



**Town Council
Monday, June 1, 2026
4:00 PM**

**Regular Meeting
130 Kearns Road
Town Council Chambers
Snowmass Village, CO 81615**

You can watch the meeting live online on our website at tosv.com.

Agenda

1. Call to Order

2. Roll Call

3. Proclamations and Presentations

3.A. Holy Cross Update

4. Public Comment

This section is set aside for the Town Council to LISTEN to comments by the public regarding items that do not otherwise appear on this agenda. Generally, the Town Council will not discuss the issue and will not take an official action under this section of the agenda. (Five Minute Time Limit)

5. Consent Agenda

These are items where all conditions or requirements have been agreed to or met prior to the time they come before the Council for final action. A Single Public Hearing will be opened for all items on the Consent Agenda. These items will be approved by a single motion of the Council. The Mayor will ask if there is anyone present who has objection to such procedure as to certain items. Members of the Council may also ask that an item be removed from the consent section and fully discussed. All items not removed from the consent section will then be approved. A member of the Council may vote no on specific items without asking that they be removed from the consent section for full discussion. Any item that is removed from the consent agenda will be placed on the regular agenda.

5.A. 2026 Town Council Agenda Overview

6. Public Hearings - Quasi-Judicial Hearings

Public Hearings are the formal opportunity for the Town Council to LISTEN to the public regarding the issue at hand. For land use hearings the Council is required to act in a quasi-judicial capacity. When acting as a quasi-judicial body, the Council is acting in much the same capacity as a judge would act in a court of law. Under these circumstances, the judicial or quasi-judicial must limit its consideration to matters which are placed into evidence and are part of the public record. The Council must base their decision on the law and the evidence presented at the hearing.

6.A. Ordinance No. 10, 2026 RE Willows Reconstruction - 2nd Reading

7. Policy/Legislative Public Hearings

7.A. Ordinance regarding restricting gas-powered lawn equipment

8. Administrative Reports

8.A. Willows Housing Mitigation Discussion

8.B. November Election — Potential Ballot Question regarding Council Compensation & Discussion regarding potential expanded use of the Tourism Fund for Wildfire Mitigation

8.C. Evacuation Notification Update

9. Town Council Reports and Actions

Reports and Updates

9.A. Nordic Council Management Plan review & discussion

10. Executive Session

10.A. Executive Session regarding Town Manager Performance Review

11. Adjournment

Town of Snowmass Village Agenda Item Summary

Date of Meeting:

June 1, 2026

Agenda Item:

Holy Cross Update

Presented by:

Clint Kinney, Town Manager

Background:

Trina Zagar-Brown, Vice President of Business Services

Holy Cross Energy has been an important partner in our community, providing safe, reliable, affordable, and sustainable energy and services. Town of Snowmass Village has had a franchise agreement with Holy Cross since 1979, approved with Ordinance 8, Series of 1979, and service agreements to the Snowmass area since 1962. The Franchise agreement was renewed in 2020 with Ordinance 3, Series of 2020.

Financial Impact:**Applicability to Council Goals & Objectives:**

Holy Cross Energy has been an important partner for several Town Council goals including the guiding principle of stewardship and the strategic initiative to promote environmental and economic sustainability and resilience.

Council Options:**Staff Recommendation:****Attachments:**

1. Holy Cross Energy - Presentation_2026_TOSV

Capacity Assessment Town of Snowmass Village

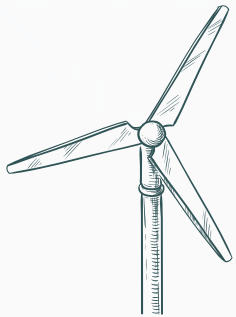
June 1st, 2026



About Holy Cross Energy



Holy Cross Energy (HCE) provides **safe, reliable, affordable, and sustainable** energy and services that improve the quality of life for our members and their communities.



In 2025, 85% of our power supply came from wind, solar, and hydro; more than double the amount provided to members in 2017.

Founded in 1939, we serve more than 46,500 members in scenic Western Colorado with:

**280 MW
Peak
Demand**

**3,130 Miles
Distribution
Lines**

**120 Miles
Transmission
Lines**

**175
Employees**

Our Journey to 100% Clean Energy



In 2019, HCE's Board of Directors established a goal of:

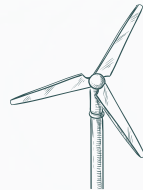
- 100% carbon-free power supply by 2030
- Carbon-neutral or better across the enterprise by 2035

in a way that ***does not sacrifice affordability, safety, or reliability*** for the sake of sustainability.



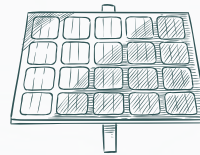
Energy Efficiency

Obtain additional reduction of electric sales from existing uses where cost-effective to do so.



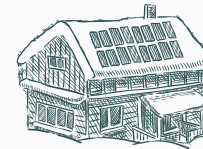
Cleaner Wholesale Power

Incorporate new, clean, dispatchable resources into HCE's power supply mix.



Local Clean Energy Resources

Continue our existing agreements for energy from local solar and hydro projects.



Distributed Energy Resources

Support installation new solar systems with energy storage on homes and businesses.



Smart Electrification

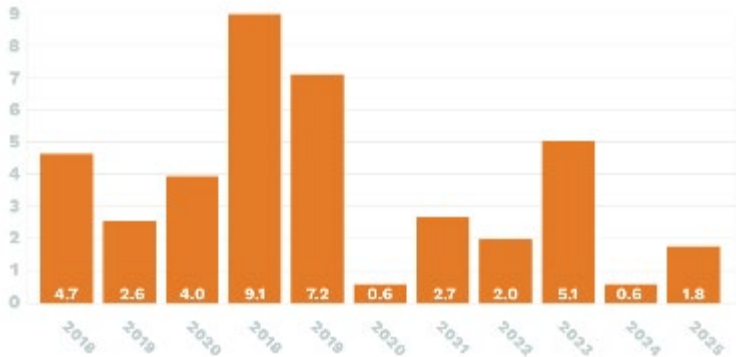
Encourage the expanded use of electricity for transportation, building heating and cooling, and industrial processes.

Our Progress

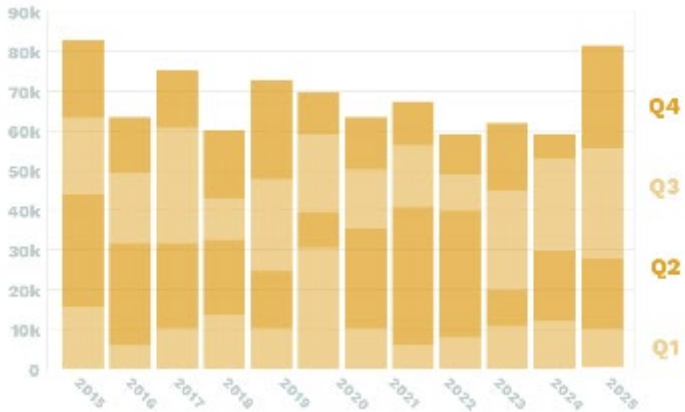


Simultaneously
providing

- ✓ Safe
 - ✓ Reliable
 - ✓ Affordable
 - ✓ and Sustainable
- energy and services that improve the quality of life for our members and communities.



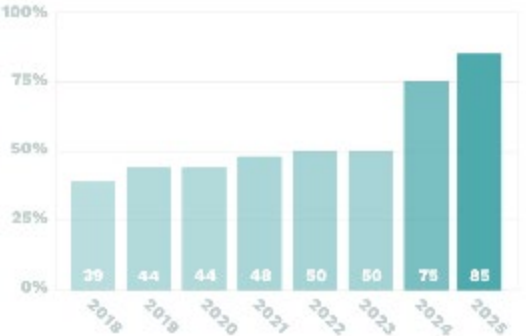
✓ **SAFE**



✓ **RELIABLE**



✓ **AFFORDABLE**



✓ **SUSTAINABLE**

Snowmass Substation

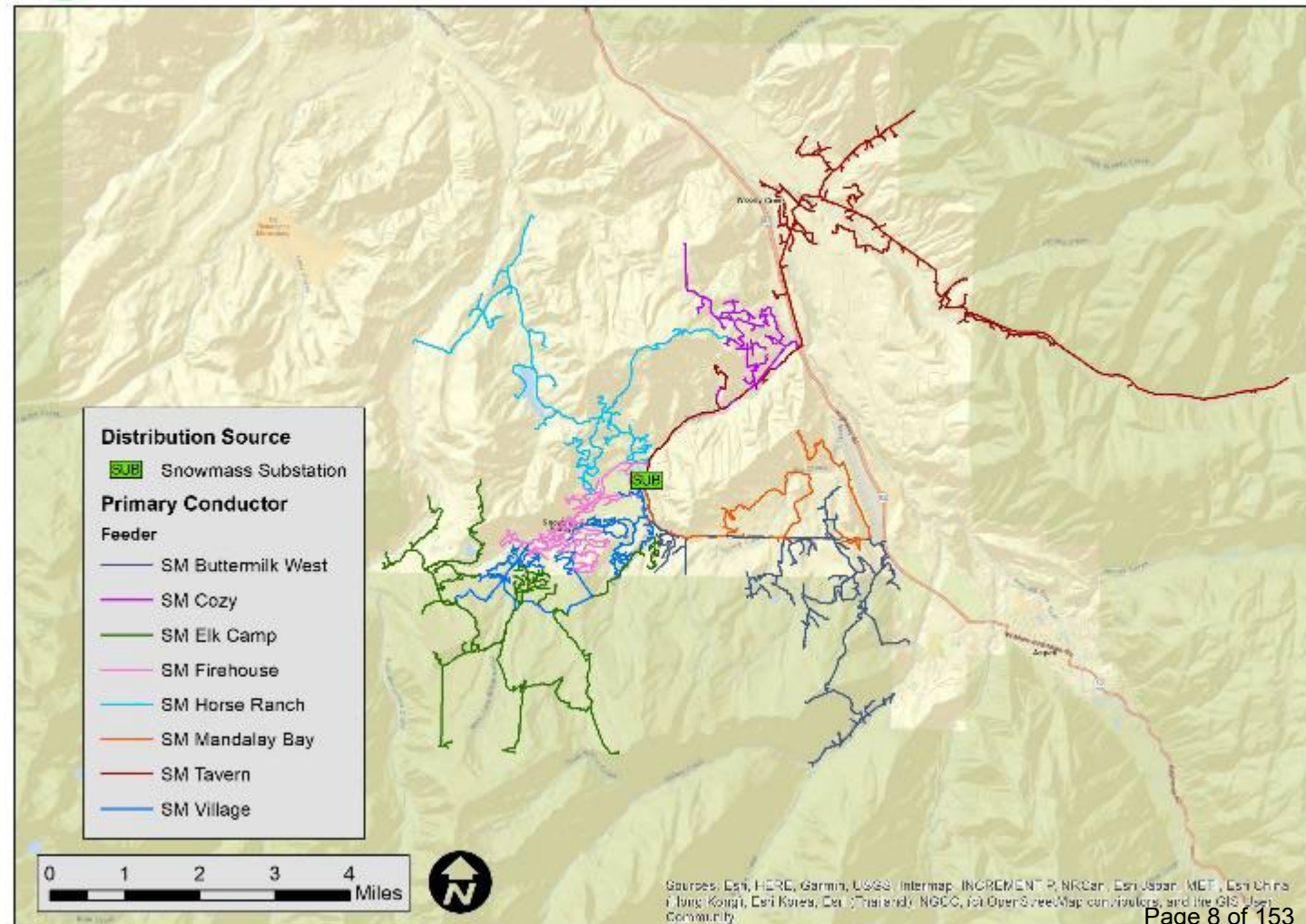


Current Substation Status

- Transmission Feed:
HCE 115kV Roaring Fork Valley Loop
- Substation Transformers: **2**
- Substation Transformer Capacity: **56MW**
- Miles of Distribution: **257**
- Number of Meters: **4330**
- Nameplate Distributed Generation: **2.0 MW**
- Nameplate Distributed Storage: **0.6 MW**
- Historical Peak Load: **32.1 MW**
- Forecast Peak Load in 2035: **38.0 MW**



