	9,219	17,949	510
Manilla Springs Lift/DC4	3,951	1,037	2,000	7.00	25	5	1,400	10,166	18,505	550
Total	13,707		9,400				7,860	36,597		2,470

Source: SE Group
Notes:
C4 = fixed-grip quad chairlift/ *C3* = fixed-grip triple chairlift / *DC4* = detachable four-passenger chairlift
Hourly Capacity is defined as the capacity at which the lift would operate assuming all carriers are filled to capacity and that there are no misloads or lift stoppages.
Adjusted capacity is the hourly capacity of the lift, less the proportion of the lift's hourly capacity dedicated to up-mountain access and the estimated percentage of the lift's hourly capacity lost to guests misloading the lift or the lift stopping.

Table 12. Density Analysis | Upgrade

		Guest Disbursement				Density Analysis				
Lift Name	CCC	Support Fac./Milling (guests)	Lift Lines (guests)	On Lift (guests)	On Terrain (guests)	Terrain Area (acres)	Terrain Density (guests/acre)	Desired Trl. Density (guests/acre)	Diff. (+/-)	Density Index (%)
Skyline Express/DC4	750	188	80	121	361	111.3	3	11	-8	27%
Triple Nickel/C3	450	113	54	103	180	19.0	9	13	-4	69%
Lower Conveyor	40	10	9	9	12	2.3	5	14	-9	36%
Upper Conveyor	90	23	9	26	32	3.0	11	14	-3	79%
Third Conveyor	80	20	9	23	28	2.3	12	14	-2	86%
Vintners Ridge Lift/C4	510	128	54	157	171	36.5	5	9	-4	53%
Manilla Springs Lift/DC4	550	138	47	92	273	44.4	6	8	-2	77%
Totals	**2,470**	**620**	**262**	**531**	**1,057**	**218.8**	**6**	**11**	**-5**	**55%**

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

1. GUEST SERVICES

The planned upgrades to guest services facilities at Bluewood are substantial and include improvements to all parts of the mountain. The Bluewood Lodge is planned to be renovated, and a base lodge is planned to be constructed in the new Manilla Springs Base Area. On-mountain, a guest services facility is planned to be constructed at the top of Skyline Express and a small warming hut is planned to be installed adjacent to the bottom terminal of Vintner's Ridge Lift. The locations of these facilities are planned to ease congestion and improve circulation throughout the ski area, and together, they would establish sufficient guest service capacity to balance the ski area's expanded CCC. Note that capacity, square footage calculations, and layouts are not detailed in this master plan. Instead, such details would be determined as part of the project-by-project NEPA environmental analysis in consultation with the UNF.

a) Bluewood Lodge Expansion

The existing Bluewood Lodge was originally constructed when Bluewood was built in the 1970s. Many of the facilities are outdated and the building has become increasingly difficult to maintain in recent years. To improve the guest services experience, decrease costs, and better balance various guest services functions, Bluewood plans to renovate the existing Bluewood Lodge to bring it in line with contemporary ski area styling and guest expectations. This renovation is planned to moderately increase the usable square footage of Bluewood Lodge. Following this renovation, the Bluewood Lodge would have more chairs in its dining areas, more space for children's and adults' ski schools, and an improved retail experience.

b) Manilla Springs Lodge

A new base lodge is planned in the Manilla Springs Base Area. This lodge would serve as the primary staging area for guests arriving at the Manilla Springs Base Area and would provide basic beginning of day guest services, including, but not limited to, food and beverage, ticket sales and restrooms. Rentals, ski school, and most retail would likely stay concentrated at the existing Bluewood Lodge. The Manilla Springs Lodge is planned to be somewhat smaller than the Bluewood Lodge, as the Manilla Springs Base Area is planned to serve a slightly lower proportion of guests. Nevertheless, the lodge is planned to provide services for the intermediate and advances skiers and riders who do not need rental and ski school services.

c) Skyline On-Mountain Lodge

The Sunspot yurt, which presently offers guest services at the top of Skyline Express, is planned to be replaced with a larger facility that would have the capacity to serve more guests. This lodge would serve as the main on-mountain guest service space for Bluewood and would provide stunning views of the North Touchet River Valley and the Wenaha-Tucannon Wilderness. Services provided would include food and beverage, restrooms, and other services.

d) Vintner's Ridge Warming Hut

A small warming hut is planned to be constructed next to the bottom terminal of the new Vintner's Ridge Express. The hut would be similar to the existing facility at the top of Skyline Express with indoor/outdoor seating and limited food and beverage services. This lodge is planned to reduce congestion in both base areas, as guests on Vintner's Ridge would not need to use a lift ascending from either base area to eat at this facility.

e) Ski Patrol Facilities

Ski patrol facilities throughout Bluewood are planned to be improved under this upgrade plan. New patrol huts are planned to be constructed at the top of Vintner's Ridge and Manilla Springs lifts. In addition, the ski patrol headquarters in the Bluewood Lodge are planned to be reconstructed. These improvements would improve ski patrol operations across the mountain.

2. SPACE USE ANALYSIS

Table 13 provides recommended ranges for guest service facility space based on industry averages for space use by service function. Sufficient guest service space should be provided to accommodate the upgrade plan CCC of 2,470 guests per day. With the existing guest service space at 13,077 square feet, the needed size for the upgrade plan is more than double that of the existing space. This space would come from the planned Manilla Springs Lodge, the Skyline Express Lodge, and expansions to the existing Bluewood Lodge.

Table 13. Space Use Recommendations | Upgrade | Resort Total

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	550	680
Public Lockers	1,670	2,040
Rentals/Repair	3,330	4,080
Retail Sales	1,170	1,430
Bar/lounge	1,750	2,140
Adult Ski School	890	1,090
Kid's Ski School	1,770	2,170
Restaurant Seating	8,170	9,980
Kitchen/Scramble	2,570	3,140
Rest rooms	1,520	1,850
Ski Patrol	930	1,140
Administration	1,160	1,430
Employee Lockers/Lounge	460	570
Mechanical	700	1,050
Storage	1,160	1,740
Circulation/Waste	2,800	4,190
TOTAL SQUARE FEET	30,600	38,720

Source: SE Group

3. FOOD SERVICE SEATING

As this plan would likely increase skier visits, additional space would be necessary to comfortably accommodate the potential increase in guests. A quantitative analysis of the space recommended to accommodate the planned increase to a CCC of 2,470 skiers and riders based on the logical distribution of the ski area's uphill capacity between each guest service location is provided in Table 14. Under the upgrade plan, Bluewood needs to provide a total of 664 seats across the mountain. Existing seats at Bluewood are currently about 242 seats.

Note that this plan does not specify an exact square footage to be constructed in the next decade. Rather, it identifies the range of space allocated to various guest services to maintain a properly balanced ski area upon completion of the lift and trail network upgrades.

The planned upgrades to food service facilities (discussed in Section 1) would provide sufficient seating to accommodate Bluewood's increased CCC. To do so, the ski area would transform the food service experience at Bluewood by substantially increasing the number of seats and giving guests multiple places to eat dispersed across the ski area.

Table 14. Food Service Seats | Upgrade

	Bluewood Lodge	Manilla Springs	On-Mountain	Total
Lunchtime Capacity (CCC)	1,569	574	450	1,024
Average Seat Turnover	4	4	3.5	
Existing Seats	242	--	--	242
Required Seats	392	144	129	664

F. ON-SITE LODGING

Bluewood plans to offer lodging at the Manilla Springs Base Area adjacent to the planned parking lot. This hotel would provide the first formal ski to/ski from accommodations at Bluewood's base area, allowing guests from more remote parts of southeastern Washington and northeastern Oregon to stay at Bluewood for a long weekend or a vacation. Providing on-site accommodations would lengthen the average guest stay and increase Bluewood's visitation, thus making it more financially viable.

The details of Bluewood's lodging approach would be determined prior to NEPA analysis and implementation based on market demands in conversation with the UNF and community members. Although Bluewood may consider the development of a hotel facility in the future, it is noted that Bluewood initially plans to focus on low-intensity lodging uses, (e.g., an RV facility with power and water hookups) rather than constructing a permanent lodging structure.

G. UPGRADED PARKING CAPACITY AND SKI AREA ACCESS

Under existing conditions, all guests arriving at Bluewood stage from the Bluewood Base Lodge. This creates crowding during arrival and departure periods, makes it more difficult to organize the ski school, and generally reduces the quality of the guest experience. In addition, the existing parking capacity at Bluewood Base Area is not sufficient to accommodate the ski area's existing capacity and would be even more insufficient to accommodate Bluewood's capacity under the upgrade plan. Bluewood plans to resolve these issues by improving the design and parking at the existing parking area and constructing a second base are in the Manilla Springs drainage. A quantitative analysis of ski area access under the upgrade plan can be found in Table 15. The upgrade plan shows Bluewood needing approximately 1,192 parking spaces in order to provide sufficient parking for the ski areas upgrade CCC.

1. BLUEWOOD BASE AREA IMPROVEMENTS

In addition to the renovation of the Bluewood Lodge (discussed in Section E of this chapter), several additional improvements are planned to be made to ski area parking facilities. An overflow parking lot is planned to be constructed on Touchet Road north of the junction with Bluewood Road in the near future. Additional improvements are planned to be made to the existing parking lot in the coming years, including repaving the lot and benching in an additional parking row to the east and north of the existing parking area.

Under the upgrade plan, Bluewood Base Area would continue to act as the primary access point for most guests. That said, upgrades are planned to place a renewed focus on beginner and novice skiers and riders, as well as those attending ski school. The layout of the parking lot would be oriented towards easy drop-off of ski school students, and modifications to the base area snow front would be designed to ensure ease when corralling students.

2. MANILLA SPRINGS BASE AREA

A new base area is planned to be constructed adjacent to the bottom terminal of the Manilla Springs Lift. The base area would be primarily geared towards intermediate and advanced skiers and riders and the parking lot and guest services facilities would be designed to accommodate approximately 40% of Bluewood's guests.

Two alternative routes by which guests would access the Manilla Springs Base Area would be considered. The first alternative would diverge directly from North Touchet Road to the west of the Bluewood Road junction. This approach would be ideal for inbound traffic management, as it allows traffic to turn into the ski area at two separate points from the main road. The other alternative is to construct a benched road from Bluewood Road around the northern face of Nickel Ridge. This approach may need to be considered if crossing the North Fork of the Touchet River is not possible.