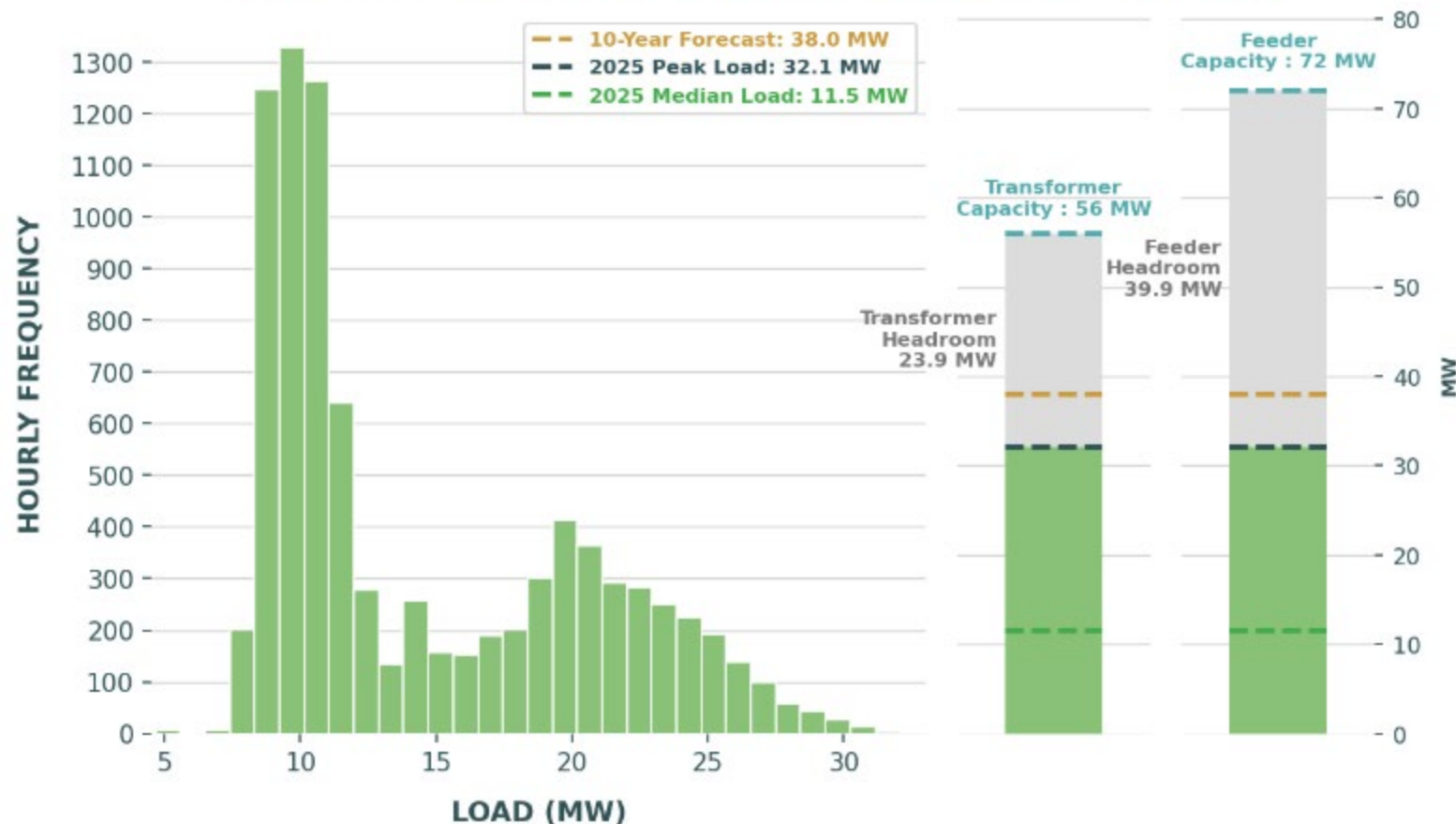
Snowmass Substation



Snowmass Substation Capacity



2025 LOAD DISTRIBUTION - SNOWMASS SUBSTATION

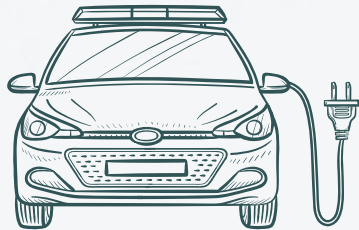


- Currently no significant capacity concerns at Snowmass Substation
- Built in 2006, Snowmass is HCE's newest substation and was built with excess capacity to accommodate future growth
- Snowmass' excess capacity can be used to carry load from the Basalt or Aspen Substations during contingency events

Smart Electrification Can Manage Impacts



HCE is actively managing the increased electricity demand from commercial and municipal buildings and heating electrification, electric vehicles, and residential heat pumps.



- **Solar + Storage:** Through our Power+ program, HCE incentivizes home batteries to store excess solar power, effectively creating a "virtual power plant" to meet peak demand
- **Grid Orchestration:** To manage fluctuating renewable supply, HCE partners with Virtual Peaker to deploy a cloud-based platform that coordinates distributed resources like home batteries and EV chargers
- **Smart Electric Rebates:** HCE offer a variety of energy efficiency and smart electrification rebates to help our members invest in high-efficiency equipment such as heat pumps, smart panels, induction cooktops and more
- **EV Charging:** Whether charging at home, work or in the community, HCE offers programs and rebates to help offset some of the cost of EV charger installations. HCE has a preferred installer list to make the process easier, and can assist with State grant applications

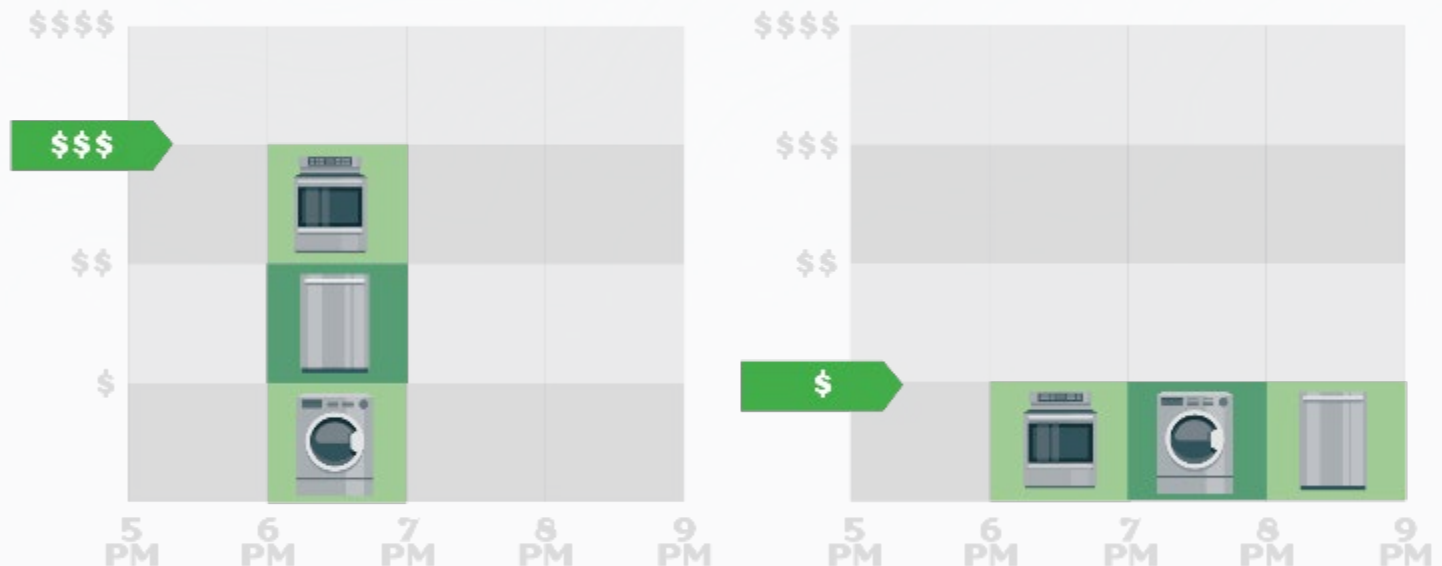
Smart Rate Design Can Manage Impacts



- **Residential Services – Small & General Services - Small** (commercial) rate classes: new demand charge of \$1.00/kW
- **Residential Services - Large** rate class: increased demand charge to \$5.51/kW
- **General Services - Large & Irrigation** (commercial) rate class: increasing demand charge to \$6.38/kW

Real World Example: The Power of Staggering.

- Running several appliances at once increases a user's demand, increases the strain on the grid, and can lead to a higher bill
- Staggering appliance usage throughout the day can lead to a lower demand, will lessen the strain on the grid, and can lead to bill savings.



Thank You



Your community. Your co-op. Your choice.

2026 DRAFT Agenda Overview

- Regular Meetings begin at 4:00 p.m. unless otherwise noted
- Work Sessions begin at 4:00 p.m. and aim to end at 6:00 p.m.
- The dates on which agenda items are listed are only a best approximation. Agenda items are added to this list as they arise. Agenda items may well be moved to different meeting dates. Agendas are generally not finalized until the Thursday prior to the meeting.
- In addition to agenda items, this document also lists expected absences of Town Council members. In compliance with section 2-49 of the municipal code, once the consent agenda is approved, the absences noted will be considered to have received the prior approval necessary of the majority of the Council for members to be absent from meetings.

Topic to incorporate:

- Add spring clean up/annual trash pickup to a future workshop agenda.
- E-Bikes safety issues
- POST Office Update—Next steps, opportunities for improvement?

Monday June 1 – Regular Meeting

- Update on evacuation notification
- Holy Cross Update
- November Election / potential ballot questions re council compensation & tourism fund
- Willows Reconstruction- Ord – PH – 2nd Reading
- Discussion regarding potential expanded use of Tourism Funds for wildfire mitigation
- Consideration of Ordinance restricting gas powered lawn equipment
- Nordic Council Management Plan review
- Exec Session – personnel – performance reviews

Monday June 8 – Work Session (Marolt Out)

- Sustainability Update
- Citizen Survey
- EPS Employee Housing Mitigation Study update
- Parking Program/ Rate Discussion

Monday June 15 – Regular Meeting (DeAngelo Out)

- Ski Co Update (60 mins)
- Regional Housing Needs Study
- Exec Session – personnel – Performance reviews

Monday July 6 – Regular Meeting

- Election Reso Auth to participate & IGA with Pitkin -or July 20 (has to be 100 days before election)
-

Monday July 13 – Work Session

Thursday July 23 – EOTC Regular Meeting – 4-6pm - Aspen

Monday July 20 – Regular Meeting

2026 DRAFT Agenda Overview

Monday Aug 3 – Regular Meeting

- Town Attorney Update
- Election Resolution – Ballot Language or Aug 17th

Monday Aug 10 – Work Session

Monday Aug 17 – Regular Meeting

- EOTC Budget/work plan – Linda DuPriest

Tuesday Sept 8 – Regular Meeting

- Reso in support of – ballot
-

Monday Sept 14 – Work Session

Monday Sept 21 – Regular Meeting (Yom Kipper) Move

Tues Sept 22 – Regular Meeting

-

Monday Oct 5 – Regular Meeting

- Budget
- Town Attorney Update
- B & C application & appointment procedure update
-

Monday Oct 12 – Work Session

- Budget

Monday Oct 19 – Regular Meeting

- Budget – Comments from FAB

Thursday Oct. 22nd – 4-6pm EOTC Budget Meeting - Pitkin

Wednesday Nov 4 – Regular Meeting – due to election day

- GID Meeting - Adopting the GID Budget
- Budget Adoption
-

Tuesday Nov 9 – Work Session

Monday Nov 16 – Regular Meeting

- Swear in New TC members and Mayor
- B & C Applications

Monday Dec 7 – Regular Meeting

- Reso RE 2025 Meeting Dates
- Reso on Delinquent Solid Waste / Trash
- B & C Interviews

2026 DRAFT Agenda Overview

Monday Dec 14 – Special Meeting

- **GID Meeting – set Mill Levy**
- B & C Interviews/Discussion

Monday Dec 21 – Regular Meeting

- B & C Resolution appointing new Members

Topics for Work Sessions or Other Meetings Requested by Town Council Members

- Schedule Updates will all of the Town Boards to review priorities and current initiatives.
 - EAB
 - FAB
 - PTRAB
 - POSTR
 - Tourism – quarterly updates
 - Grants – Recent Awards; Review of Criteria; Purpose, etc.
 - SAAB
 - Planning

Town of Snowmass Village Agenda Item Summary

Date of Meeting:

June 1, 2026

Agenda Item:

Ordinance No. 10, 2026 RE Willows Reconstruction - 2nd Reading

Presented by:

Brian McNellis, Senior Planner

Background:

The applicant is requesting approval of a Minor Preliminary PUD plan in accordance with Sec. 16A-5-360 of the Municipal Code Land Use Code. The applicant wishes to reconstruct the Willows - Building D which was destroyed by fire in 2024. Prior to the fire, the building contained 7 units. The HOA is requesting the ability to add another 4 free-market condos (11 total) to the new structure in efforts to recover the money needed to rebuild the multi-family building.

The Town Council participated in a joint meeting with the Planning Commission on September 2nd of 2025 to learn about the proposal after which the Planning Commission reviewed the request and recommended approval. The Town Council ultimately adopted Resolution No. 35 of 2025 approving the reconstruction at Preliminary Review and authorizing the proposal to proceed to Final Review.

Financial Impact:

During the review of the Final Plan submittal, Town and Applicant discussed housing mitigation options which included the possible dedication of one of the proposed units and partial monetary reimbursement to the Willows HOA, or a cash-in-lieu payment. Ultimately, a cash-in-lieu payment of **\$429,923** was identified as the preferred mitigation by the Applicant and deemed acceptable by Town Administration. Said mitigation must be approved by the Town Council as part of Final Plan Review.

Applicability to Council Goals & Objectives:

Staff finds the project contributes to the Comprehensive Plan's objective of identifying, "West Village as a tourist focused neighborhood that could support both free market and employee housing." As it pertains to the specified goal of "Diversify the Economy", the plan states that Snowmass Village, "Offering interesting and appealing workplace environments in cooperation with a variety of housing types that will attract skilled workers while fostering vitality and strengthening the tax base of the community...Diversification of the economy will hinge upon the availability, type, and range of housing alternatives for employees in the community coupled with the availability of public transportation options."

The modestly sized studio and one-bedroom units proposed in the new Building - D may be more obtainable for local employees than many typical free-market units currently available in the West Village CPA. Moreover, the development is situated along the main transit artery of the town and within walking distance to essential commercial and service centers.

Council Options:

Town Council should listen to the updated presentation by the applicant (if any), ask questions, and open the hearing for public comment regarding draft Ordinance No. 10 of 2026 for Town Council consideration of 2nd Reading.

Staff Recommendation:

Staff recommends the Town Council approve Ordinance No. 10 of 2026 on Second Reading and consider appropriate workforce housing mitigation as part of a separate agenda item.

Attachments:

1. Attachment A - Ord No. 10 of 2026, 2025 Willows Bldg D Minor Prelim PUD
2. Attachment B - Application Narrative
3. Attachment C - Site Plan and Architecture
4. Attachment D - Consolidated Public Comments

1 **TOWN OF SNOWMASS VILLAGE**
2 **TOWN COUNCIL**

3
4 **ORDINANCE NO. 10**
5 **SERIES OF 2026**
6

7 **AN ORDINANCE APPROVING FINAL PLAN AND REZONING, OF THE**
8 **WILLOWS HOA MINOR PUD FOR THE RECONSTRCUTION OF WILLOWS -**
9 **BUILDING D AS SUBMITTED BY THE WILLOWS HOMEOWNERS**
10 **ASSOCIATION.**

11
12 **WHEREAS**, on March 6, 2024, Building D of the Willows Condominiums was
13 damaged by fire, deemed uninhabitable, and demolished; and
14

15 **WHEREAS**, on November 3, 2025, the Willows HOA was formally granted
16 Preliminary approval of a Minor PUD application to reconstruct Building D with 4
17 additional free market units (11 total) in effort to finance the reconstruction of the
18 lost structure; and
19

20 **WHEREAS**, on April 3, 2026 the Final PUD application submittal was
21 deemed adequately complete for a formal referral and evaluation of the proposal by
22 the Town Council on May 18, 2026; and
23

24 **WHEREAS**, the Town Council held a public hearing on November 3, 2025 at
25 which time a presentation, testimony, and public comment regarding the proposal
26 was considered.
27

28 **NOW, THEREFORE, BE IT RESOLVED** by the Town Council of the Town
29 of Snowmass Village, Colorado:
30

31 **Section One: General Findings.** The Town Council hereby generally finds that:
32

- 33 1) The Applicant submitted the application for a Minor PUD in accordance with
34 the provisions of the Municipal Code. The application provided the Minimum
35 Contents required pursuant to Section 16A-5-390 and included written and
36 graphic materials in sufficient detail to deem the application complete for
37 Final Review.
38
39 2) The Minor PUD identifies land uses proposed for the subject parcel which
40 are generally consistent with the intent of the Snowmass Village 2018
41 Comprehensive Plan (the "Comprehensive Plan") provides the incentive for
42 a "creative" development which will foster the redevelopment of the Willows
43 – Building D.
44
45 3) To the extent necessary for and pertinent to a Final Plan level of evaluation
46 and review, the application is consistent with the provisions of Section 16A-
47 5-300(c), General Restrictions, of the Development Code, subject to

satisfying the applicable conditions contained within Section Three of this resolution.

- 4) To the extent necessary for and pertinent to Final Plan level of evaluation and review, the application is also consistent with the provisions of Section 16A-5-310, Review Standards, and Section 16A-5-360 Final Plan of the Development Code, subject to satisfying the applicable conditions contained within Section Three of this resolution.

Section Two: Action. The Town Council authorizes the applicant to submit a building permit for the Willows – Building D reconstruction project subject to the conditions stated in Section Three below.

Section Three: Conditions. The approval shall be subject to satisfying the following conditions:

1. The exterior materials on the newly constructed Building-D shall match, resemble, or compliment those of the other buildings in the Willows complex to be reviewed and approved by the Snowmass Design Review Committee (see Exhibit B).
2. Each of the units in the new Building D shall be limited to 1 residential and 1 guest parking permit for the numbered lots as issued through the Transportation & Parking Department. Residents may also park at the available parking spaces along Campground Lane or the Lower Willows complex if available.
3. The HOA shall be responsible for fees associated with the reconnection of utilities to the new Building D as well as any other associated infrastructure costs. The Willows HOA shall initiate a cost reimbursement agreement with the Snowmass Water & Sanitation District to be finalized prior to building permit submittal.
4. The new building shall meet the fire requirements as identified by the Roaring Fork Fire District and applicable Building Code and Wildfire Ordinance at the time of building permit issuance.
5. No wood burning fireplaces shall be allowed in the new Building D units.
6. Each of the reconstructed units shall have adequate storage space assigned and to be evaluated at building permit submittal. If deemed necessary, the lower level crawl space may be considered for residential storage for Building D.

7. Lighting shall comply with newly adopted Ordinance No. 10 of 2025 and a lighting plan shall be included as part of the Final Plan application and any subsequent building permit submittal.
8. The applicant shall explore the feasibility of providing roof-top solar to the units of the newly proposed Building-D.
9. Planting shall conform to the newly adopted wildfire standards in Ordinance No. 4 of 2026. ~~g~~Grading shall not be greatly altered from the previously built condition.
10. An irrigation plan shall be included as part of any subsequent building permit submittal.
11. Newly planted trees shall be under warranty for a period no less than two years from the date a Certificate of Occupancy is issued. Any trees that are planted and die within two years of Certificate of Occupancy issuance shall be replaced if determined necessary by the Planning Director.
12. A complete Construction Management Plan shall be submitted for review at building permit submittal. During construction, workers shall adhere to Best Management Practices regarding erosion control, dust suppression, and daily mud/dirt removal from Carriage Way.
13. Traffic control along Carriage Way shall be implemented as needed and coordinated with the Public Works Department.
14. Workforce housing mitigation shall be required for the additional units proposed which has been determined by staff to be a cash-in-lieu payment totaling **\$429,923** - to be paid in full within 30 days of the final free-market closing of the newly built units. The Association shall grant the Town a lien on the new units or other acceptable security to secure they payment of the mitigation fee.

Section Four: Severability. If any provision of this Resolution or application hereof to any person or circumstance is held invalid, the invalidity shall not affect any other provision or application of this Ordinance which can be given effect without the invalid provision or application, and, to this end, the provisions of this Ordinance are severable.

INTRODUCED, READ, AND APPROVED, as amended, on first reading by the Town Council of the Town of Snowmass Village on May 18th, 2026 upon a motion by Council

member Shenk, the second of Council member Gustafson and upon a vote of 5 in favor and 0 against.

APPROVED, READ AND ADOPTED on second reading by the Town Council of the Town of Snowmass Village on _____, 2026 upon a motion by Council Member _____, the second by Council Member _____, and upon a vote of ____ in favor and ____ against.

**TOWN OF SNOWMASS VILLAGE
TOWN COUNCIL**

Alyssa Shenk, Mayor

ATTEST:

Megan Harris Boucher, Town Clerk

APPROVED AS TO FORM:

Jeff Conklin, Town Attorney

Exhibits:

1. Site Plan
2. Architectural Plans
3. Cah-in-Lieu calculation

Attachment B - [00 Willows Final PUD Application Narrative Update 2 \(1\)](#)

Attachment C - [00 Willows-Architecural](#)

From: [Sandy Holmes](#)
To: [Snowmass Town Council](#)
Subject: Willows rebuild
Date: Saturday, April 11, 2026 9:39:11 AM

To: Town Council Snowmass Village

From: Sandy Holmes and Tom Miller (Willows Unit 5A)

As you consider the re-build of the Willows Building D, I think it is important to know the residents the are affected by the additional fees you consider.

I have lived and worked my entire adult career at Aspen Valley Hospital. I raised both my boys in the valley and they attended the Little Red Schoolhouse and the Aspen School District. One of my sons is still in the valley and is fireman with the Aspen Fire Department.

I met my current husband, Tom, on the Burn Chair and several years later married him on the same chair. Following retirement, we moved from Basalt to Snowmass Village with a goal to ski 100 days every year. We love the lifestyle and community the village has to offer.

I think you will find that most of the residents of the Willows are ski instructors, teachers, local employees or retirees like ourselves. I heard at our recent HOA meeting the town is considering the Willows to be a developer, that is not what we are. We are an HOA trying to rebuild from a devastating fire that displaced seven of our neighbors. The cost to rebuild with the new codes, inflated building costs has placed financial burden on all. Many have had to improve wiring in their units to satisfy our insurance company. If we are not permitted to build additional units in the D building, some may be forced to sell. Please try to understand placing more costs on the building process may force out the very people you have a goal to keep in our community.

Sincerely,

Sandy Holmes

From: [Ann Doody](#)
To: [Snowmass Town Council](#)
Cc: [Alastair Noble](#)
Subject: Willows rebuild
Date: Wednesday, April 22, 2026 10:06:39 AM

Some people who received this message don't often get email from annskiaspen@gmail.com. [Learn why this is important](#)



Dear Council Members, My name is Ann Doody and I live at Willows E3. I have been a full time ski instructor for Aspen ski Co for 21 years. I am in my late 60s, single and have a dog. The day the fire broke out (see video) changed all of our lives here at the Willows. That day I had nowhere to go, because I couldn't go home.

My unit is as close as you could get to the flames that were battled by fire fighters all day long. My gas fireplace, that heats my 400 sq ft studio, let smoke and toxins flow into my unit thru its vent. I had total smoke damage and could not return. I stayed in hotels and worked with ECOS Disaster Restoration and my insurance company for days to coordinate cleanup. I missed work and it was spring break (high season for ski lessons). Every surface in my unit had to be tediously, professionally cleaned, the air was cleaned by special huge HEPA fans that ran 24 hours over the cleanup days. All my clothes, bedding, ...well everything had to be bagged and sent Grand Junction to a special cleaner.

My experience was traumatic. But nothing compared to the neighbors in the D building who still haven't yet returned.

I am asking you to understand that we are not developers, we are residents, tax payers and working people who want to rebuild. Please wave extra fees

and restrictions on our project. We need your support and understanding to make our community whole again.

Thank you, Ann Doody, 21 years living at the Willows Unit E3

www.aspentimes.com/news/structure-fire-in-snowmass-closes-lower-carriage-way/

Blaze ruins condo building in Snowmass Village
aspendedailynews.com

From: [Megan Boucher](#)
To: [Brian McNellis](#); [Michelle Bonfils](#)
Subject: FW: Willows Condominium Association
Date: Monday, May 11, 2026 10:09:49 AM
Attachments: [Image.png](#)
[image001.png](#)

Public comment that came in over the weekend.

Megan Harris Boucher
Town Clerk
Town of Snowmass Village
130 Kearns Road / PO Box 5010
Snowmass Village, CO 81615
Ph 970-922-2271



Please be aware that my email address has recently changed from mboucher@tosv.com to mboucher@snowmass.gov

From: Lee, William <William.Lee@btlaw.com>
Sent: Sunday, May 10, 2026 9:24 PM
To: Snowmass Town Council <Council@tosv.com>
Subject: Willows Condominium Association

Some people who received this message don't often get email from william.lee@btlaw.com. [Learn why this is important](#)

Dear members of the Town Council.

Currently the Town is expected to levy approximately \$435,000 on the Willows Condominium Association (WCA) as well as approximately \$50,000 permitting fees as the WCA proceeds with reconstruction and expansion of the D building which, as you know, was consumed in a devastating fire over 2 years ago.

Waiver of at least the \$435,000, which is a developer fee, and hopefully the permitting fees, as well, is most earnestly requested. The WCA is NOT a developer. We are an Association seeking to rebuild, with additional units, which will be quite adversely affected if we are forced to pay almost a half million dollars to the Town. The WCA is seeking to cover the large gap between insurance payments and the cost of construction, without a special assessment on all the members (owners) of the WCA. The Town taking a huge fee will have a devastating effect on this project. It is NOT the intention of the WCA to profit from the project, but rather to cover the enormous cost of the project, which is far above insurance payments realized from the insurance carriers.

The Willows was constructed during the summer of 1967, and was completed just before the opening of then Snowmass-at-Aspen on December 15, 1967. The Willows has been a faithful member of the Snowmass community ever since. My family has owned Willows F1&2 since March of 1967, when my parents bought the unit sight unseen. I have since succeeded to ownership (my parents are deceased), and my daughter, Carolyn Lee Smith, will succeed to ownership after I pass.

I hope and trust that the Council will look favorably on this request. Again, the WCA is not seeking to profit, but rather to cover the massive and shocking reconstruction costs.