Table 15. Parking Capacity | Upgrade

	Bluewood Base Area	Manilla Springs Base	Total
Percent of Guests Arriving at Portal	60%	40%	100%
Number of Guests Arriving at Portal	1,556	1,037	2,594
Number of guests arriving by car	1,478	986	2,464
Number of guests arriving by shuttle	78	52	130
Guests Per Car	2.3		
Required guest car parking spaces	643	428	1,071
Required bus parking spaces[8]	2	1	3
Required employee car parking spaces	62	41	103
Total required spaces	715	477	1,192

Different aspects of ski area access may be modified at different times. Bluewood considers the upgrades the Bluewood Base Area a higher priority than the planned Manilla Springs Base Area project. In addition, it is noted that the planned Manilla Springs Lift (and potentially, the Manilla Springs Lodge) can be initially constructed without the installation of a guest-accessible road or parking lot adjacent. Under this scenario, guests would access Manilla Springs through existing terrain accessed from Triple Nickel or Vintner's Ridge lifts. Under this scenario, parking capacity to services the additional lift capacity would be provided from the planned Touchet Road overflow lot and other parking improvements, until the Manilla Springs road and parking area completed.

H. UPGRADED SKI AREA OPERATIONS

Several substantial changes are planned to Bluewood's operational capabilities in order to accommodate the planned changes, and to provide additional resilience to the ski area in the face of a changing market and changing climate.

1. SNOWMAKING

Snowmaking is planned to be installed throughout Bluewood on approximately 103 acres, as shown on Figure 7. The plan would happen incrementally as capital and resources become available. The overall snowmaking plan shows the ideal ski runs to cover from top-to-bottom for a variety of skier abilities. The primary goal of the snowmaking system is to provide a quality, consistent snow surface and coverage in below average snow years. It would allow for a more consistent opening and closing dates, provide additional capability to "patch" areas during periods of low snow or to combat against wind and solar effects on the snow, and provide consistent snow surface conditions.

[8] Each bus space is assumed to take up 4.5 personal automobile parking spaces

Assuming 103 acres of snowmaking coverage, it is estimated that the proposed snowmaking system would require approximately 110 acre-feet of water if built out. However, snowmaking is not considered to be 100% consumptive, as most of the water used for snowmaking is returned to the watershed through runoff. NEPA analysis and review would be completed prior to implementation of snowmaking infrastructure being installed. Such an analysis would include assessment of the availability of water rights and impacts of water use and water runoff.

2. MAINTENANCE FACILITIES

Major upgrades are planned for the Bluewood Base Area maintenance facility as part of the Bluewood Lodge renovation project. As part of this project, the maintenance facility would be either substantially expanded, or relocated out of the main Bluewood Lodge building and into a secondary facility further from the center of guest activity. In either case, the maintenance facility would be substantially expanded to accommodate all tools and vehicles necessary to maintain the ski area under the upgrade plan.

3. INFRASTRUCTURE AND UTILITIES

As discussed, Bluewood operates entirely "off-the-grid," using its own generators to generate power. Both the main and backup generators are nearing the end of their life and are becoming increasingly difficult to maintain. As part of the upgrade plan, these facilities would be replaced with a combination of generators, renewable energy sources, and backup batteries. It would be ideal to move the existing generator away from the lodge or replace it with a quieter generator, if possible, to reduce the noise heard by guests in the base area. The exact mix of power sourcing is to be determined as part of the NEPA process.

In addition to the new generators at Bluewood Base Area, an additional generation facility would need to be constructed to service Manilla Springs Base Area and lift, at the top of Skyline Express for the lodge and at the base of Vintner's Ridge Lift. These generators would be located adjacent to the facilities and would produce power sufficient to supply the lifts and the planned guest service facilities.

4. CULINARY WATER AND WASTE WATER TREATMENT

The culinary water system at Bluewood would be upgraded to accommodate the ski area's expansion. The existing well near the Bluewood Lodge may need to increase its pump rate to service the expanded Bluewood Lodge, while a new well would need to be constructed adjacent to the Manilla Springs Lodge and the Skyline Express food service facility. All new water developments would be further specified as part of the NEPA processes.

Bluewood plans to upgrade its wastewater treatment system prior to any expansion. As described in existing conditions, the current wastewater treatment facility is inefficient. Bluewood plans to construct a system to move sewage out of the base area, where it would be either processed on site (through leaching or grinding) or stored in a larger containment unit that requires less frequent removal.

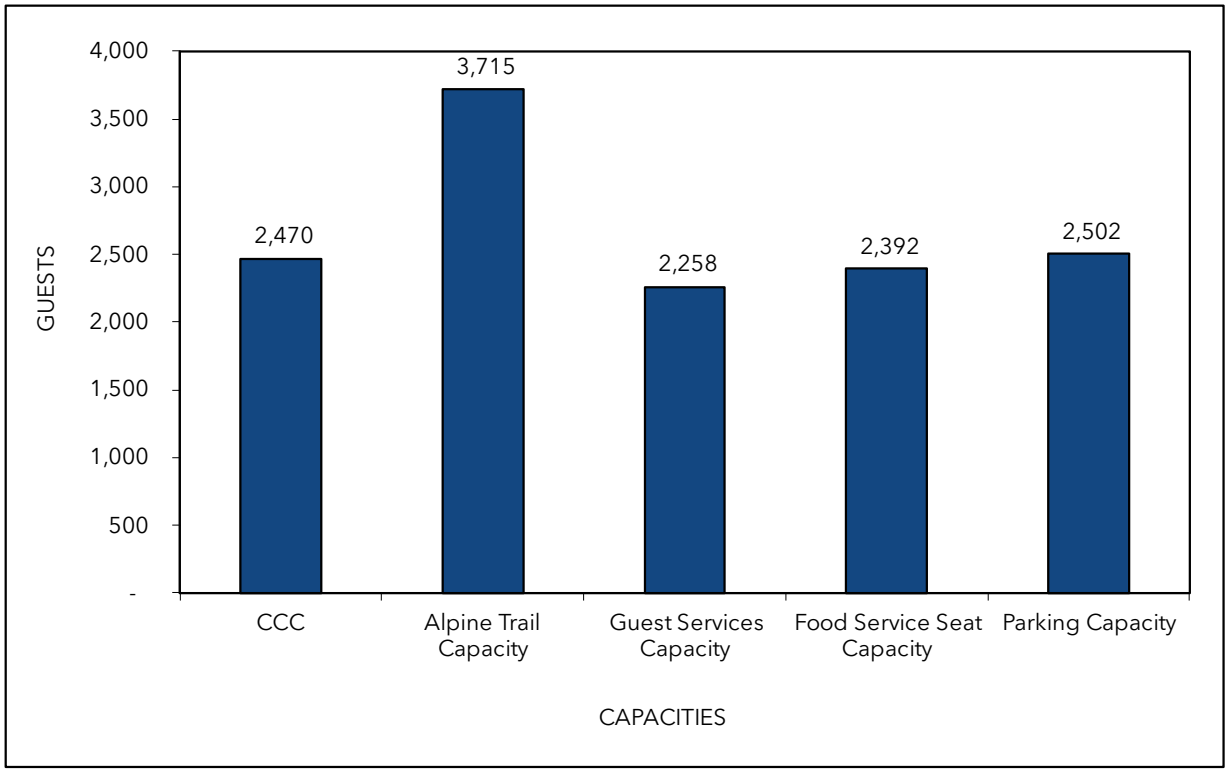
5. MOUNTAIN ROADS

Existing mountain roads and road cuts are planned to be used and improved to access facilities in the upgrade plan. As discussed in Section F of this chapter, there are two alternatives for constructing a guest-accessible road to the planned Manilla Springs Base Area. In addition, the existing mountain road from North Touchet Road west of Bluewood Road, within the Bluewood SUP, would provide access to the ridge at the top of Manilla Springs and Vintner's Ridge lifts and the existing mountain road on *Country Road* run provides access to the top of Skyline Express. A detailed reference of mountain roads can be found in Figure 8.

I. SKI AREA CAPACITY BALANCE AND LIMITING FACTORS

The planned upgrade conditions for Bluewood show a well-balanced ski area. Under existing conditions, Bluewood is balanced at about 1,100 skiers, meaning that the resort functions well at that visitation level, but many of the facilities get overwhelmed at higher visitation levels. Bluewood is now starting to see visitation exceed these levels and put pressure on existing facilities to operate efficiently. To accommodate more skiers and riders, capacities across the board need to increase. The upgrade plan has additional lifts and terrain, guest service and food service seating area expansions, as well as parking area expansions. The terrain expansions also bring Bluewood's terrain distribution by ability level in alignment with national market expectations. Overall, this plan increases Bluewood's capacity, and puts the ski area in an ideal position to achieve its vision and goals.

Chart 4. Ski Area Capacity Balance | Upgrade



J. SUMMER OPERATIONS AND ZONES

Bluewood plans to continue to provide limited summer offerings. During the summer, a number of trails can be accessed from the base area. Expanding these trail offerings could help the utilization of the base area facilities in the summer. Special events are also planned to continue. Minor improvements to help support those events may also be necessary.

1. SUMMER ZONES

Summer zoning was completed for Bluewood. This process designates summer zones where activities could be appropriate in the future. The zoning process follows guidance provided in FSM 2343.14 – Additional Seasonal and Year-Round Recreation at Ski Areas and establishes "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." Additional details about the summer zoning process can be found in Appendix A. These summer zones are discussed in detail in the following sections. Refer to Figure 9 for a depiction of all mapped zones at Bluewood.

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 Bluewood's overall SUP area, the following summarizes the setting in Zone 1:

- Road access and roads are prevalent;
- Considerable human activity (people recreating and/or resort operations) occurs 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 lifts and buildings, is common.

Two distinct areas at Bluewood have been designated as Zone 1: one surrounding the existing base lodge and another surrounding the planned Manilla Springs Base.

Desired Experiences

Within Zone 1, guests are expected to encounter a high concentration of other guests. The level of development would reflect the current setting and function of these areas as hubs of activity and portals to other activities across the ski area. Guests would encounter a higher degree of maintenance and operations facilities and activities within Zone 1. Within Zone 1, the concepts in the Built Environment Image Guide (BEIG) would be followed to ensure appropriate design guidelines for both landscape architecture and built architecture are followed. Both areas mapped as Zone 1 are surrounded by Zone 2. 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). Zone 1 would 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 within a Zone 1 may include food and beverage operations, lodges, special event venues, shelter and emergency services, restroom facilities, landscaped areas, and other activities. At Bluewood, Zone 1 serves as the mountain's gateway, from which guests would access surrounding activities and refuel between activities. A wide range of guest services facilities and recreational, interpretive, and educational offerings are appropriate for Zone 1.

b) Zone 2

Setting

The setting of Zone 2 is less disturbed when compared with Zone 1 and provides more naturalness due to the presence of less built infrastructure and human activity. Within the context of Bluewood's 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 lifts and buildings, is present.