Thank you for your consideration.



William Lee (CHPO01), Retired Of Counsel
Direct: 847-217-4804 | **Email:** William.Lee@btlaw.com
One North Wacker Drive
Suite 4400, Chicago, IL 60606

Atlanta | Baltimore | Boston | Chicago | Dallas | Delaware | Denver | Florida | Indiana | Los Angeles | Michigan | Minneapolis
Nashville | New Jersey | New York | Ohio | Philadelphia | Phoenix | Raleigh | Salt Lake City | San Diego | Washington, D.C.

From: [Alexandra Berry](#)
To: [Snowmass Town Council](#)
Subject: Willows D Rebuild Fees
Date: Friday, April 24, 2026 10:19:39 AM

Dear Council members,

I am a resident and owner of the B-7 condo in the Willows in Snowmass Village. I grew up in this valley, and when I moved back during the pandemic, I was so grateful to be able to afford a condo here and grateful we have been able to keep our maintenances costs manageable since.

As you know, the D building burned down which has been terrible for our community and our HOA has been working with insurance and many parties to navigate a rebuild that we in no way wanted or planned for.

I'm writing to plead that the city grants a waiver / exemption of the Housing Mitigation fee and the permitting fees for the rebuild - as these fees will otherwise go to all of us owners and residents who had nothing to do with this fire. We are not developers, we are locals who are required to rebuild this building and are already facing enormous costs outside of insurance to do so.

It makes me sad to consider how many long term locals will be displaced and forced to leave the Willows (and probably the valley) if they have to bear too much cost of this rebuild, even outside of these additional immaterial fees from the city.

Thank you for considering.

Best
Ali

Ali Berry Dirkes
alexandramberry@gmail.com
917.318.4152

From: [glen kohl](#)
To: [Showmass Town Council](#)
Subject: Willows Rebuild/New Developer Fee
Date: Friday, April 24, 2026 11:45:54 AM

Some people who received this message don't often get email from glen.a.kohl@gmail.com. [Learn why this is important](#)

As a long time Willows condo (since the 70s, when my parents first bought the place), I am writing to request that the Willows HOA not be subject to the new developer fee.

As you know, we are simply trying to recover from the fire in our rebuild of the new building, **we are not a developer.**

It just seems unfair as applied to us - no one is looking for a profit here. This fee would be kicking us while we are down.

And while I am asking on the part of the Willows HOA. it seems like this circumstance, could arise for other condos associations as well.

But even if you don't want a generally exemption rule, it seems like our fact pattern, which the City has been well aware of, should be grandfathered and not subject to the new rule.

Thank you for your consideration.

The Kohl Family, Lower Willows - H1-H4

From: [Noreen Pratt](#)
To: [Snowmass Town Council](#)
Subject: Willows Owner
Date: Friday, April 24, 2026 11:30:56 AM

Some people who received this message don't often get email from noreenpratt@gmail.com. [Learn why this is important](#)

My name is Noreen Pratt and I am a long time Willows owner and resident of Snowmass Village. I am writing to express my concern for a possible taxation on the Willows as a result of the devastating fire we all are directly or indirectly suffering from. I have lived in this community for many years. Like so many of us we work multiple jobs to make ends meet. I've made personal and financial sacrifices to maintain ownership of and for a place I love and am proud to be a part of. I, along with fellow homeowners have just recently completed payments on a 70k per studio unit special assessment for exterior renovations and landscaping. In addition we are now required to do a complete rewiring of our units costing between 15 and 20 thousand per studio unit. Our assessments have already gone up significantly due to the fire in Building D not to mention how difficult it has been for me personally losing my existing homeowners insurance, being declined by other companies and finally able to find a company but at a much higher rate. So the potential for another significant increase is deeply concerning. I respectfully ask The Town to consider the financial strain this would place on existing owners many of whom are long time locals like myself and who have dedicated years of work to this community.. Please consider the financial impact this will have on us.

Thank you

Noreen Pratt

Owner and resident of Willows B 8 since 1993

From: [PRN for Families](#)
To: [Snowmass Town Council](#)
Cc: [Alastair Noble](#); [Rochelle Schoppert](#)
Subject: Re: Request for Housing Mitigation Fee Exemption – The Willows HOA Rebuild
Date: Friday, April 24, 2026 11:41:44 AM

Some people who received this message don't often get email from celias@prnforfamilies.com. [Learn why this is important](#)

Dear Members of the Snowmass Village Town Council,

I am writing as an owner at The Willows regarding the housing mitigation and permitting fees being proposed in connection with the rebuilding of the D Building following the devastating fire.

Like many owners in our community, the fire has had a significant personal and financial impact on me and my family. We have already faced extended displacement, uncertainty, and ongoing financial strain while waiting for our homes to be rebuilt.

The proposed housing mitigation fee of approximately \$435,000, in addition to roughly \$50,000 in permitting costs, would place an extraordinary burden on our HOA and its members. These mitigation requirements appear to have been designed to apply to developers undertaking new projects for profit. The Willows reconstruction is fundamentally different — it is an effort by homeowners to rebuild homes that were lost in a catastrophic fire.

Our community is not developing new property for speculative gain. We are simply trying to restore what was taken from us. Applying developer-level mitigation fees in this circumstance would effectively penalize homeowners who have already endured significant loss.

The HOA board has worked diligently to find solutions that avoid imposing special assessments on all owners, including incorporating additional units into the rebuild to help close the gap between insurance proceeds and construction costs. However, adding nearly half a million dollars in mitigation fees could threaten the viability of this approach and ultimately increase the financial burden on all Willows owners.

I respectfully urge the Council to grant The Willows an exemption from the housing mitigation fee and associated permitting costs related to the rebuilding of the D Building. Providing relief in this unique situation would recognize the extraordinary circumstances our community has faced and would help ensure that residents can return to their homes without additional undue hardship.

Thank you for your time and consideration.

Sincerely,

Charles Elias
D1/D5/D6

From: sraaf@earthlink.net
To: [Snowmass Town Council](#)
Cc: [Alastair Noble](#)
Subject: Willows rebuild
Date: Thursday, April 23, 2026 9:12:23 AM

Some people who received this message don't often get email from sraaf@earthlink.net. [Learn why this is important](#)

Dear Council members:

I am writing with regard to the Willows condo's and the re-build of Willows building D due to a fire. I, Susie Raaf own Willows E7/E8, the building right next to the demolished building D which still stands as a big hole, now two years plus.

My parents decided to retire in Snowmass Village after living abroad for over 40 years. They purchased the Willows condo in 1976 and after buying a home on Lemond Circle/Snowmass Village they decided to keep the condo for their growing family. Our condo has been part of our home for just about 50 years, with many family and friends coming to enjoy beautiful Snowmass (never a rental).

When my father passed in 2018, I purchased the condo from my sisters so now the sole owner. I love my place however since the fire, we, the Willows association/community has faced many unforeseen costs. Due to insurance, all Willows homeowners who had aluminum wiring had no choice but upgrade their unit to copper wiring (\$44,000 for me, an unexpected cost)! Our HOA fees have increased. The rebuild has affected not only those misplaced from the fire (can't even imagine) but also all other Willow owners. It was decided to add extra units to the rebuild to try to cover the high costs the association is enduring with the re-build. At our HOA meeting, we were told that the town is wanting to charge Willows close to \$500,000 as a housing litigation fee. We are not developers but homeowners who are looking forward to the rebuild of building D to welcome back our neighbors. It would greatly be appreciated if you consider the financial burden this is to all Willow owners and request a waiver especially since we are not developers.

Appreciate your understanding and support for our Willows community, most long time residents/owners.

Thank you in advance for your consideration.

Susie Raaf
Willows E7/E8

Sent from EarthLink Mobile mail

From: caranhan@prodigy.net
To: [Snowmass Town Council](#)
Cc: [Alastair B1&B2 Noble](#); [Matt Hanson](#); [Greg Hanson](#)
Subject: willows
Date: Sunday, April 26, 2026 5:54:31 PM

Some people who received this message don't often get email from caranhan@prodigy.net. [Learn why this is important](#)

To the TOSV Council:

I am a longtime owner (38 years) in the Willows community and Snowmass Village. As you are aware, we are trying to rebuild after the loss of the D building due to fire. The site remains a blight on the appearance of the Willows community and Snowmass Village.

This is an extremely burdensome financial undertaking for our non-profit community. But it is furthered by the imposition of a mitigation fee on our association as we try to resurrect the D building. We had hoped to rapidly proceed with its replacement.

I strongly encourage you to allow an exemption of the mitigation fee so that we can proceed.

Respectfully,
Randall Hanson, B-3 Willows

From: [Oliver Umpleby](#)
To: [Snowmass Town Council](#)
Subject: Willows HOA Exemption
Date: Tuesday, April 28, 2026 1:20:57 PM

Some people who received this message don't often get email from oumpleby@gmail.com. [Learn why this is important](#)

Dear TOSV council,

I am writing on behalf of myself and the rest of the Willows owners that live here in SMV. I have been a member of the community for over a decade now. I have worked and built a life here and plan on staying in the community long term. I purchased a unit in the Willows in 2020. As you know, a tragedy struck our community two years ago and the Willows D building burned down. The owners of the building included long term residents who live and work in the community year round. We are currently in the process of rebuilding the D building and have proposed a new design in order to offset the cost of rebuilding to our community.

I understand the intent of the Housing Mitigation Fee. It is well intended and in most cases is a benefit to our community as it requires that developers pay their fair share to keep our community in good shape. We are not developers. In this unique instance, the mitigation fee is an unnecessary burden to local residents who already bear the burden of increased living costs and the other challenges that come with being a year round resident in the roaring fork valley.

I would urge you to consider waiving the fee in this unique circumstance. I would be happy to answer any follow up questions you may have.

Kind regards,

Oliver Umpleby

Willows H5

Ski Pro | Aspen Snowmass
Director | Ajax Sleepaway Camp
202-577-8584

Megan Boucher

From: Dave Songayllo <davesongayllo@gmail.com>
Sent: Monday, May 4, 2026 10:34 AM
To: Snowmass Town Council
Subject: Willows Condo Association

Some people who received this message don't often get email from davesongayllo@gmail.com. [Learn why this is important](#)

I am writing concerning the TOSV Housing Mitigation Fee that the town is levying on the Willows Condo Association. Laurie and I are owners of Unit 6 in the H building.

The reconstruction of building D is NOT new construction, people lost their homes in the fire. Please do not force us to absorb \$435,000, it is a crushing amount. I can't believe that the Town isn't able to make the obvious exception in our attempt to make the condo owners of D building whole.

Perhaps the Town Council is under the impression that the Willows units are mostly owned by investors and part-time residents, because, in our assessment, that would be the only plausible reason that we wouldn't be granted an exception. I can assure you, that many of the Willows condo owners are working class people. Our neighbors in our building work in Snowmass in various capacities, Laurie works for Ski Co and I work for Pitkin County. All that we are asking is that the Town support it's residents and not create additional financial stress to our already expensive lives. We are not the wealthy profit driven developers that the law intend to tax.

Please support working class and long time Snowmass Village residents. The rebuilding of our D building should be championed by the Town, not used as a method to fill the coffers of government.

Sincerely,
Dave and Laurie Songayllo

Snowmass Village, CO
mobile: (970) 596-6880

Brian McNellis

From: Clint Kinney
Sent: Monday, May 18, 2026 2:01 PM
To: Michelle Bonfils; Brian McNellis
Cc: Megan Boucher
Subject: FW: Willows

From: Mindy Van Orden <mindyvanorden@gmail.com>
Sent: Monday, May 18, 2026 12:09 PM
To: Snowmass Town Council <council@tosv.com>
Subject: Willows

Some people who received this message don't often get email from mindyvanorden@gmail.com. [Learn why this is important](#)

May 18, 2026 - 12:10 pm

Hello Town of Snowmass Village Town Council Members,

Our family has owned our unit in the Willows since 1978/79.

Over the years, we have invested in the property and in the Snowmass community, including in a major exterior remodel over a decade ago.

As a longtime owner, my family respectfully requests a waiver of the Housing Mitigation Fee in this particular and unique situation. At its core, this is not a development project, nor one with the direct purpose of adding very limited unit density (although this is not necessarily a bad thing for Snowmass). This has been, and continues to be, a challenging, costly, and time-consuming effort to make our Willows Association and community whole again after the fire. For our Association, it is about completing the mitigation, remediation, and restoration without unduly burdening our members, many of whom are year-round or full-time seasonal residents, with a handful of SMV employees. For those who lost their units in the fire, it is about finally having their units restored after years of loss.

As multigenerational members of the Snowmass community, we'd appreciate your consideration in this matter.

Marilyn Van Orden and Family

Lower Willows Units F5 - 6

Town of Snowmass Village

Agenda Item Summary

DATE OF MEETING:

June 1, 2026

AGENDA ITEM:

Ordinance No. __, Series of 2026 – AN ORDINANCE AMENDING THE TOWN OF SNOWMASS VILLAGE MUNICIPAL CODE WITH THE ADDITION OF ARTICLE VII, PROHIBITING THE USE OF GAS-POWERED LAWN EQUIPMENT

PRESENTED BY:

Jeff Conklin, Town Attorney
Clint Kinney, Town Manager

BACKGROUND:

A recent citizen initiative petition filed with the Town sought to transition the Town to allowing only the use of electric-powered lawn equipment and prohibiting the use of gas-powered lawn equipment. Data shows that gas-powered lawn equipment emits large amounts of air pollutants and causes significant noise disturbances.

In 2024, the State of Colorado adopted a regulation that establishes emission reduction requirements for lawn and garden equipment. The regulation restricts certain state agencies, the federal government, and local governments, as well as any contractors with those government entities, from using gas-powered lawn and garden equipment between June 1 and August 31 of each year. The regulation applies to front range communities where ozone and air pollution levels have reached severe levels.

Aside from the State's efforts to restrict the use of gas-powered lawn equipment, few communities have passed ordinances prohibiting their use. Carbondale and Aspen each effectively prohibit gas-powered leaf blowers through their noise ordinances. However, no other communities have directly prohibited the use of gas-powered lawn equipment. Boulder made a considerable effort towards adoption of a similar ban, but ultimately never adopted an ordinance after pushback from the business community.

The proposed Ordinance, if approved, would prohibit commercial operators, homeowners associations, and government entities, and later the general public, from using gas-powered lawn equipment, which the ordinance defines as lawn and leaf blowers powered by gasoline, diesel, or oil fuel. If the Town wished to expand this definition, the State regulation provides additional types of lawn equipment in its definition

for reference. The state defines “lawn and garden equipment” as “equipment whose primary purpose is to assist with cleanup or maintenance of a lawn or garden area of a property” and includes chainsaws, edgers, trimmers, lawn mowers, and other types of equipment.

If approved, the Ordinance’s restrictions would be effective starting in 2028 for commercial operators, homeowners associations, and governmental entities.

For the June 1 meeting, the Draft Ordinance enclosed is present for Council’s preliminary consideration and is not formally schedule as a First Reading.

FINANCIAL IMPACT:

There is no direct fiscal impact to this discussion. To date, a fiscal impact determining the cost to businesses, home owners, the Town and others has not been undertaken.

APPLICABILITY TO COUNCIL GOALS & OBJECTIVES:

Town staff has reviewed this Ordinance and finds that it aligns with the Town’s Resiliency and Sustainability Plan.

COUNCIL OPTIONS

The Ordinance in the packet is present in a “draft” form and this is not scheduled for a formal First Reading. Town Council can:

1. Direct Staff to bring the Draft Ordinance to Council for First Reading on June 15, 2026, with or without amendments.
2. Direct Staff to table consideration off the Draft Ordinance.

STAFF RECOMMENDATION:

Town Staff recommends that Town Council direct Staff on the Draft Ordinance.

ATTACHMENTS:

Ordinance No. __, Series of 2026

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**TOWN OF SNOWMASS VILLAGE
TOWN COUNCIL**

**ORDINANCE NO. ____
SERIES OF 2026**

**AN ORDINANCE AMENDING THE TOWN OF SNOWMASS VILLAGE MUNICIPAL
CODE WITH THE ADDITION OF ARTICLE VII, PROHIBITING THE USE OF GAS-
POWERED LAWN EQUIPMENT**

WHEREAS, The Town of Snowmass Village (“TOSV” or the “Town”) is a home-rule municipality, duly organized and existing under the TOSV’s Charter adopted pursuant to Article XX of the Constitution of the State of Colorado; and

WHEREAS, Section 3.3 of the TOSV’s Charter confers upon Town Council the power to amend the TOSV Municipal Code (the “Code”); and

WHEREAS, gas-powered lawn equipment, such as leaf blowers, emit large amounts of particulate matter, nitrogen oxides, and greenhouse gases and create significant noise impacts; and

WHEREAS, the TOSV’s Resiliency and Sustainability Plan states that “preserving our natural environment and confronting global climate change are fundamental to the ongoing success and enjoyment of our resort community”; and

WHEREAS, prohibiting the use of gas-powered lawn equipment would contribute to the TOSV’s efforts to improve air quality and reduce greenhouse gas emissions, as stated in the Town’s Resiliency and Sustainability Plan; and

WHEREAS, the Town wishes to require commercial operators, homeowners associations (“HOAs”), and government entities to cease operating certain gas-powered lawn equipment within the Town by January 1, 2028; and

WHEREAS, the Town wishes to prohibit the general public from using certain gas-powered lawn equipment within the Town by January 1, 2029; and

WHEREAS, the TOSV finds it necessary to protect the health, safety, and welfare of residents within the Town by prohibiting the use of certain gas-powered lawn equipment as defined in the Ordinance attached hereto as **Exhibit A**; and

WHEREAS, Town staff has reviewed the proposed amendment to the Code and recommends that the Town Council adopt the Ordinance as set forth below; and

WHEREAS, Town Council finds that the adoption of this Ordinance is in the best interest of the TOSV.

NOW, THEREFORE, BE IT ORDAINED, by the Town Council of the Town of Snowmass Village, as follows:

1. Recitals. The foregoing recitals are incorporated herein as findings of the Town Council.
2. Amendment. **Chapter 7 – Health, Sanitation, and Animals** of the Code is hereby amended with the addition of **Article VII – Gas-Powered Lawn Equipment - Prohibited** as set forth in **Exhibit A**.
3. Severability. If any provision of this Ordinance or application hereof to any person or circumstance is held invalid, the invalidity shall not affect any other provision or application of this Ordinance which can be given effect without the invalid provision or application, and, to this end, the provisions of this Ordinance are severable.
4. Effective Date. This Ordinance shall be effective 15 days after adoption in accordance with the Town of Snowmass Village Home Rule Charter.

READ, APPROVED AND ADOPTED by the Town Council of the Town of Snowmass Village on First Reading on _____, 2026, upon a motion by Council Member _____, the second of Council Member _____, and upon a vote of _____ in favor and _____ against.

READ, APPROVED AND ADOPTED as amended, by the Town Council of the Town of Snowmass Village on Second Reading on _____, 2026, upon a motion by Council Member _____, seconded by Council Member _____, and upon a vote of ____ in favor and ____ against.

TOWN OF SNOWMASS VILLAGE

Alyssa Shenk, Mayor

ATTEST:

Megan Harris Boucher, Town Clerk

APPROVED AS TO FORM:

Jeff Conklin, Town Attorney

**EXHIBIT A
AMENDMENT TO TOWN CODE**

Chapter 7 is hereby amended with the addition of Article VII as follows:

ARTICLE VII – Gas-Powered Lawn Equipment – Prohibited

Sec. 7-163. - Definitions.

The definition of *gas-powered lawn equipment* as used in this Article, unless the context otherwise indicates, is herewith defined as follows:

Gas-powered lawn equipment means the following equipment powered by gasoline, diesel, or oil fuel: lawn and leaf blowers.

Sec. 7-164. - Gas-powered lawn equipment prohibited.

- (a) As of January 1, 2028, all commercial operators, homeowners associations (“HOAs”), and governmental entities are prohibited from using gas-powered lawn equipment within the Town.
- (b) As of January 1, 2029, all members of the public, including private property owners, are prohibited from using gas-powered lawn equipment within the Town.
- (c) Battery- and electric-powered lawn equipment may be used within the Town, subject to the maximum permissible noise levels set forth in C.R.S. § 25-12-103, as amended.

Sec. 7-165. – Enforcement.

Violation of this Article VII shall constitute a noncriminal municipal offense enforceable through the TOSV Municipal Court and subject to the general penalty provisions in Section 1-72 of the Town Code and the equitable powers of the Municipal Court in Section 2-152 of the Town Code. Except as provided herein and unless clearly inapplicable, the Colorado Municipal Court Rules of Procedure shall apply to enforcement of such violations. Any citation or notice of violation may be served upon a person violating this Article by certified mail or otherwise as allowed by law. Each day any violation of this Article continues shall constitute a separate offense, unless otherwise provided.

Town of Snowmass Village Agenda Item Summary

Date of Meeting:

June 1, 2026

Agenda Item:

Willows Housing Mitigation Discussion

Presented by:

Michelle Bonfils, Community Development Director

Background:

Pursuant to Town Council Ordinance No. 10, Series of 2026, a Minor Final PUD plan was approved allowing for the reconstruction of the Willows – Building D which was destroyed by a fire in 2024. Prior to the fire, the building contained seven units. Ordinance No. 10, Series of 2026 approves the rebuild of the seven units plus an additional four free-market units for a total of 11 units. The additional four free-market units were requested by the Applicant to subsidize the anticipated gap between the insurance funds and actual reconstruction costs.

During the Minor PUD entitlements process, the Willows HOA requested the Town reduce fees for reconstruction of the building, noting that long-term, year-round residents are owners in the development who are significantly impacted by the financial burden of redevelopment. Specifically, a reduction in the \$429,923 Housing Mitigation Impact fee assessed on the additional four free-market units was requested. Said application was subject to the increased 100% housing mitigation rate (adopted via Ordinance No. 1, Series of 2026).

The Willows Minor Final PUD conditions of approval allow the Housing Mitigation fees to be paid after the sale of the additional four free-market units – a negotiated agreement considering the unfortunate circumstances. Construction of the entire project is anticipated to start in late Q2 2026 for an estimated duration of 12-24 months. Accordingly, sales of the additional four free-market units could occur in late 2027, in 2028 or later.

Municipal Code Provisions:

Sec. 16A-4-410, ‘Workforce housing requirements’ and Sec. 16A-4-420, ‘Methods of complying with requirements.’ According to the municipal code, workforce housing requirements may be satisfied by multiple means including: Development buy-down, workforce sale, *cash-in-lieu for minor developments*, development of units, restriction of a unit, and similar mitigation actions as approved by Town Council. The municipal code does not offer the option to waive workforce housing requirements. During the Minor PUD entitlement process, the applicant chose to satisfy this

requirement through the cash-in-lieu option.

Proposed Budget Amendment:

During the Minor PUD entitlement process, Town Council discussed reducing the required \$429,923 housing mitigation fees. Housing mitigation fees are required to be directed to the *Restricted Housing Fund*. In the absence of provisions in the municipal code to reduce or waive housing mitigation fees, the Town Council may appropriate funds from the General Fund to the *Restricted Housing Fund* as a form of subsidizing the fee requirement.

As the Housing Mitigation Fees for Ordinance No. 10, Series of 2026 are not due until a future, uncertain date but rather the milestone of unit sales — it is not necessary to process a budget amendment during 2026. Similarly, at the time of this memo, exact construction costs, insurance proceeds, and future sales revenue are general estimates. The anticipated gap of actual costs-to-revenue is to be determined.

At the first reading of Ordinance No. 10, Series of 2026 on May 18, 2026, Town Council discussed several scenarios for subsidizing the required Housing Mitigation Fees including subsidizing the fees from the current 100% mitigation rate of \$429,923 to the 60% rate of \$257,954. If Town Council chose to reduce the Housing Mitigation fee to 60%, Town Council would direct Staff to pursue a future budget amendment of \$171,969.

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The budget amendment process occurs through the adoption of an Ordinance.

Financial Impact:

Staff will present available data to Town Council during a future budget amendment process (i.e. exact construction costs, insurance proceeds, sales revenue for the Willows units, and General Fund availability).

Applicability to Council Goals & Objectives:

The Willows HOA has indicated that a majority of the Willows are occupied and/or owned by long-time, permanent residents. The Willows may in part function as informal workforce housing. “Expanding Housing Choice & Affordability” is Goal E of the

Comprehensive Plan.

Council Options:

Town Council may

- 1) Choose to require the full mitigation rate as approved.
- 2) Choose to effectively decrease the mitigation rate to 60% (rather than 100%) by directing staff to pursue a future budget amendment to subsidize the required Housing Mitigation fees by appropriating and authorizing a subsidy amount of \$171,969 from the General Fund.
- 3) Choose to subsidize the mitigation rate by a different amount with the subsidy coming from the General Fund.

Staff Recommendation:

It is the Recommendation of Town Staff, that the Council, by motion;

Agree to (effectively) reduce the mitigation rate from 100% to 60% by appropriating a subsidy amount of \$171,969 from the General Fund to a restricted housing fund.

Attachments:

None

Town of Snowmass Village

Agenda Item Summary

DATE OF MEETING:

June 1, 2026

AGENDA ITEM:

A General Discussion Regarding the Upcoming November Election

PRESENTED BY:

Clint Kinney, Town Manager

BACKGROUND:

November 6, 2026, will be a general election day in Snowmass Village. As required by the Charter, the Mayor's seat and two Town Council seats will be on the ballot. Candidate petitions will be available on August 4th.

In addition to elected officials, ballot questions may also be placed on the ballot. Notification to the County of any such questions must be made to County 100 days before the election, approximately July 24. Actual ballot language is due at a later date.

Topics the Council may want to discuss include:

Councilor Fridstein has asked the Council to begin considering expanding the use of the Tourism Fund revenues to include fire mitigation. Currently these revenues, a 2.5% sales tax and a 2.4% lodging tax, are restricted to Tourism and workforce housing endeavors.