Two distinct areas at Bluewood have been designated as Zone 2: one larger zone surrounding the Zone 1 designations in the existing and planned base areas and one adjacent to the planned lodge at the summit of Bluewood.

Desired Experiences

Most summer guests entering Bluewood SUP area would enter Zone 2 first and then Zone 1 area. In moving between these zones, guests would transition from the built environment to a setting characterized by both developed and more natural activities. These activities may be proximate to existing infrastructure and facilities but still offer a more-natural feel. For many guests of Bluewood, 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 summer experience at Bluewood. 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. In addition to hosting these types of activities, Zone 2 should serve as a buffer between higher levels of development within Zone 1 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. These areas are typically elevated and further within the mountain landscape than Zone 1.

As mentioned previously, 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. Thus, areas within Zone 2 serve as transitional zones,

encouraging guest exploration into more natural portions of the resort in a setting that still feels comfortable for less-experienced outdoor recreationists. The setting of Zone 2 and the activities that occur within would offer sufficient challenge for first-time guests and would prepare others to venture into the less developed areas of Zones 3 and 4.

c) Zone 3

Setting

The setting of Zone 3 contains areas of disturbance from ski trail and lift development; however, guests can still find a greater degree of remoteness and naturalness depending on their location within the zone and there is less facility infrastructure present. Generally speaking, Zone 3 includes areas where existing lifts and ski terrain are present but smaller forest patches are common. Within the context of Bluewood's 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 lifts and buildings, are present but less common than Zones 1 and 2.

One distinct area at Bluewood have been designated as Zone 3. This area encompasses the majority of the mid-mountain and summit areas of Bluewood

Desired Experiences

The majority of guests would access Zone 3 from the existing trails network. Once in Zone 3, guests would have opportunities to engage in their surroundings in a more natural and remote environment.

The desired experience in Zone 3 is to offer a diverse set of experiences for guests, which would promote the UNF as recreationally, biologically, and geographically diverse landscapes. Guests may enjoy interpretive signage that would provide education on their biological, cultural, and historical surroundings. Enhanced opportunities to experience some of the best views in Washington should be provided. Trail activities—including both hiking and mountain biking—and other recreational activities should be provided in forested settings. This would provide opportunities to learn about the importance of forest health and stewardship.

Compatible Activities and Facilities

Activities could include mountain biking trails (flow trails, etc.), scenic lift rides, hiking trails, multiple-use trails, and other similar natural resource-based activities. Activities within Zone 3 would not require substantial modifications to natural topography to facilitate construction. Existing ski area development (ski trails and lifts) exist to varying degrees within Zone 3, and potential seasonal and year-round facilities and activities would 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 and natural terrain prevail. Within the context of Bluewood's 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 of remoteness;
- The area is completely natural or has limited disturbance; and
- Minimal infrastructure is present.

Two distinct areas at Bluewood have been designated as Zone 4: one area in the southernmost section and one area in the northwestern section of Bluewood's SUP. These areas contain minimal development and are primarily forested.

Desired Experiences

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

Compatible Activities and Facilities

Activities would promote the surroundings and inform guests of similar environments throughout the UNF. 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 as well as mountain biking trails.

Activities within Zone 4 would 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.

e) Zone 5

No zones are characterized as Zone 5 at Bluewood.

2. PLANNED SUMMER ACTIVITIES

In addition to the low intensity activities listed above, Bluewood will continually analyze market conditions and guest desires to determine if further expansion of summer programming would be an effective and sustainable way to enable community access to the UNF. Activities considered would include the construction of hiking trails, the construction of cross country and downhill mountain bike trails, the operation of one or more lifts in the summer for scenic rides and bike haul as well as summer events. Facilities to support these activities, such as a summer events venue, would also be considered.

Appendix A. Design Criteria

Design criteria is an important concept in ski area master planning. This appendix provides an overview of the basic design criteria on which Chapter 2 (Existing Conditions) and Chapter 4 (Upgrade Plan) are based. By design, information presented in Appendix A is a general introduction to concepts in ski area 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 ski areas, 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 ski area 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 ski area.

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

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

A. DAY USE AND DESTINATION SKI AREAS

Generally, a mountain facility that is within two hours driving time of its major markets acts as a day-use ski area. Unlike most *destination* ski areas, skiing and snowboarding will be the primary, and sometimes only, recreational activity at a day-use area. Because a day-use ski area is within daily commuting distance of its market area, it will not require substantial, if any, overnight accommodation. While some ski areas within two hours' drive of a major market do become destination ski areas, local day use ski areas typically lack either the assets or desire to move into the destination ski area market. Within the day-use ski area designation, three broad categories of ski areas can be defined according to the market they attract: local, regional, and urban. Bluewood is primarily a regional day-use ski area.

1. LOCAL DAY-USE SKI AREAS

Local day-use ski areas generally attract only residents of a small town or community and hence the facilities and layout are straightforward. Common attractions include skiing and snowboarding, and perhaps snowplay. Supporting guest services - food service, restrooms, rentals, bar/lounge, ski school, and a small retail shop - as well as operations facilities - ski patrol, first aid, maintenance, and administration - will likely be contained within one or two buildings at the base of the lifts.

2. REGIONAL DAY-USE SKI AREAS

Regional day-use ski areas attract a clientele from a larger area than either a local or urban day-use ski area, and hence may have the broadest array of facilities within the day-use category. Besides extensive ski and snowboard facilities, a regional day-use ski area may have conference facilities, golf, and concert/special event venues. If demand warrants, some overnight accommodations may evolve. Often these accommodations take the form of single-family second homes and/or lodging with modest amenities (e.g., restaurant, swimming pool, minor commercial space, small conference facility, etc.).

3. URBAN DAY-USE SKI AREA

An urban day-use ski area is proximate to a large urban center such that guests will most commonly visit the area for the day, partial day, or possibly just the evening. Facilities at an urban day-use ski area can accommodate a wider range of guest preferences than a local facility, and typically have a different complexion than a regional day-use ski area. In the winter, skiing and snowboarding are typically the primary activities. Supporting services usually include an extensive learning center, equipment rentals, and locker space. Additional winter activities may include nighttime skiing/snowboarding, snowplay, and ice-skating. In the summer months, recreational facilities may include terrain boarding, thrill slides, GoKarts, golf, swimming and water play, tennis, biking, hiking, and more. Additional facilities may include concert and special event facilities, conference facilities, extensive lounge facilities, and restaurants.

4. REGIONAL DESTINATION SKI AREAS

Given the population dynamics of the southeastern Washington area, Bluewood expects to continue to serve primarily as regional day use ski area. However, given Bluewood's role as the only ski area in southeast Washington, the ski area also plans to add services more typical of regional destination ski areas. These services would allow guests from more distant parts of southeast Washington to experience skiing in their national forests without having to fly to more distant national destination ski areas.

Regional destination ski areas largely cater to a "drive" market. While day-use guests play some role, the regional destination ski area also appeals to vacationers. At regional destinations ski areas, lodging typically is an important component of operations, but due to the average length of stay and guests' vacation budgets, lodging and related services and amenities are usually less extensive than what might be expected at a larger national and/or international destination ski area. As discussed, Bluewood is a primarily day-use ski area, but it wishes to open up the small, but growing destination-drive market of southeastern Washington. Because the nearest town is over a half hour drive away, the ski area itself may need to step in to provide services, such as lodging, that are usually supplied by proprietors within the local community at other regional destination ski areas.

B. BASE AREA DESIGN

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

Design of the base lands at a mountain ski area 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 ski area and its intended character. In every case, however, fundamental objectives of base area planning remain the same. A ski area should seek to integrate the mountain with the base area (or base areas) to establish 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 ski area layout as one tool to establish ski area character. The manner in which ski area elements are inter-organized, both inside the ski area 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 general gradients depicted in Table 16 are used by SE Group to classify the skier difficulty level of the mountain terrain.

Table 16. Terrain Gradients

Skier Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25%
Low Intermediate	to 35%
Intermediate	to 45%
Advanced	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 Pacific Northwest skier market is shown in Table 17, illustrating that intermediate skiers comprise the bulk of market demand.

Table 17. Skier Ability Breakdown

Skier Ability	Slope Gradient
Beginner	5%
Novice	15%
Low Intermediate	25%
Intermediate	35%
Advanced	15%
Expert	5%

Source: SE Group Mountain Planning Guidelines

b) Trail Density

The calculation of capacity of a ski area is based in part on the target number of skiers that can accommodated, on average, on a typical acre of ski terrain at any one given time. The criteria for the range of trail densities for North American ski areas that SE Group utilizes are provided in Table 18.

Table 18. Skier Density per Acre

Skier Ability	Percent of Skier Market
Beginner	25 to 40 skiers/acre
Novice	12 to 30 skiers/acre
Low Intermediate	8 to 25 skiers/acre
Intermediate	6 to 20 skiers/acre
Advanced	4 to 15 skiers/acre
Expert	2 to 10 skiers/acre
Alpine Bowls	0.5 skier/acre

Source: SE Group

These density figures account for the skiers that are actually populating the ski trails and do not account for other guests who are either waiting in lift lines, riding the lifts, waiting in milling areas or using other support facilities. SE Group's observations and calculations indicate that on an average day approximately 40% of the total number of skiers at the ski area are on the trails at any given time. Additionally, areas on the mountain, such as merge zones, convergence areas, lift milling areas, major circulation routes, and egress routes, experience higher densities periodically during the ski day.