Depending on the outcome of a previous agenda topic, the Council may place a gas-powered lawn equipment question on the ballot.

In addition to these topics, it is Staff's understanding that the Fire Authority is considering asking for a new sales tax to fund increased operations and mitigation efforts.

Council compensation can be changed by ordinance. Although not on the specifically on the ballot, the Town Charter does not allow the compensation of any member to increase during their term of office. Therefore, if the Council wanted to consider a change to Council compensation, such as adding the Town health/recreation benefit, that ordinance would need to be considered and approved before the election.

FINANCIAL IMPACT:

While this discussion has no direct fiscal impact, the outcomes of ballot questions could have fiscal impacts.

STAFF RECOMMENDATION:

This item is for discussion purposes only.

Town of Snowmass Village Agenda Item Summary

Date of Meeting:

June 1, 2026

Agenda Item:

Evacuation Notification Update

Presented by:

Brian Olson, Police Chief

Background:

With emergency preparedness at the forefront of our minds, questions regarding evacuation procedures and routes are being raised frequently. In light of this, I would like to take this opportunity to discuss with Council the realities of evacuation messaging, including how it will be communicated, when it will be shared with the public, and the coordination involved in delivering that information effectively.

Attached is a letter regarding evacuation messaging, supported by the Pitkin County Emergency Manager and all area fire departments and law enforcement agencies.

Financial Impact:**Applicability to Council Goals & Objectives:**

Community Engagement

Council Options:

Questions/Discussion

Staff Recommendation:**Attachments:**

1. Evacuation Messaging

Emergency Evacuation Routes — Why Aren't They Pre-Determined?

Wildfire preparedness and mitigation are front and center as we move into the summer months. Outstanding coordination exists among non-profits, industry experts, and local governments in these efforts. Extensive planning is ongoing, and our Emergency Services personnel train regularly to prepare for any hazard that could threaten public safety.

Within the Incident Command System during an active emergency, Law Enforcement is responsible for carrying out evacuations. The Incident Commander and their team determine **if**, **when**, and **where** evacuations will occur.

We often hear questions throughout the year such as:

- *Where is my evacuation route?*
- *Where can I find a map or information?*

These are reasonable concerns.

In areas such as Gulf Coast regions, where hurricanes and flooding are common threats, pre-identified evacuation routes make sense. Road capacity, flood-prone areas, and a generally predictable evacuation direction, usually inland and away from the coast, allow for advance planning.

Mountain communities are different.

Hazards such as wildfires are highly unpredictable. If pre-identified evacuation routes were published in advance and conditions changed, those routes could quickly become unsafe. In a wildfire, fire behavior can shift in any direction, potentially cutting off roads or placing evacuees directly in danger.

Evacuation planning is ongoing. We have mapping software, fire behavior modeling and AI tools along with the incident's real-time operational intelligence to assist Public Safety officials with evacuation decisions.

We have adopted the **READY, SET, GO** evacuation warning model in Pitkin County. If in Eagle County, the warning is **PRE-EVACUATION, EVACUATION**. Both warnings provide graduated alerts that help reduce confusion and improve community preparedness. Using phased warnings before a mandatory evacuation order gives the community more time to make informed decisions, reduces traffic congestion, and supports safer evacuations for vulnerable populations.

The Incident Command team determines evacuation timing and routes based on real-time, incident-specific information to provide the safest possible direction for residents. This information will be provided through Alert Systems that include landline phones, cell phone-voice and texts, email, radio, TV, roadside Variable Message signs and even PA (loudspeaker) systems.

What can you do? Prepare in advance.

Especially during periods of elevated fire danger, residents should:

- Know what you would take during an evacuation
- Prepare a “Go Bag”
- Create a family communication and meeting plan
- Plan for pets and livestock
- Stay informed through trusted local information sources

Sign up for:

- PITKIN ALERT
- REACHWELL Cellphone App with language options
- Your local city or town newsletters

Visit PITKINEMERGENCY.COM for additional public safety information.

PITKIN COUNTY EMERGENCY SERVICES LEADERSHIP:

Aspen Fire, Jake Andersen-Fire Chief

Aspen Police, Kim Ferber-Police Chief

Basalt Police, Aaron Munch-Police Chief

Pitkin County Sheriff, Michael Buglione-Sheriff

Pitkin County Sheriff, Chris Breitbach, Emergency Manager

Snowmass Village Police, Brian Olson-Police Chief

Roaring Fork Fire Rescue Authority, Scott Thompson-Fire Chief

Town of Snowmass Village

Agenda Item Summary

DATE OF MEETING:

June 1, 2026

AGENDA ITEM:

Aspen Snowmass Nordic - Management Plan

PRESENTED BY:

Andy Worline *Parks, Recreation & Trails Director*

BACKGROUND:

The Parks, Recreation & Trails team has reviewed the Aspen Snowmass Nordic Management Plan. We appreciate the plan's forward-thinking approach, especially around long-term financial considerations, the continued importance of intergovernmental coordination, climate resiliency, and the growing number of multi-use trail users.

Overall, the plan does a good job recognizing the Town of Snowmass Village as a key partner in the regional Nordic system, both operationally and strategically. Snowmass Village is clearly identified as one of the major activity nodes and community anchors within the trail network.

A few key areas where the Town is incorporated include:

- The Nordic trail system physically connects Snowmass Village to Aspen and other valley communities through trails such as Owl Creek and portions of the Rio Grande Trail.
- The Town is identified as a formal partner agency working with Pitkin County and the City of Aspen on trail operations, access, infrastructure, and long-term planning.
- The Snowmass Village Recreation Center and Snowmass Golf Course trails are recognized as one of the primary access nodes within the system, supporting rentals, programming, events, and amenities.
- The Town's free Nordic rental program through the Recreation Center continues to support recreation access and community programming.
- Snowmass Village plays an important role in tourism and event programming, including the Owl Creek Chase and other regional Nordic events.
- The plan also references Town-related infrastructure including trailheads, parking, transit access, grooming facilities, and seasonal trail connections.
- TOSV will be included in future resiliency and long-range planning discussions related to climate adaptation, operations, and trail sustainability.

The plan portrays Snowmass Village as a critical partner and destination within the broader Aspen Snowmass Nordic system.

FINANCIAL IMPACT:

None at this time.

APPLICABILITY TO COUNCIL GOALS & OBJECTIVES:

The Town Council will:

Focus on improving access and safety to make Snowmass Village more walkable and bikeable.

COUNCIL OPTIONS:

Review Master Plan and make any recommendations as needed.

STAFF RECOMMENDATION:

It is the recommendation of Staff, that the Council, support the 2026 Aspen Snowmass Nordic Trail System Management Plan.

ATTACHMENTS:

ASPEN SNOWMASS NORDIC TRAIL SYSTEM

Management Plan

Summer 2026





ASPEN SNOWMASS NORDIC TRAIL SYSTEM

Management Plan

Summer 2026

ACKNOWLEDGEMENTS:

The Aspen Snowmass Nordic Trails System Management Plan is a product of the City of Aspen Open Space and Trails Nordic Staff. A special thank you to the Aspen Snowmass Nordic Council (Nordic Council), who started the current Nordic Trail System in 1984 and has advised the evolution of the system from its inception through present day. Thank you to Austin Weiss and Matt Kuhn for their work on the 2008 and 2015 Management Plans respectively. Thank you to the Pitkin County Open Space and Trails program for continued support and funding of the trail system and its management.

Cover Photo: Nordic racing on the High School Loop 30. Credit: Nordic Program Staff



ASPEN SNOWMASS NORDIC COUNCIL MISSION STATEMENT

POTENTIAL UPDATE NEEDED: The Aspen Snowmass Nordic Council continues its goal of providing a seamless skiing experience with high quality Nordic ski trails connected to and within the community centers of Pitkin County. This may be achieved by resolving methods of road crossings and acquiring critical trail easements.



PITKIN COUNTY OPEN SPACE AND TRAILS BOARD OF TRUSTEES MISSION STATEMENT

The mission of the Pitkin County Open Space and Trails Board of Trustees is to acquire, preserve, maintain and manage open space properties for multiple purposes including, but not limited to, recreational, wildlife, agricultural, scenic and access purposes; and to acquire, preserve, develop, maintain and manage trails for similar purposes.

The Pitkin County Home Rule Charter provision authorizing the Open Space and Trails Program defines open space and trails as follows:

"Open Space" shall be defined as primarily undeveloped lands and waters which meet one or more of the following criteria: Within public scenic view planes; bounding or within urbanized areas; incorporating or protecting significant wildlife habitat; preserving historic agricultural and ranching activities; protecting riparian or wetlands areas; protecting other public lands from the impacts of development, and preserving cultural, historic and archaeological resources lying within properties which are otherwise acquired for their customary Open Space characteristics.

"Trails" shall be defined as access ways, either separate from or within County and State road rights-of-way, meeting one or more of the following criteria: preserving historic routes of ingress and egress to public lands and waterways; providing access to and from recreational or urban destinations; providing transportation or recreational opportunities throughout the Roaring Fork Watershed.



CITY OF ASPEN OPEN SPACE AND TRAILS BOARD MISSION STATEMENT

The mission of the Open Space and Trails Board is to continually acquire, preserve, manage and maintain Open Space and Trails within the community for the benefit of current and future generations. The Board makes recommendations to City Council and Staff on the acquisition and management of open space.

MANAGEMENT PLAN PURPOSE AND SUMMARY

The 2026 Nordic Trails Management Plan continues the foundational efforts of the 2008 and 2015 plans to maintain, enhance, and further develop the Nordic trail network in Pitkin County. The Aspen Snowmass Nordic Trail System currently spans 106 kilometers of machine-groomed cross-country skiing throughout the mid and upper Roaring Fork Valley. Nordic skiing and our local trail network are deeply rooted in the valley's history and community identity, however the sport and the valley's trail network now faces a growing threat of shorter, warmer, and drier winters. This plan update aims to build upon past achievements and prioritize the long-term viability of Nordic skiing in the Roaring Fork Valley by continuing to enhance the current trail system and charting a path toward quality climate-resilient skiing opportunities for the community.

PLAN GOALS

This management plan prioritizes the long-term operation and maintenance of the Aspen Snowmass Nordic Trail System to ensure Nordic Skiing for the community for years to come. The following goals have been identified by Open Space and Trails staff with input from the Nordic Council.

GOAL 1: Ensure high quality Nordic trails with easy access.

GOAL 2: Secure long-term or permanent access to existing and future trails through formalized easements or access agreements.

GOAL 3: Develop climate-resilient Nordic trail options and operational systems to mitigate effects of warmer and dryer winter weather fluctuations.

KEY 2026 UPDATES

- Updated vision and goals
- Complete program history
- Updated plan use and role specifications
- Updated program operations and trail system structure
- New management actions with increased focus on climate resiliency

ASPEN SNOWMASS NORDIC TRAIL SYSTEM GOVERNANCE

STAFF

Chris Petersen | Aspen Snowmass Nordic Trail System Coordinator
Scott Lacy | Aspen Snowmass Nordic Trail System Assistant Coordinator
Austin Weiss | City of Aspen Director of Parks and Recreation
Matt Kuhn | City of Aspen Parks and Open Space Director
John Spiess | City of Aspen Senior Open Space and Natural Resource Manager
Gary Tennenbaum | Pitkin County Open Space and Trails Director

ASPEN SNOWMASS NORDIC COUNCIL

John Wilkinson, **President**
Eric Peterson, **Secretary**
David Polovin, **Treasurer**
Paul Perry
Craig Ward
Bob Wade
Howie Mallory
Ben Dodge
Helen Carlsen
Aspen Valley Ski & Snowboard Club Representative
Aspen Skiing Company Representative
City of Aspen, City Council Representative
Town of Snowmass Village, Town Council Representative
Town of Basalt, Town Council Representative
Pitkin County, Board of County Commissioners Representative

PITKIN COUNTY OPEN SPACE AND TRAILS BOARD

Amy Barrow
Wayne Ives
Michael Kinsley
Howie Mallory
Graeme Means

CITY OF ASPEN OPEN SPACE AND TRAILS BOARD

Julie Hardman
Ted Mahon
Howie Mallory
Adam McCurdy
Ann Mullins
Dan Perl



A beautiful day skiing the Owl Creek Trail in the French Meadow



Photo Credits: Nordic Program Staff

Laying classic track while grooming the Moore Open Space

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CREATION OF THE 2026 MANAGEMENT PLAN

Nordic Trails Plan in 2008

The first Nordic Trails plan was created to help guide the operations, growth and management of Nordic ski trails funded by the Pitkin County Open Space and Trails program. Obtaining public input was a very important part of the process, and meetings were held in Aspen, Snowmass Village and Basalt, as well as direct contact through mailing and email to over 800 people, to gather and recognize the community's interest.