SE Group has observed that recent trends in trail density design criteria tend to provide for a less crowded skiing experience. At many mountain-west ski areas, there is a segment of the market that prefers more natural, unstructured, semi-backcountry types of terrain, commonly referred to as off-piste.[9] Demand is increasing for alpine open bowls, glades, and other similar types of terrain. Skier density per acre numbers are not necessarily applicable to these types of terrain, particularly as there often is not a defined edge to these areas like on a traditional ski run. However, skiers are attracted to these areas for the uncrowded feel, and the experience and challenge that it affords. Planning and design should provide these types of areas if possible and aligned with the ski area's mission. Examples range from glading between existing runs, to providing guided out-of-bounds tours.

c) Trail System

A ski area's trail system should be designed to provide a wide variety of terrain to meet the needs of the entire spectrum of ability levels as well as the ski area's market. Each trail should provide an interesting and challenging experience within the ability level for which the trail is designed. Optimum trail widths vary depending upon topographic conditions and the caliber of the skier/rider being served. The trail network should provide the full range of ability levels consistent with each level's respective market demands.

2. LIFT DESIGN

The goal for lift design is to serve the available ski terrain in an efficient manner, while being sensitive to environmental considerations. A myriad of factors are considered including wind conditions, visual impacts, wetlands, round-trip skiing, access needs, interconnect ability between other lifts and trails, and the need for circulation space at the lower and upper terminal sites.

The vertical rise, speed and length of ski lifts for a particular mountain are important measures of overall attractiveness of a ski area.

3. 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 or areas for similar amenities. It has also become common for ski areas to offer ski and board demo locations on-mountain, so skiers and riders can conveniently test different equipment throughout the day. While smaller regional day use ski areas do not require as much space for guest services on mountain, many nevertheless find that having guest services on-mountain can help alleviate base area crowding during lunch times and provide an interesting and unique guest experience.

D. CAPACITY ANALYSIS AND DESIGN

In ski area planning, a "design capacity" is established, which represents daily guest population to which all ski resort functions are balanced. The design capacity is a planning parameter that is used to establish the acceptable size of the primary facilities of a ski resort: ski lifts, ski terrain, guest services,

[9] "Piste" is a term commonly borrowed from French vernacular which refers to a groomed, maintained, defined ski trail. "Off-Piste" therefore refers to the ungroomed, less defined natural style of skiing commonly found in high Alpine areas and bowls.

restaurant seats, building space, utilities, parking, etc. The accurate estimation of the design capacity of a mountain is vital, as it functions as the primary planning criterion for the resort.

Design capacity is commonly expressed as "skier carrying capacity," "skiers at one time," and other ski industry-specific terms. This MDP uses the term CCC when referring to Bluewood's design capacity. The CCC describes the level of utilization that provides a pleasant recreational experience based upon the number of people that the lift network can comfortably accommodate. Accordingly, the design capacity does not normally indicate a maximum level of visitation, but rather the number of visitors that can be "comfortably" accommodated on a daily basis. Design capacity is typically equated to a resort's fifth or tenth busiest day, and peak-day visitation at most resorts is at least 10% to 25% higher than the design capacity.

Related skier service facilities, including day lodge seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain's CCC.

The calculation of CCC involves comparing the amount of vertical transport capacity supplied by the lift system against the demand for vertical transport by skiing guests on a daily basis. Total vertical transport-feet per day (VTF/Day) for all lifts is divided by Vertical Demand to derive CCC.

E. BALANCE OF FACILITIES

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various skier service functions are designed to match the CCC of the mountain. Future development of a ski area should be coordinated to maintain a balance between accommodating skier needs, ski area capacity (lifts and trails), and the supporting equipment and facilities (e.g., grooming machines, day lodge services and facilities, utility infrastructure, access, and parking).

F. MULTI-SEASON RECREATION ACTIVITIES

Throughout the ski industry, resorts are reimagining the capabilities and duration of their operation. To combat the inconsistent six-month winter operating window, which is likely to grow narrower as a result of climate change, traditionally winter-oriented resorts are pursuing a more sustainable fiscal and economic outlook via the development of multi-season and summer recreation activities. Multi-season recreational activities tend to attract a more diverse range of new guests than traditional winter activities. This master planning process assesses the best programs and implementation approaches for developing multi-season activities and facilities to showcase the prospective success given the unique characteristics that define Bluewood and its markets.

1. SUMMER ACTIVITY ZONES

Ski resorts are characterized by diverse settings, from developed and modified areas near their base areas, to more remote and primitive areas with only limited lift-accessibility. Following guidance provided in FSM 2343.14 – Additional Seasonal and Year-Round Recreation at Ski Areas, this resort establishes "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." Zone designations were carried out through a two-step planning process. The first step is to

identify distinct areas at the resort through careful consideration of the area's setting and proximity to existing snow sports infrastructure. Features such as watersheds, topography, vegetation structure, level of existing disturbance, and existing infrastructure were considered in establishing seven distinct areas across the planned SUP area that are unique in their location and/or features.

The second step of the zone designation process is to evaluate each distinct area based on characteristics of setting and level of development. Similar to the Forest Service Recreational Opportunity Spectrum (ROS), as described in Appendix C, this analysis should use the following characteristics to evaluate distinct areas:

- *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

As shown in Table 19, Distinct areas are evaluated by 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. Characteristics are considered within the context of the developed ski area. The scores are then summed to provide a total score, and a corresponding summer activity zone designation for each distinct area.

Table 19. Summer Zones Concept

Zoning Characteristics	Scores
Access	
Road Access within Area	1
Limited Road Access/Trails	2
No Road Access	3
Remoteness	
Proximate to Human Activity	1
Distant Sight of Human Activity within SUP	2
Out of Sight of Human Activity within SUP	3
Naturalness	
Heavily Disturbed by Ski Area Activity	1
Moderately Disturbed by Ski Area Activity	2
Undisturbed by Ski Area Activity	3
Infrastructure	
Adjacent to 2 or More Ski Area Infrastructure	1
Ski Area Infrastructure in Area	2
Out of Sight of Ski Area Infrastructure	3
Minimum Score Possible	4
Maximum Score Possible	12
Zones	Score Range
1	4
2	5 to 6
3	7 to 9
4	10 to 11
5	12

Appendix B. Inventory of Physical Resources

This section provides an overview of the unique resource conditions of Bluewood's SUP area that were taken into consideration when assembling this MDP.

A. TOPOGRAPHY

Topography is the arrangement of natural and artificial physical features of an area and includes the general surface shapes and features at a ski area. Topography, along with slope gradient, is important to a ski area because it partly defines terrain variety, which is consistently ranked as the second most important criterion in skier choice of a ski destination in Ski Magazine's Reader Resort Ratings, behind snow quality.

Bluewood is characterized by a series of minor ridges and valleys descending north from Kendall Skyline Ridge into the major valley formed by the North Fork Touchet River. Most of these ridges and valleys are accessible from the ski area's summit at the top of Skyline Express. The exceptions are Vintner's Ridge on the southwestern boundary of the ski area, which is presently only accessible by hiking and cat skiing, and Nickel Bowl, which is a small cirque formed by two small saddles in the northwestern portion of the ski area. Nickel Ridge is presently only accessible by the Triple Nickel Chair.

B. SLOPE GRADIENTS

Slope gradient defines the angle of the ski run, relative to a completely flat surface. As mentioned previously, slope gradient helps define terrain variety. In addition, slope gradient defines the difficulty of terrain and, therefore, which types of skiers can ski that terrain. See Tables 2 and 3 for further details on the relationship between slope gradients and ability level. Slope gradient also dictates trail and infrastructure development, as both completely flat ground and cliff faces are un-skiable and steep slopes are more difficult to build structures on.

Terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. Regardless of the slope gradient for a particular trail, if it feeds into a trail that is rated higher in difficulty, its ability level must be rated accordingly. Conversely, if a trail is fed only by trails of a higher ability level than the maximum slope of the trail would dictate, it also must be rated accordingly.

General slope gradients are defined as follows:

- **0 to 8% (0 to 5 degrees)**: too flat for skiing and riding, but ideal for base area accommodations, and other support facility development.
- **8 to 25% (5 to 15 degrees)**: ideal for Beginners and Novices, and typically can support most types of development.
- **25 to 45% (15 to 25 degrees)**: ideal for Intermediates, and typically are too steep for development.
- **45 to 70% (25 to 35 degrees)**: ideal for Advanced and Expert skiers/riders and pose intermittent avalanche hazards.
- **>70% (>35 degrees)**: too steep for all but the highest level of skiing/riding. These areas are typically allocated as Expert only and are closely managed by the ski area operator for avalanche control.

A slope gradient analysis was conducted for the lands at Bluewood, which places all lands at the ski area within a slope gradient range of 0-8% (unsuitable for sliding), 8–25% (easier), 25–45% (more difficult), 45–70% (most difficult), or 70% and above (expert only). The majority of terrain at Bluewood has a slope gradient range of 25% to 45%. Refer to Figure 3 for a visual depiction of Bluewood's slope analysis.

C. ASPECT

Slope aspect, or the positioning of a slope in relation to the four cardinal directions, plays an important role in snow quality and retention as it plays a role in the intensity of solar radiation the slope receives. The variety of exposures present opportunities to provide a range of slope aspects that can respond to the changes in sun angle, temperature, wind direction, and shadows.

Generally, within the Northern Hemisphere, northern slopes are the coolest and most shaded, south slopes are the warmest with the most sun exposure, and eastern/western slopes are in between. The relative abundance of varying terrain aspects at a ski area means guests can choose different terrain based on snow and weather conditions (i.e., guests can use east-facing slopes on cold mornings, which soften faster in the morning, and transition to other sections of the mountain later). In addition, east and west facing slopes within ski areas can be beneficial for softening snow and improving skiing conditions on cold winter days. The placement and location of snow features, such as halfpipes and terrain parks, must factor in the effects of sun on elements of the feature, (i.e., snow softening, and the recurring process of melting and freezing). Typical constraints in relation to the various angles of exposure are as follows:

- 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: 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

An aspect analysis was conducted for all lands within Bluewood's SUP area. Most slopes within Bluewood's SUP area face north or northeast. Nickel Bowl has predominantly east and southeast exposure, while Vintner's Ridge ranges from true north to southeast exposure. Refer to Figure 2 for a detailed map displaying Bluewood's aspect.

D. SOILS AND GEOLOGY

Soils and geology within and around a ski area are important factors to take into consideration because they influence the erosion potential of the area, the drainage capabilities, the vegetation that grows in the area, and other factors that inform ski area management.

E. HYDROLOGY

Hydrology influences the availability of water in the ski area as well as the movement of snowmelt and groundwater. This can influence a ski area's ability to make snow as well as how snowmelt travels through and impacts the ski area. Within higher elevation zones, headwater wetland complexes and streams can create unique challenges to development.

Bluewood is located exclusively within the Upper North Fork Touchet River watershed (HUC-12 170701020301). All water deposited within Bluewood's SUP drains first to the Touchet River, then the Columbia via the Walla Walla River.

F. FISH AND WILDLIFE

Fish and wildlife, being federally monitored (in the case of the Endangered Species Act), as well as generally being in the public eye, are importance considerations for ski area development. A site-specific NEPA analysis of all Forest Service sensitive, management indicator, and federally listed, threatened, and endangered species would be conducted prior to implementation of any MDP projects proposed by Bluewood in the future. That analysis would be based on the latest information provided by the UNF, U.S. Fish and Wildlife Service, and the State of Washington.

Among other wildlife concerns, it is noted that Bluewood is upstream of critical habitat for the federally-listed bull trout (*Salvelinus confluentus*). Specifically, the segment of the North Fork of the Touchet River that Bluewood is adjacent to is upstream of this critical habitat. Planned projects would not occur directly in critical habitat and Bluewood would take care when planning infrastructure to limit indirect impacts on the Bull Trout population. Further analysis of steps necessary to protect this important species would be completed as part of all future NEPA processes.

G. VEGETATION

The vegetative composition of a ski area, beyond influencing the wildlife discussed previously, also influences the erosion potential of the land and its ability to retain water. Further, maintaining the integrity of over- and understory vegetation is key to long-term viability of a ski area; vegetation management for developed and undeveloped portions of ski areas can influence snow retention, wildlife habitat and movement, soils detachment, water quality and visual quality. It is therefore important to analyze and understand the existing vegetation within a ski area boundary.

Appendix C. 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.

Because it exists on NFS lands, Bluewood operates under a SUP authorized under the National Forest Ski Area Permit Act of 1986, 16 U.S.C. § 497b. The Act authorizes the Forest Service to issue ski area permits:

> *"… for the use and occupancy of suitable lands within the National Forest System for Nordic and alpine skiing operations and purposes." 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."*

The basis for determining the types of activities and facilities appropriate for permitted winter sports ski areas operating on NFS lands are expressed in federal laws and Forest Service policy directives, including the Forest Plan, as revised.[10] The Forest Plan is a guiding document that provides the Forest Service with authority and direction pertaining to ski area management on NFS lands. Bluewood and the UNF are connected through a committed long-term partnership and together seek to provide quality recreational opportunities on NFS lands. By satisfying its current and future visitors, Bluewood would grow as a healthy and competitive ski area within its market niche. This, in turn, would help fulfill Forest Service policy, objectives, and direction for ski area management on the UNF.

A. LAWS AND POLICY DIRECTIVES

The following list consists of the formative federal legislations which guide Forest Service administration of NFS lands at winter sports ski areas:

- 16 U.S.C § 497, as amended by P.L. 84-829 States "The Secretary of Agriculture is authorized, under such regulations as he may make and upon such terms and conditions as he may deem proper, (a) to permit the use and occupancy of suitable areas of land within the national forests, not exceeding eighty acres and for periods not exceeding thirty years, for the purpose of constructing or maintaining hotels, resorts, and any other structures or facilities necessary or desirable for recreation, public convenience, or safety;…"
- The Multi-Use Sustained-Yield Act of 1960 mandates that the Forest Service manage NFS lands for "outdoor recreation, range, timber, watershed, and wildlife and fish purposes." 16 U.S.C. § 528 (emphasis added)

[10] USDA Forest Service. 1990 Umatilla Forest Land and Resource Management Plan, Umatilla National Forest.

- The National Forest Management Act (NFMA) requires the Forest Service to develop Forest Plans that provide for multiple uses of NFS lands, 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 NFS lands and authorizes the Forest Service to issue SUPs that encompass "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)
- The service-wide Memorandum of Understanding between the National Ski Areas Association and the 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 (SAROEA) amended the National Forest Ski Area Permit Act of 1986. The 2011 SAROEA enables snow sports (other than Nordic and alpine skiing) to be permitted on NFS 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 NFS lands subject to ski area permits issued by the Secretary of Agriculture. Further information on SAROEA is provided in Section 2.

1. LODGING AND OVERNIGHT ACCOMODATIONS ON NFS LANDS

Forest Service Manual (FSM) 2340 provides direction for planning, authorizing, and administering developments and activities of private businesses that provide accommodations and services on NFS lands. Lodging and overnight accommodations is identified as an acceptable concession use involving privately developed facilities. As stated in FSM 2343.3 regarding lodging and overnight accommodations, "This category includes sites and facilities such as lodges, hotels, motels, campgrounds, trailer courts and camps, and commercial group camps." Examples of these types of lodging and overnight accommodation opportunities exist at other ski areas across the United States. For example, at Crystal Mountain Resort, guests of the National Forest have the opportunity to stay at the Crystal Mountain Hotels, which are located entirely on NFS lands. This provides visitors with an overnight lodging option located near the base area and within a comfortable walking distance of the chairlifts.

2. 2001 SKI AREA RECREATIONAL OPPORTUNITY ENHANCEMENT ACT

The 2011 SAROEA amended the National Forest Ski Area Permit Act of 1986. The 2011 SAROEA enables snow sports (other than Nordic and alpine skiing) to be permitted on NFS 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 NFS 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 SAROEA. Forest Service Manual (FSM) 2343.14 states that the Forest Service would 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 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 NFS 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;
- (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 identified screening criteria would 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.

B. UMATILLA NATIONAL FOREST PLAN

The UNF Land and Resource Management Plan (Forest Plan) was originally published in 1990. This plan, and its subsequent amendment, governs operations and planning on all land managed by the UNF.[11] Because Bluewood operates on UNF, all implemented projects shall be consistent with the management direction provided in the Forest Plan. Any planned projects that are not consistent with the Forest Plan would require a Forest Plan amendment prior to implementation. Such a change would only occur at the discretion of the UNF and in accordance with Forest Plan amendment procedure. Should the UNF determine that a Forest Plan amendment is not aligned with the objectives of the forest and the public interest, the inconsistent planned project would not be considered.

Upon Forest Service acceptance of this MDP and subsequent acceptance of a proposal for a specific set of projects identified in this MDP, a site-specific NEPA process would commence. Site-specific NEPA would include a Forest Plan consistency analysis to identify the consistency of the proposed projects with management direction provided in the Forest Plan. Any proposed projects determined to be inconsistent with the Forest Plan in the consistency analysis would either necessitate a Forest Plan amendment (described in the following paragraph) or would need to be modified to achieve consistency with the Forest Plan.

The Forest Plan lays out management direction in two tiers: (1) Forestwide management direction; and (2) Management Area specific management direction. Only Management Area specific management direction is described in this section as Forestwide management direction extends beyond the scope of this document; however, Forestwide management direction would be considered within any site-specific NEPA occurring following the completion and acceptance of this MDP.

Bluewood falls under the MA A6, the "Developed Recreation" Management Area. The forest plan direction states:

> *[Lands that fall within Developed Recreation Management Areas] provide recreation opportunities that [are] dependent on the development on structural facilities for user conveniences where interaction between users and evidence of others is prevalent.*[12]

Within MA A6, various standards and objectives apply, as listed in the forest plan.

1. RECREATIONAL OPPORTUNITY SPECTRUM

The ROS is a framework for stratifying and defining classes of outdoor recreation environments, activities and experience opportunities on all NFS lands. All UNF lands correspond with one of the six established ROS classifications: Urban, Rural, Roaded Natural, Semi-Primitive Motorized, Semi-Primitive Non-Motorized, and Primitive.

[11] All National Forests managing lands in the Blue Mountains are currently in the process of re-writing their respective Forest Plans. If and when the UNF's revised Forest Plan is approved, that document and its associated directions would take precedence over the directions enumerated in the 1990 document and summarized herein.
[12] Umatilla National Forest, "Forest Plan." 4-119

The forest plan states that all areas in MA A6 fall primarily within the Roaded Natural ROS category. The Forest Service defines this ROS class as follows:

> *Some probability of solitude; little challenge and risk; mostly natural appearing environment; moderate concentration of users at developed and dispersed campsites; some obvious site restrictions and user controls are present; access is motorized; vegetative alterations completed to maintain desired visual characteristics; no size restrictions.*

In addition, some parts of MA A6 may fall within the Rural ROS class, which is defined as follows:

> *High interaction with other users; little challenge or risk; natural environment is culturally modified; high concentration of users at developed campsites; obvious site restrictions and controls are present; access is motorized; no size restrictions.*

All projects planned for Bluewood are designed to ensure activity remains compatible with these ROS classifications.

2. SCENERY RESOURCES

a) Visual Management System

Areas within MA A6 have Visual Quality Objectives (VQOs) of Retention or Partial Retention, depending on the sensitivity level of the site. The forest plan states

> *Development and maintenance of sites will be accomplished within the standards established for each site. In the cases where this cannot be accomplished due to the size of a structure or facility, then blending into the natural setting by minimizing contrast with the natural form, line, color, and texture will suffice.*

Management of the visual environment at Bluewood is limited to NFS lands within the SUP area. Small portions of the ski area may visible from adjacent NFS lands within the Wenaha-Tucannon Wilderness; however, the Wilderness Act of 1964 does not provide scenery management direction or jurisdiction for adjacent non-wilderness NFS lands. Project-specific compliance with VQOs would be assessed during the NEPA process for proposed projects.

b) Built Environment Image Guide

The Built Environment Image Guide (BEIG) has been designed to ensure thoughtful design and management of the built environment on NFS lands, which includes: administrative and recreation structures, landscape structures, site furnishing, structures on roads and trails, and signs installed or operated by the Forest Service, its cooperators, and permittees. It focuses on the image, appearance, and structural character of facilities. Three core contexts are stressed throughout the BEIG: (1) environmental; (2) cultural; and (3) economic.

The BEIG provides general guidance regarding the image, aesthetics, and overall quality of recreational and administrative structures on NFS lands, but it does not contain enforceable "standards" pertaining to aesthetic quality as found in a typical Forest Plan. The environmental, cultural, and economic contexts within which the BEIG is based are important considerations in development of structural facilities at Bluewood. All built structures on NFS lands (excluding chairlift terminals) identified in this MDP would meet relevant direction provided by the BEIG. Bluewood would strive to attain a consistent architectural theme for built infrastructure on NFS lands.