At the public meetings there was enthusiastic support and praise for the existing Nordic Trail System and the Pitkin County Open Space and Trails Board, and each meeting group focused their attention on the trails closest to home. In 2008, the following points were highlighted by the community in the planning process:

- The system should grow to include more Nordic ski trails, accommodate more users, and extend to a wider geographic area, specifically mid-valley.
- Partnerships and increased communications among all the groups related to Nordic trails should be encouraged.
- Trails were identified on planning maps, both for improvement and future expansion opportunities.

Nordic Trails Plan Revision Process in 2015

A Nordic council subcommittee formed in 2014 to provide updates to the 2008 plan with the primary goals focused on overall operational priorities, as well as addressing new multi-use demands on the Nordic trail system, and most notably, the Nordic Council developed screening criteria to aid in trail expansion opportunities. Land use challenges and successes were also accounted for in the newly created vision section of the document. The plan was adopted by the Board of County Commissioners on September 11th, 2015.

Notable Accomplishments of 2008 and 2015 Nordic Trails Plan

With a focused vision, strong advocacy, and steady leadership, many improvements and goals outlined in the 2008 and 2015 Nordic Trails Plans' have been accomplished. These are some of the most notable improvements and accomplishments:

- Increased number and kilometers of dog friendly and multi-use trails
- Uniform, thorough, industry standard signage across trail system
- Updated maps and kiosks at major entry points across system
- Strengthened relationship with the Mount Sopris Nordic Council (Spring Gulch)
- Securing easements and licenses on portions Owl Creek Trail and Trail 20

- Addition of mid-valley trails including Roaring Fork Club and Grange Ranch
- Successful snowmaking trial near AVSC in 2018 and completion of formal snowmaking feasibility study in 2025
- Improved grooming reporting and website improvements
- Expanding strategies for low-snow/low-impact grooming equipment and methods

Creation of the 2026 Nordic Trail Management Plan

In summer of 2025, City of Aspen staff initiated an update and review of the existing plan. In coordination with Nordic Council, several review meetings took place identifying the need for contemporary goals, a stronger focus on climate resiliency, recognition of notable past goals accomplished, and updated future management actions for the Aspen Snowmass Nordic Trail System. The 2026 plan builds off the 2015 Trails Plan and incorporates feedback from Nordic Council review meetings, the community, and aligns with current regional and national Nordic trends.

Adoption of the Nordic Trail Management Plan

Adoption of the Nordic Trails Plan sets its use as a referral document, and the Nordic Council as a referral agency, in the review of any development applications that may have a nexus with current or future Nordic ski trails. The Plan provides Pitkin County, the City of Aspen, the Town of Snowmass Village, and the Town of Basalt, a document with goals for the continued presence and climate resiliency of the Nordic Trail System.

NORDIC HISTORY IN THE ASPEN VALLEY

Overview

Nordic skiing in the Aspen area and Roaring Fork Valley has a rich and deep history. Starting in the 1880's, pioneers and miners exploring the area are widely believed to be the first modern age cross-country skiers in the area. Nordic skiing was used heavily for winter exploration in the silver mining boom days and as ranching later took over the area.



Photo Credit: Aspen Historical Society

Ute City miners cross-country skiing in 1890

were maintained in Snowmass with additional trails maintained on the Aspen Golf Course, near the Aspen High School, and near the Aspen Club.

In 1984, the Aspen Snowmass Nordic Council was formed with the vision of creating a European-style Nordic trail network throughout the Aspen area. The concept took hold and within a few years of foundational work by the nascent Nordic Council, a connected set of ski trails was established and maintained by the City of Aspen Parks Department with conglomerate funding from the Town of Snowmass, City of Aspen, and Pitkin County.

In 2006, the Nordic program was moved under the funding umbrella of Pitkin County Open Space and Trails, though operations remained under the City of Aspen.

Today, the Aspen Snowmass Nordic Trail System spans 106 kilometers of machine-groomed trails and comprises the largest free Nordic ski trail network in North America. The Nordic trails have become a pillar of winter recreation in the community and are host to numerous iconic community and competitive events each season.

The trail system still embodies the original vision of a connected community trail network from Snowmass to Aspen to Woody Creek and Basalt, and has been the home training grounds of numerous Olympic and World Cup Nordic athletes.

The 10th Mtn Division famously arrived in Aspen in 1942, having skied cross-country to Aspen from Camp Hale. The growth of the sport on the national and international stages inspired many local residents to grow the sport in the valley and Nordic skiing was a popular winter activity in the Ashcroft area by the late 1950's with regular Nordic races taking place in the Aspen area by the 1960's.

By 1970, a Nordic center had opened in Snowmass and the first Silverboom ski race took place in 1971 in Snowmass. By 1980, over 30 kilometers of trail

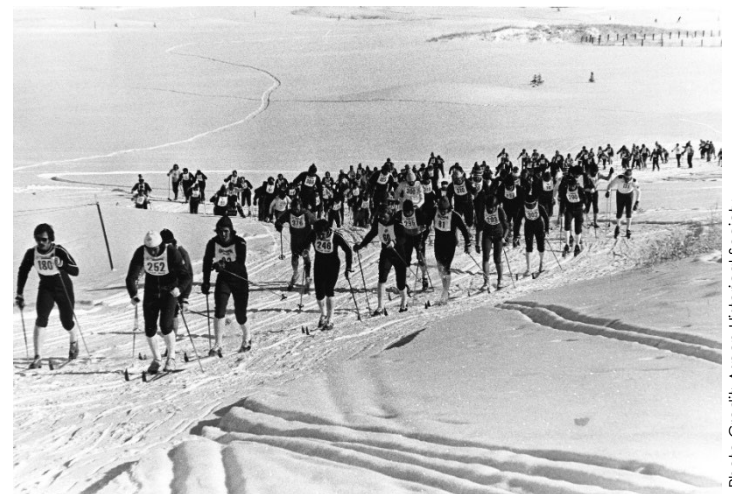


Photo Credit: Aspen Historical Society

The very popular Silverboom race in Snowmass in 1974

A Nordic Heritage in the Elk Mountains

Starting with the age of mining and mining exploration, many pioneers arrived in the Aspen area in the 1880's. Along with snowier winters and a wilder era in the mountains, these pioneers had no choice but to explore the mountains on skis. Most skiing took place across flat valley floors or up area side valleys. The equipment consisted of long, edgeless, wooden skis with leather strap bindings and a long singular pole used for balance.

This era of Nordic skiing remained in the valley without much change through the silver mining boom days and the quiet years following the silver crash. It wasn't until the arrival of the famed 10th Mountain Division troops in 1942 that modern Nordic skiing began to evolve and grow in the Aspen area.

The 10th Mountain Troops brought with them newer technology for skis including metal cable bindings and higher efficiency skis, but more importantly, they brought with them the idea of skiing across the valleys and up the mountains for training, not merely a winter form of transportation from one point to another. With that came the increased use of "skiing in" a trail where the snow became firmer and easier for many skiers to use the same track, and with that the first Nordic "ski courses" were born in the valley.



Photo Credit: Aspen Historical Society

Early Aspenites cross-country skiing where today's golf course sits, circa 1900

Soon after WWII, Aspen and the Roaring Fork Valley saw the infamous boom in Alpine skiing and winter recreation at large. The growing winter sports economy brought with it better skis and grooming technology. By the late 1950's Nordic skiing in the Ashcroft area was widely popular. In the 1960's,

dedicated Nordic tracks were mapped and maintained each winter with Nordic races regularly taking place, including the popular annual Aspen Intercollegiate Christmas Ski Meet each December. By 1970, the valley's first known Nordic Touring Center had opened in Snowmass and Nordic skiing clinics hosted from the base of Highlands heading up Maroon Creek Valley were widely popular.

In 1971, the inaugural Silverboom Nordic ski race took place on the Snowmass trails



Photo Credit: Aspen Historical Society

A Nordic race in Snowmass circa 1975

with hundreds of participants. The race is still happening today and has taken place annually since its inception. By the late 1970's, independent Nordic trails were operated in Snowmass, on the Aspen Golf Course, by the Aspen High School, at Highlands base area, and at the Aspen Club. With booming Nordic popularity, more events began to take place and better grooming technology was widely used including snowcats with classic track setters. By 1980 many athletes trained specifically for Nordic skiing in Aspen, including athletes who went on to compete for the United States on the World Cup and in the Olympics.



Elizabeth Paepcke and friends Nordic skiing in Ashcroft in 1956



The Aspen Intercollegiate Christmas Ski Meet in 1967



A Nordic ski clinic at the Highlands base area in 1970



Miggs and Dick Durrance Nordic skiing on the golf course in 1975

Photo Credits: Aspen Historical Society

The Inception of Aspen Snowmass Nordic Council

In 1984, Craig Ward, a former US Ski Team member, returned from racing in Europe to his childhood home of Aspen. He realized how similar Aspen was to Davos - a large valley heading out from town and another town, Snowmass Village, only 15 kilometers away. He thought "Why not connect the towns, as in Europe, with interesting Nordic trails weaving across fields, over rivers, and through valleys of aspen and pine trees?" With this vision, the Aspen Snowmass Nordic Council was formed as an IRS 501(c)(3) not-for-profit entity. A Board of Nordic enthusiasts was assembled, and representatives from Aspen, Pitkin County, Snowmass Village, and the Aspen Skiing Company, came together to guide and implement the original mission of maintaining, grooming, and growing a seamless Nordic trail network throughout the greater Aspen area.

The existing Nordic skiing areas in the upper Roaring Fork Valley consisted of separate and independently maintained pockets of ski trails in Snowmass, on the Aspen Golf Course, near the Aspen High School, and at the Aspen Club near today's North Star Nature Preserve. The Board approached private landowners and negotiated easements connecting these independent trails, and most notably connecting Aspen to Snowmass.



Photo Credit: Aspen Historical Society

A ski clinic practicing the new-fangled Marathon Skate technique in 1985

Through generous support and community partnerships, the system quickly gained traction, and a more unified trail network came together the first season of 1984-85. Along with connecting the community, the inception of iconic events such as the Owl Creek Chase - a race from Snowmass to Aspen - and the Nordic Bonfire Dinner, which originally took place in both Aspen and Snowmass, happened in the first year.

The first season also saw the first municipal contribution of funding from Aspen City Council to lease a Pisten Bully snowcat for grooming the trail system. At the time, all other funding for the Aspen Snowmass

Nordic Council came from community support and private donations. This model of funding continued for the first few years until 1987 when an Inter-governmental Agreement (IGA) formed between the City of Aspen, Town of Snowmass, and Pitkin County to equally split the costs of operations. This shift moved the operations under the City of Aspen Parks Department, and the Nordic Council moved to an advisory role.



Photo Credit: Aspen Historical Society

Mayor Bill Stirling at the grand opening of the Aspen Nordic Center in Dec 1985

1986 Trail Map of the Aspen Snowmass Nordic Trail System, operated by the Aspen Snowmass Nordic Council



Map Credit: Nordic Program Archives

Pitkin County and the City of Aspen

Beginning in 1987, funding for the Nordic trails came from a new IGA and each year, the program approached each local government to secure necessary funding. Many special projects for the Nordic trail system received funding from the Nordic Council, in particular, summer trail improvements and new trail creation. Through the IGA's three-part funding, the Nordic program continued to grow and improve trail grooming quality each season.

In 1990, a public vote authorized a Pitkin County Open Space and Trails program mill levy on property tax within Pitkin County. In 1990, a newly created Pitkin County Open Space and Trails Board was charged to advise Pitkin County on the use of the mill levy revenue. In 2006, the mill levy was reauthorized, and the addition of Nordic trail maintenance was placed solely in the Pitkin County Open Space and Trails fund.

The addition of Nordic funding within the County Open Space and Trails budget brought forth the present era of the Nordic Program. The three-party IGA was no longer needed and funding now fell under the umbrella of Pitkin County.

A new IGA was created in 2015 formalizing the long-standing agreement between Pitkin County and the City of Aspen for the operation of the Nordic program. In 2016, the mill levy was on the ballot again, this time for restructuring, renewal, and requesting a twenty-year renewal period over the previously passed ten-year period. The measure passed resulting in the renewal of the Open Space and Trails funding from 2020 to 2040, and funding of the Nordic program remains consistent.

With secure and reliable public funding, not only was a consistent trail product created each winter, but the program was able to plan and budget for new trails, equipment upgrades, consistent staffing, and the creation and growth of community and competitive events. The Nordic Council remains committed to advising, advocating, and supporting the Aspen Snowmass Nordic Trail System and provides general recommendations to the Open Space and Trails Board regarding opportunities for expansion, changes to the trail system, and general operations functionality. As a nonprofit, the Nordic Council still accepts donations that are used to augment the Pitkin County funding for the Nordic Trail System.



Photo Credit: Nordic Program Staff

Nordic Program staff

The Present Day

Over time, with reliable resources, enthusiasm, and dedicated visionaries, the Nordic Trail System has become more “European” than ever with connected Nordic trails between the towns of Aspen, Snowmass Village, Woody Creek, and Basalt. Today’s Nordic trail system now spans 106 km of machine groomed trails, hosts an average of 12 community and competitive events each winter, sees thousands of skier days per season, and remains the largest, free Nordic trail system in the North America. The program has 3 modern Pisten Bully Snowcats, several tracked 4x4 UTV’s and snowmobiles with specialized tow-behind grooming equipment, and is supported by 2 year-round staff, and 7 full time personnel each winter. Community support for the Nordic trail system is strong, and the popularity of the sport is growing both regionally and nationally. Nordic skiing is a central winter recreation pillar for the Roaring Fork Valley.