C. ACCESSIBILITY TO PUBLIC LANDS

In July 2016, the Forest Service released the Accessibility Guidebook for Ski Areas Operating on Public Lands, 2016 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. Bluewood would 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 Bluewood operates as a "public accommodation;" that is, Bluewood is a business open to the public. Section 504 applies because Bluewood operates under a SUP authorized by the Forest Service. Implementation guidelines for Section 504 that apply to recreation special-use permit holders are located in Title 7, Code of Federal Regulations, Part 15b. Through the SUP, the ski area agrees to abide by these and all other laws, regulations, and policies of the federal government. Under these laws and regulations, Bluewood is required to ensure the accessibility of both its programs and its facilities.

Relevant legislation that preceded the ADA includes the Architectural Barriers Act of 1968 (ABA) 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 an Executive Agency."

Bluewood currently complies with this legislation through their active involvement in assisting disabled guests with skiing and other recreation activities. Bluewood partners with Skyline Adventures to provide access to the mountain for disabled skiers and riders, as well as underserved youth and recovering veterans. Through future site-specific NEPA and design development reviews, Bluewood would work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.

D. CLIMATE CHANGE

Under Executive Order 14008, Part 2, Section 204, the Forest Service is committed to managing public lands to address the climate crisis.[13] Both existing and proposed conditions should be considered with consideration of mitigating the climate impact of Bluewood, as well as adapting to the shifts that could occur as a result of climate change. Actions should be supported by evidence-based climate modeling and an understanding of ski area conditions in relationship to the mountain's climate and ecosystem. Potential impacts of climate change to operations and facilities could include decreased snowpack, shorter winter operating season, proliferation of invasive species, an increased likelihood of extreme precipitation events and landslides, as well as an increase in wildfires. Plans at Bluewood should continue to consider adaptation and mitigation strategies to reduce risks a changing climate poses to the operations of the ski area.

[13] Executive Office of the President, "Executive Order on Tackling the Climate Crisis at Home and Abroad," 7619 86 FR § 204 (2021).

Appendix D. 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	Baby Face	5,029	4,756	273	1,005	307	7.1	28%	42%	Intermediate
2	Manockums	4,884	4,788	97	216	134	0.7	50%	53%	Advanced
3	Baby Sweet	4,781	4,663	118	456	61	0.6	27%	32%	Low Intermediate
4	Nickel Bowl	4,852	4,661	191	1,024	269	6.3	19%	28%	Novice
5	Country Cutoff	4,939	4,867	72	255	118	0.7	30%	30%	Low Intermediate
6	Nickel Cut	4,926	4,814	112	332	109	0.8	36%	40%	Intermediate
7	Country Road	5,669	4,663	1,006	9,391	65	8.7	11%	21%	Low Intermediate
8	Nickel Ridge	4,970	4,873	97	684	253	4.0	14%	23%	Novice
9	Country Road Terrain Park	4,717	4,671	46	433	74	0.7	11%	13%	Intermediate
10	Tamarack Trail	5,663	5,311	352	3,641	39	3.3	10%	31%	Low Intermediate
11	Daytona	5,305	4,927	378	1,529	159	5.6	26%	40%	Intermediate
	Tamarack Upper	5,410	5,290	120	331	261	2.0	39%	42%	Intermediate
12	Tamarack Lower	5,290	4,657	633	3,910	126	11.3	18%	29%	Low Intermediate
13	Easy Rider	4,669	4,550	119	1,105	192	2.9	11%	12%	Beginner
14	Scorpio	5,631	5,017	614	1,848	125	5.3	36%	58%	Expert
15	Ego Lower	5,019	4,952	67	657	78	1.2	10%	23%	Intermediate
16	Skyline	5,462	4,753	709	2,343	107	5.8	32%	49%	Advanced
17	Ego Upper	5,427	5,068	359	1,036	172	4.1	37%	46%	Advanced
18	Slalom	5,477	4,674	803	3,073	113	8.0	27%	43%	Intermediate

	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
19	Hogback	4,876	4,762	114	727	53	0.9	16%	44%	Intermediate
20	Triple Nickel Terrain Park	4,939	4,795	144	605	121	1.7	25%	36%	Advanced
21	Huck Finn	5,077	4,663	414	1,185	168	4.6	37%	50%	Advanced
22	Tucanon	5,514	5,117	397	1,088	131	3.3	39%	48%	Advanced
23	Huckleberry	5,656	4,665	991	3,803	126	11.0	27%	43%	Intermediate
24	Velcro	5,398	5,233	165	479	117	1.3	37%	41%	Intermediate
25	Jackhammer	5,588	5,137	451	1,198	135	3.7	41%	54%	Expert
26	Walla Walla Sweets	4,902	4,724	179	968	173	3.8	19%	40%	Intermediate
27	Waterworks	4,657	4,560	98	956	269	5.9	10%	11%	Novice
28	Racer's Ego	5,147	4,775	372	1,355	126	3.9	29%	41%	Intermediate
29	Prime Time	4,911	4,590	321	1,169	115	3.1	29%	50%	Advanced
	Total				46,801		122.1			

Table A-2. 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
1	Baby Face	5,029	4,756	273	1,005	307	7.1	28%	42%	Intermediate
2	Manockums	4,884	4,788	97	216	134	0.7	50%	53%	Advanced
3	Baby Sweet	4,781	4,663	118	456	61	0.6	27%	32%	Low Intermediate
4	Nickel Bowl	4,852	4,661	191	1,024	269	6.3	19%	28%	Novice
5	Country Cutoff	4,939	4,867	72	255	118	0.7	30%	30%	Low Intermediate
6	Nickel Cut	4,926	4,814	112	332	109	0.8	36%	40%	Intermediate
7	Country Road	5,669	4,663	1,006	9,391	65	13.9	11%	29%	Low Intermediate
8	Nickel Ridge	4,970	4,873	97	684	253	4.0	14%	23%	Novice
9	Country Road Terrain Park	4,717	4,671	46	433	74	0.7	11%	13%	Intermediate
10	Tamarack Trail	5,663	5,311	352	3,641	39	3.3	10%	31%	Low Intermediate
11	Daytona	5,305	4,927	378	1,529	159	5.6	26%	40%	Intermediate
	Tamarack Upper	5,410	5,290	120	331	261	2.0	39%	42%	Intermediate
12	Tamarack Lower	5,290	4,657	633	3,910	126	11.3	18%	29%	Low Intermediate
13	Easy Rider	4,669	4,550	119	1,105	192	4.9	11%	12%	Beginner
14	Scorpio	5,631	5,017	614	1,848	125	5.3	36%	58%	Expert
15	Ego Lower	5,019	4,952	67	657	78	1.2	10%	23%	Intermediate
16	Skyline	5,462	4,753	709	2,343	107	5.8	32%	49%	Advanced
17	Ego Upper	5,427	5,068	359	1,036	172	4.1	37%	46%	Advanced
18	Slalom	5,477	4,674	803	3,073	113	8.0	27%	43%	Intermediate
19	Hogback	4,876	4,762	114	727	53	0.9	16%	44%	Intermediate
20	Triple Nickel Terrain Park	4,939	4,795	144	605	121	1.7	25%	36%	Advanced
21	Huck Finn	5,077	4,663	414	1,185	168	4.6	37%	50%	Advanced

	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
22	Tucanon	5,514	5,117	397	1,088	131	3.3	39%	48%	Advanced
23	Huckleberry	5,656	4,665	991	3,803	126	11.0	27%	43%	Intermediate
24	Velcro	5,398	5,233	165	479	117	1.3	37%	41%	Intermediate
25	Jackhammer	5,588	5,137	451	1,198	135	3.7	41%	54%	Expert
26	Walla Walla Sweets	4,902	4,724	179	968	173	3.8	19%	40%	Intermediate
27	Waterworks	4,657	4,560	98	956	269	5.9	10%	11%	Novice
28	Racer's Ego	5,147	4,775	372	1,355	126	3.9	29%	41%	Intermediate
29	Prime Time	4,911	4,590	321	1,169	115	3.1	29%	50%	Advanced
101	Manilla Springs Int 3	5,372	4,903	469	1,702	9	0.3	29%	39%	Intermediate
102	Manilla Springs Int 2	5,597	4,618	979	4,666	3	0.4	22%	46%	Advanced
103	Manilla Springs Int 1	5,518	4,544	974	5,542	61	7.7	18%	39%	Intermediate
104	Manilla Springs Int 9	5,102	4,835	267	737	624	10.6	39%	48%	Advanced
105	Manilla Springs Int 4	4,946	4,668	278	797	468	8.6	37%	56%	Expert
106	Manilla Springs Int 6	5,583	5,489	95	222	346	1.8	47%	47%	Low Intermediate
107	Manilla Springs Int 7	5,589	4,545	1,044	6,934	12	1.9	15%	39%	Intermediate
108	Manilla Springs Int 5	5,152	4,726	426	1,198	102	2.8	38%	50%	Advanced
109	Skyline Int 2	5,382	4,660	721	2,442	17	1.0	31%	48%	Advanced
110	Skyline Int 1	4,983	4,687	296	968	259	5.8	32%	47%	Advanced
111	Vintner Ridge Exp 1	5,249	4,810	439	1,087	44	1.1	44%	57%	Expert
112	Manilla Springs Exp 1	5,183	4,855	328	1,022	169	4.0	34%	56%	Expert
113	Vintner Ridge Exp 2	4,839	4,723	116	405	617	5.7	30%	33%	Low Intermediate
114	Vintner Ridge Exp 3	4,765	4,648	117	606	142	2.0	20%	24%	Low Intermediate
115	Skyline Exp 3	4,811	4,715	96	380	412	3.6	26%	26%	Low Intermediate
116	Skyline Exp 2	5,460	5,088	372	1,074	85	2.1	37%	48%	Advanced

	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
117	Manilla Springs Exp 2	5,190	4,961	229	693	303	4.8	35%	41%	Intermediate
118	Manilla Springs Exp 3	5,470	4,739	731	2,695	16	1.0	28%	50%	Advanced
119	Manilla Springs Exp 6	5,144	4,912	232	647	60	0.9	39%	48%	Advanced
120	Manilla Springs Exp 4	5,487	5,073	413	958	67	1.5	48%	63%	Expert
121	Manilla Springs Exp 5	5,329	4,797	532	1,697	27	1.1	33%	45%	Intermediate
122	Manilla Springs Exp 7	5,232	4,935	297	733	140	2.4	44%	50%	Advanced
123	Skyline Exp 4	5,670	5,477	193	2,048	41	1.9	9%	11%	Low Intermediate
124	Skyline Exp 1	5,557	5,444	113	248	132	0.7	51%	52%	Advanced
125	Skyline Exp 5	5,658	5,003	654	1,813	80	3.3	39%	51%	Advanced
126	Vintners Ridge Beg 1	5,660	5,501	160	1,237	71	2.0	13%	19%	Low Intermediate
127	Vintner Ridge Int 1	5,486	5,440	46	454	252	2.6	10%	11%	Low Intermediate
128	Vintner Ridge Int 2	5,491	4,985	506	1,630	41	1.6	33%	49%	Low Intermediate
129	Manilla Springs Int 10	5,532	5,506	27	338	440	3.4	8%	8%	Low Intermediate
130	Manilla Springs Int 8	5,130	4,851	278	831	160	3.0	36%	41%	Intermediate
131	Parking Lot Connector	4,463	4,392	71	1,893	0	0.0	4%	20%	Novice
	Total				94,497		218.8			

Table A-3. Space Use | Existing | Bluewood Base Area

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	184	250	310
Public Lockers	0	760	920
Rentals/Repair	2,250	1,790	2,020
Retail Sales	605	530	650
Bar/lounge	500	790	970
Adult Ski School	0	400	490
Kid's Ski School	1,291	810	990
Restaurant Seating	3,362	3,280	4,010
Kitchen/Scramble	645	1,030	1,260
Rest rooms	650	610	740
Ski Patrol	434	370	460
Administration	311	530	650
Employee Lockers/Lounge	0	210	260
Storage	445	310	450
Mechanical	500	510	760
Circulation/Walls	1,500	1,230	1,810
TOTAL SQUARE FEET	12,677	13,410	16,750

Table A-4. Space Use | Existing | On-Mountain

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	350	430	520
Kitchen/Scramble	--	130	160
Rest rooms	--	80	100
Ski Patrol	--	50	60
Administration	--	--	--
Employee Lockers/Lounge	--	--	--
Storage	20	20	30
Mechanical	10	30	50
Circulation/Walls	20	70	110
TOTAL SQUARE FEET	400	810	1,030

Table A-5. Space Use | Upgrade | Bluewood Base Area

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	184	330	410
Public Lockers	--	1,000	1,220
Rentals/Repair	2,250	2,000	2,450
Retail Sales	605	700	860
Bar/lounge	500	1,050	1,280
Adult Ski School	--	620	760
Kid's Ski School	1,291	1,240	1,520
Restaurant Seating	3,362	4,940	6,040
Kitchen/Scramble	645	1,550	1,900
Rest rooms	650	920	1,120
Ski Patrol	434	560	690
Administration	311	930	1,140
Employee Lockers/Lounge	--	370	460
Mechanical	445	440	660
Storage	500	730	1,090
Circulation/Waste	1,500	1,750	2,620
TOTAL SQUARE FEET	12,677	19,130	24,220

Table A-6. Space Use | Upgrade | Manilla Springs Base Area

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	--	220	270
Public Lockers	--	670	820
Rentals/Repair	--	1,330	1,630
Retail Sales	--	470	570
Bar/lounge	--	700	860
Adult Ski School	--	270	330
Kid's Ski School	--	530	650
Restaurant Seating	--	1,810	2,210
Kitchen/Scramble	--	570	700
Rest rooms	--	340	410
Ski Patrol	--	210	250
Administration	--	230	290
Employee Lockers/Lounge	--	90	110
Storage	--	200	300
Mechanical		330	500
Circulation/Walls	--	800	1,200
TOTAL SQUARE FEET	--	8,770	11,100

Table A-7. Space Use | Upgrade | On-Mountain

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	350	1,420	1,730
Kitchen/Scramble	--	450	540
Rest rooms	--	260	320
Ski Patrol	--	160	200
Administration	--	--	--
Employee Lockers/Lounge	--	--	--
Storage	20	60	90
Mechanical	10	100	150
Circulation/Walls	20	250	370
TOTAL SQUARE FEET	400	2,700	3,400

Echo Valley
Mt Spokane
Steven's Pass Ski Area
Coeur D' Alene
Spokane
Seattle
Summit at Snoqualmie
Wenatchee
Silver Mountain
Lookout Pass
Mission Ridge
Montana
Crystal Mountain
Washington
Idaho
White Pass
Yakima
Lewiston
Kennewick
Walla Walla
Oregon
Idaho
Washington
Oregon
Cooper Spur
Mount Hood Meadows
Anthony Lakes
Tamarack Resort
Baker City
McCall
Brundage

Figure 1. Vicinity Map

Legend

- Main Access Road
- Major Roads
- State Boundary
- Other Ski Area

N

SE GROUP

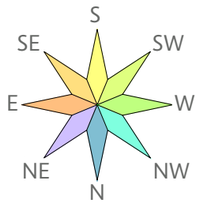
Bluewood 2022 Master Development Plan

Figure 2: Aspect Analysis

Legend

- Lifts
- Ski Run by Ability Level
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Aspect Legend



Contour Interval: 10’

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200

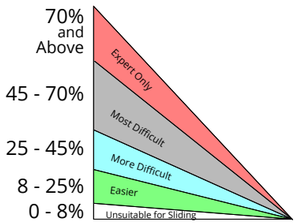
Bluewood 2022 Master Development Plan

Figure 3: Slope Analysis

Legend

- Lifts
- Ski Run by Ability Level
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Slope Legend



Contour Interval: 10’

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200

Umatilla National Forest

Bluewood 2022 Master Development Plan

Figure 4: Property Boundaries

Legend

Existing

- Forest Service Land
- Lifts
- Ski Run by Ability Level
- Cat Ski Area
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Contour Interval: 10’

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200

CHAMPAGNE
GREEN GIANT
VINTNER'S RIDGE
RATED R
STUMP FARM
ALDERON
SKYLINE EXPRESS
TRIPLE NICKEL
Base Lodge
Country Road
Velcro
Scorpio
Jackhammer
Daytona
Stream
Country Cut Off
Baby Face
Terrain Park
Easy Rider
Rasher's Edge
Huckleberry
Ebro Lower
Prime Time
Huck Finn
Tamarack Trail
Tamarack Lower
Waterworks
Baby Sweet
Walla Walla Sweet
Nickle Bowl
Nickle Ridge
Skyline
Tucannon
NE 6th
BLUEWOOD RD
N TOUCHET RD

Umatilla National Forest

Bluewood 2022 Master Development Plan

Figure 5: Existing Conditions

Legend

Existing

- Lifts
- Ski Run by Ability Level
- Cat Ski Area
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Contour Interval: 10’

N

SE GROUP

SCALE (ft)

0 300 600 900 1,200

CHAMPAGNE
GREEN GIANT
VINTNER’S RIDGE
RATED R
ALDERON
STUMP FARM
Country Road
Velcro
Scorpio
Jackhammer
Daytona
Tamarack Trail
Tucanon
Skyline
SKYLINE EXPRESS
Huckleberry
Ego
Ego Lower
Slalom
Racer’s Ego
Manpckuns
Jackpot
Huck Finn
Prime Time
Tamarack Lower
Baby Face
Terrain Park
Easy Rider
Waterworks
Baby Sweet
Walla Walla Sweets
Nickle Bowl
Nickel ridge
TRIPLE NICKEL
Base Lodge
BLUEWOOD ROAD
NF-600

Bluewood 2022 Master Development Plan

Figure 6: Upgrade Plan

Legend

Existing

- Lifts
- Ski Run by Ability Level
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol
- Cat Ski Area

Planned

- Lift
- Lift Upgrade
- Previously Approved Lift
- Lift to be Removed
- Ski Run by Ability Level
- Building
- Parking Area
- Overnight Lodging
- Maintenance Operations
- Ski Patrol
- Gladed Skiing Area
- Mountain Road
- Road (Paved)

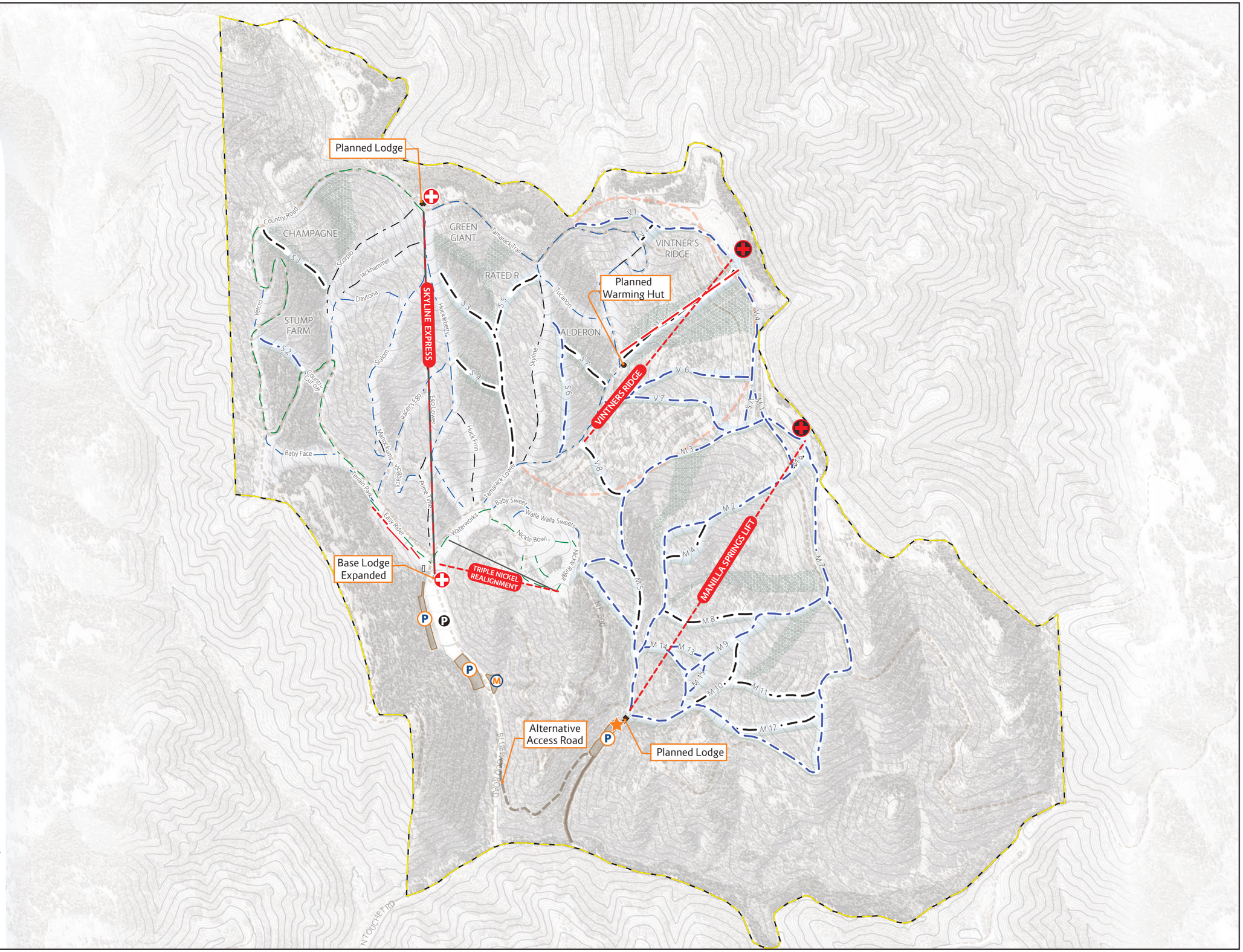
Contour Interval: 10'

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200



Bluewood 2022 Master Development Plan

Figure 7: Snowmaking Upgrade Plan

Legend

Existing

- Lifts
- Ski Run by Ability Level
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Planned

- Snowmaking
- Lifts
- Lift Upgrade
- Previously Approved Lift
- Lift to be Removed
- Ski Run by Ability Level
- Building
- Parking Area
- Overnight Lodging
- Maintenance Operations
- Ski Patrol
- Gladed Skiing Area
- Mountain Road
- Road (Paved)

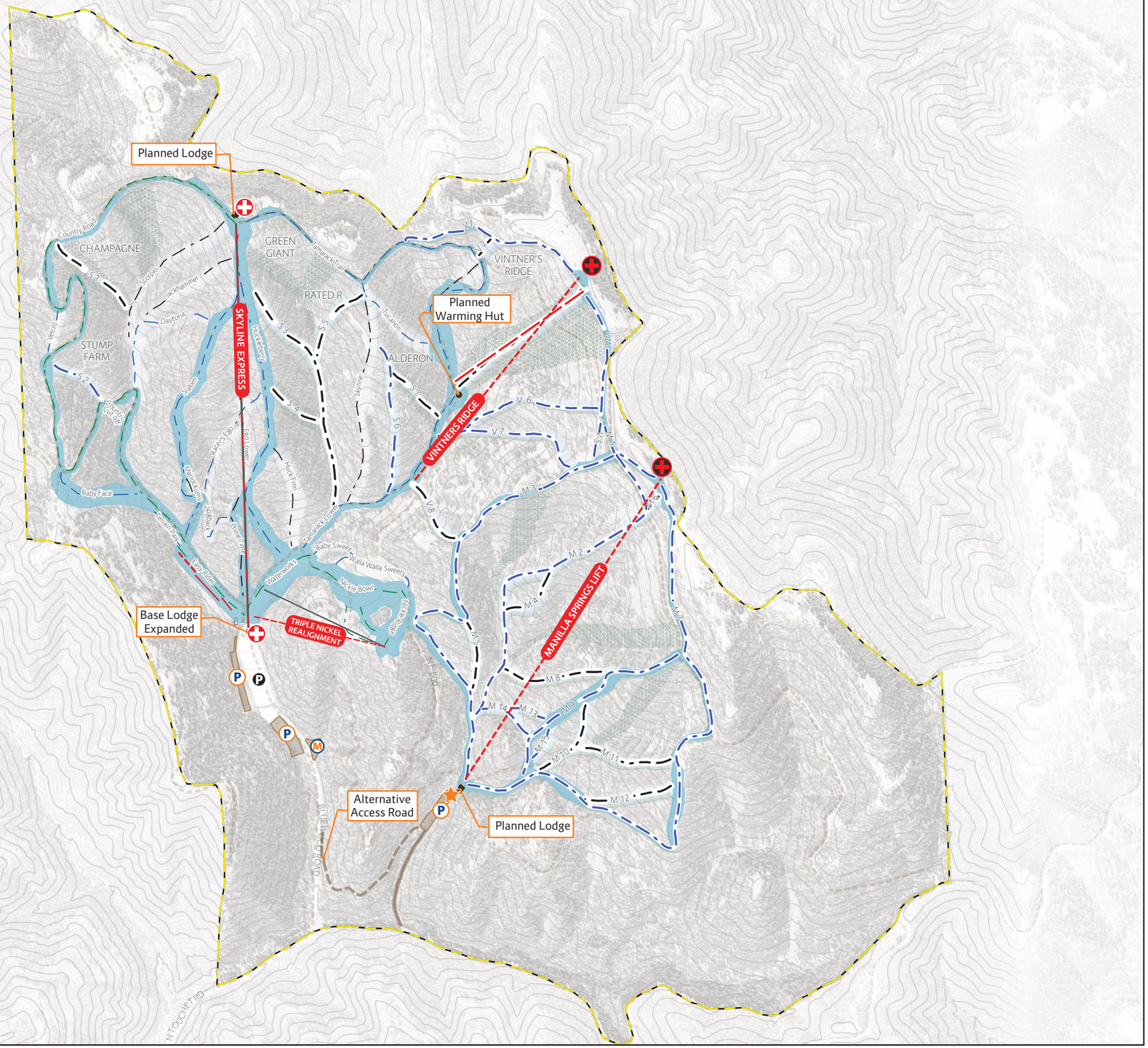
Contour Interval: 10'

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200



Bluewood 2022 Master Development Plan

Figure 8: Mountain Roads and Utilities Upgrade Plan

Legend

Existing

- Lifts
- Ski Run by Ability Level
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol

Planned

- Lifts
- Lift Upgrade
- Lift to be Removed
- Power Generator
- Ski Run by Ability Level
- Building
- Parking Area
- Maintenance Operations
- Overnight Lodging
- Ski Patrol
- Gladed Skiing Area
- Mountain Road
- Roads (Paved)

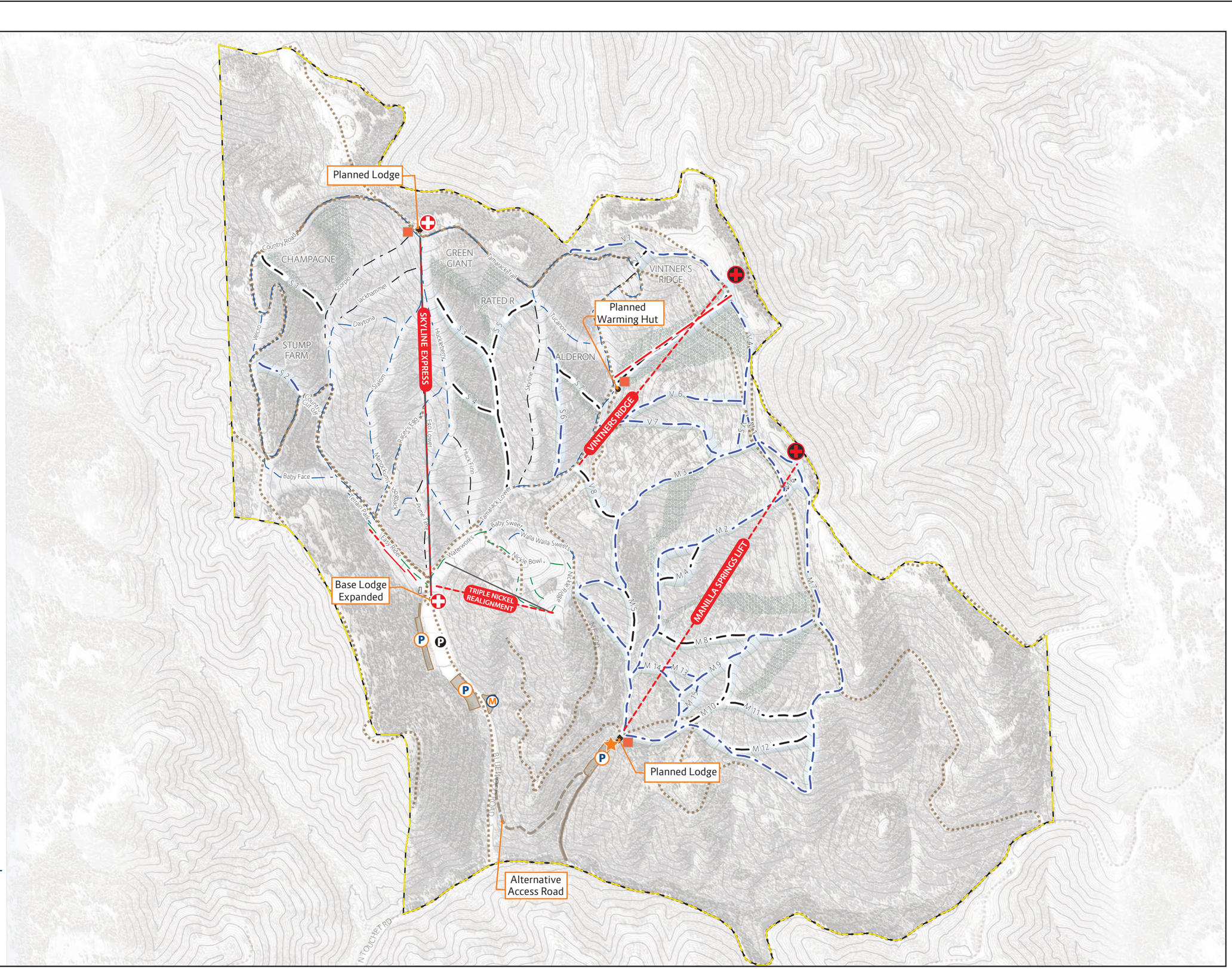
Contour Interval: 10'

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200



Bluewood 2022 Master Development Plan

Figure 9: Summer Zones and Upgrade Plan

Legend

Existing

- Lifts
- SUP Boundary
- Mountain Roads
- Building
- Parking
- Ski Patrol
- Trails

Planned

- Lifts
- Lift Upgrade
- Lift to be Removed
- Previously Approved Lift
- Building
- Parking Area
- Maintenance Operations
- Overnight Lodging
- Ski Patrol
- Road (Paved)
- Mountain Road
- Zone 1
- Zone 2
- Zone 3
- Zone 4

Contour Interval: 10'

N

SE GROUP

SCALE (ft)

0 550 1,100 1,650 2,200