Photo Credit: Nordic Program Staff

The new rubber tracks making quality trails on a low snowpack

Timeline of Nordic in the Aspen Valley



1880's – Documented cross-country skiing by miners to get around in winter

1942 – 10th Mtn Division arrived

1950's – Nordic trails first developed in Ashcroft

1960's – Nordic racing regularly takes place in the Aspen Area

Late 1960's – First Nordic tracks set near Aspen High School

1970 – The valley's 1st Nordic Center opens in Snowmass

1970 – Nordic clinics begin based out of Highlands base lodge headed up Maroon Valley

1971 – Ashcroft Touring Center Opens

1971 – The 1st Silverboom race in Snowmass



1976 – Bill Koch wins silver at the Innsbruck, Austria Olympic Games, the first American Olympic medal in Nordic skiing history

1982 – Skate skiing appeared in World Championships in Oslo, Norway

1984 – Aspen Snowmass Nordic Council Formed

1984 – Owl Creek Trail established

1984-85 – First season of a unified trail network

1984-85 – Nordic Council leased snowcat to improve grooming with funding from COA

1985 – First Owl Creek Chase Race



1985 – First Nordic Bonfire Dinner (one in Snowmass and Aspen)

1985 – Original Aspen Cross Country Center opens on Aspen Golf Course

1985-86 – Skate skiing officially becomes separate, unique event on World Cup circuit

1986 – Mount Sopris Nordic Council formed for Spring Gulch Nordic Trails

1987 – IGA Formed between Snowmass, Aspen, and Pitkin to equally fund grooming of Nordic Trails with operations take over by City of Aspen Parks Department

1987-88 – First season of Parks Dept. operations and government funding

1990 – Pitkin County Open Space and Trails Board formed

1990 – First classic tracks regularly set up Maroon Creek Road



1997 – Today's 5 km race alignment created on Aspen High School Trails

1999 – 5 Trees Underpasses built on 5 km race loop as part of 5 Trees PUD build out

Late 1990's – Terminator trail built

2000 – Current AVSC Clubhouse and Moore Fields built

2003 – Rio Grande Trail grooming from Aspen Post Office to Emma School House begins

2002 – Snowmass Nordic Barn built, Snowmass Golf Course re-designed

2002 – Aspen Golf Clubhouse building and wintertime Aspen Cross Country Center open

2005 – Aspen hosts first Super Tour Races, including the Owl Creek Chase as a national race



2006 – Pitkin County Open Space and Trails brings Nordic Program under its funding umbrella

2008 – Roaring Fork Club trails expand in Basalt

2009 – Aspen hosts night sprints in Wagner Park as part of Super Tour Weekend

2012 – The 1st annual Ski for the Pass classic race up Independence Pass to Lincoln Creek Rd

2016 – Ballot measure passes renewing Pitkin County Open Space & Trails funding through 2040

2018 – Jesse Diggins and Kikkan Randall win silver at the PyeongChang, South Korea Olympic Games, the first female American Olympic Medal

2018 – Snowmaking trial on High School Trails

2020 – Covid lockdown results in boom in Nordic skiing; trail users doubled in March

2023 – Grange Ranch expansion to mid-valley trails

2025 – Feasibility study for Nordic Snowmaking in Aspen completed



2026 – US Biathlon sponsors official Biathlon trial program for AVSC and community

2026 – Record low snowpack renews focus on developing snowmaking for Nordic trails

THE ASPEN SNOWMASS NORDIC TRAIL SYSTEM TODAY

Overview

The Aspen Snowmass Nordic trail system distinguishes itself as the largest free, groomed cross-country ski system in North America. The system provides over 106 kilometers of groomed skiing, with the majority of the system maintained for both classic and skate skiing. The system has a diverse user population and hosts a number of popular community and competitive events. Trail grooming is done with either snowcats, tracked 4x4 UTV's or snowmobiles with specialized grooming equipment. The system is largely based on central nodes of activity with connected ski trails between nodes, and relies on many partner groups and agreements. The program is broken into three, interdependent branches of staff focus: Operations, Program Management, and Future Projects. This section dives deeper into the current state and coordination of the Aspen Snowmass Nordic Trail System.

The Users and Role of the Nordic Trail System in the Community

As an integral part of the community fabric, Nordic trails are a compliment to the summer trail system. The trails provide opportunities for winter recreation, tourism, competition, health and fitness, adventure, and alternative transportation. The Nordic trail system creates connections between the City of Aspen, the Town of Snowmass Village, Woody Creek, and the Town of Basalt acting as a physical community link in the Roaring Fork Valley.

Community: The Aspen Snowmass Nordic Trail System (Nordic Trail System) and related events provide opportunities for exercising and social interaction. The systems' main nodes become focal points for community gathering, especially when trails for different but compatible uses are grouped together. Strategically located nodes such as the Aspen High School Loop 30 bring together a diverse set of users from the School District, Aspen Valley Ski and Snowboard Club, 5 Trees neighborhood, and the Aspen Recreation Center. This shared resource builds community by connecting users through shared winter recreation.



Photo Credit: Nordic Program Staff

Skate skiing on the High School Trails

Economics: The valley's strong economy is largely based on the resort town nature of the upper valley communities, especially Aspen and Snowmass Village. Nordic skiing seamlessly fits in with the recreational nature of the valley, and the Nordic Trail System is often called the "5th Mountain". The Aspen Cross Country Center is a full-service retail shop providing rental equipment as well as lessons to cross-country skiers. Free rental equipment is provided by the Town of Snowmass at the Snowmass

Recreation Center. Regional tourism is spurred with races and events such as the Ute Series town races and Owl Creek Chase, a point-to-point cross country ski race from Snowmass Village to Aspen, along with regional and national FIS racing. The pandemic boom in the outdoor industry had wide ranging impacts, including a noticeable rise in Nordic trail use in the Aspen Snowmass System. All these factors strongly contribute to the valley's economy.

Users: The Nordic Trail System is a winter trail system used by a wide variety of people and groups. Though the trail system was originally intended to provide platforms for cross-country skiing exclusively, the expanded Nordic Council mission now supports many multi-use trails. Designated dog-friendly trails are a popular and vibrant part of the Nordic Trail System allowing people to ski and walk with their dogs. Walkers, runners, and winter bicyclists are permitted on designated multi-use trails throughout the system as well. The majority of the system remains exclusively for Nordic skiing.



Dog friendly and multi-use trails are very popular

Since the inception of the trail system, the quality of the ski trails has continuously improved resulting in an increasingly diverse user group. The Nordic trails are utilized by individuals, families, local schools, the senior center, the recreation department, the Aspen Valley Ski and Snowboard Club, and visitors to the valley. These groups enjoy different aspects of the ski trails from day tours and family excursions, to athlete training, to moonlight skis, and everything in between.

The primary uses of the groomed Nordic trails are as follows:

- Classic and skate skiers
- Walkers with and without dogs (on dog friendly and multi-use trails)
- Winter bikers (on the Rio Grande Trail)

The table below shows the approximate average weekly trail counts in the core season (January, February, and March) based on multiple seasons of data collection.

Aspen Golf Course Trails	Bernese Blvd.	Aspen High School Trails	Marolt Multi-use Trail	Owl Creek Trail	Snowmass GC & Lab Ln	Northstar Nature Trail
978	627	237	573	299	751	212



Local legend Jim Ward strides along



Laser Biathlon outside AVSC



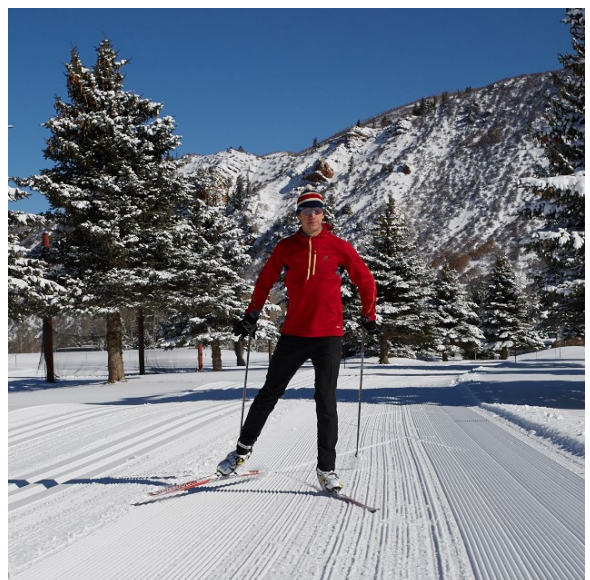
Elementary after school programming



Racing in the Ute Town Series



A masters clinic offered by the cross-country center



Skiing the Aspen Golf Course

Photo Credits: Nordic Program Staff

Trail System Structure

Nodes of the Nordic Trail System

The Nordic Trail System currently has multiple nodes: The Aspen Cross Country Center on the Aspen Golf Course trails, the Snowmass Recreation Center near the Snowmass Golf Course trails, the Aspen Valley Ski Club race trails near the Aspen School District campus, and Basalt High School centering the mid-valley trails. While countless access points exist throughout the trail system, these nodes comprise the primary access points and where the highest user numbers are found. The Aspen Golf Course and Snowmass Recreation center offer a variety of facilities including ski rental, food and beverage, restrooms, and showers. The AVSC Clubhouse on the high school trails is the central hub for most youth ski programs and races. Basalt High School is the central point for mid-valley youth and recreationalist alike. The trails extending from these nodes are wide, snowcat groomed trails, providing classic and skate skiing with a range of easy to intermediate terrain.

Connectors and Point to Point Trails

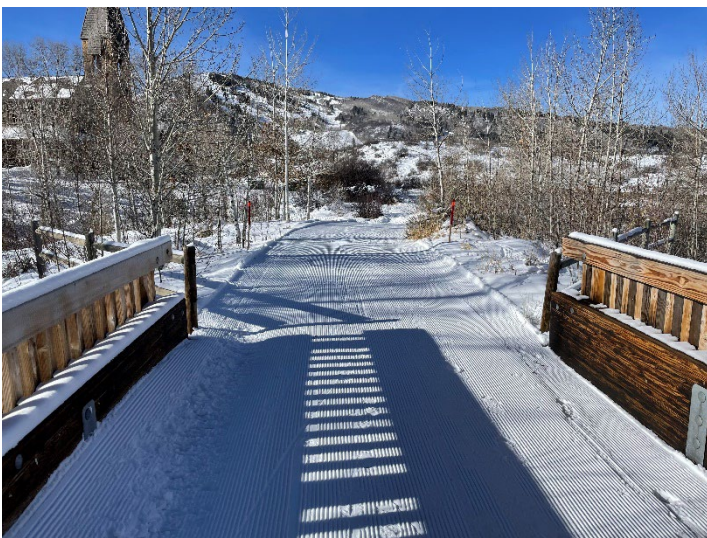
In line with the original vision of the Aspen Snowmass Nordic Council, there continue to be connecting trails between central nodes of the trail system. These trails are more than just connectors, in some cases they are iconic trails themselves, and range from one to twenty-five kilometers long. Other connectors are simple yet meaningful trails using underpasses, bike paths, pedestrian bridges, neighborhood easements, and more. These trails and connectors are vital to the seamless and interconnected trail system envisioned at the inception of the ANSC.



The snow-filled and groomed HWY 82 underpass connector

Photo Credit: Nordic Program Staff

The most notable connector trails are the Owl Creek Trail connecting the Snowmass to Aspen, the Moore Open Space trails connecting the Aspen Golf Course and Aspen High School trails, and the Rio Grande Trail connecting Aspen, Woody Creek, and Basalt.



The snow-covered Castle Creek pedestrian bridge and bike path

Photo Credit: Nordic Program Staff

Types of Nordic Trails

The Aspen Snowmass Nordic Trail System has a variety of Nordic skiing trails ranging from high-use, wide trails to rustic and remote non-groomed paths. The table below describes the types of trails.

	Full Width Trails	Medium Width Trails	Narrow Width Trails	Non-Groomed Trails
Width	20-24 feet	12-14 feet	4-8 feet	N/A
Track Type	Double classic tracks with 12-foot-wide skate lane	Single classic track with 9-foot-wide skate lane	Either skate only or single classic track only	Parallel track set by skiers
Typical Grooming Equipment	Snowcat, double pass	Snowcat or Tractor, single pass	Tracked 4x4's or snowmobiles with drag behind grooming equip.	No equipment used
Trail Examples	Aspen Golf Course, Moore Loop, Aspen High School Trails, The Owl Creek Trail	Rio Grande Trail, Terminator Trail, Bernese Blvd., Lab Lane	East of Aspen Trail, Cozy Pt North OS, 7 th St Ped Bridge	Benedict Trail, Maroon Crk. Gorge, Government Trail

The following photos are examples of each trail type:



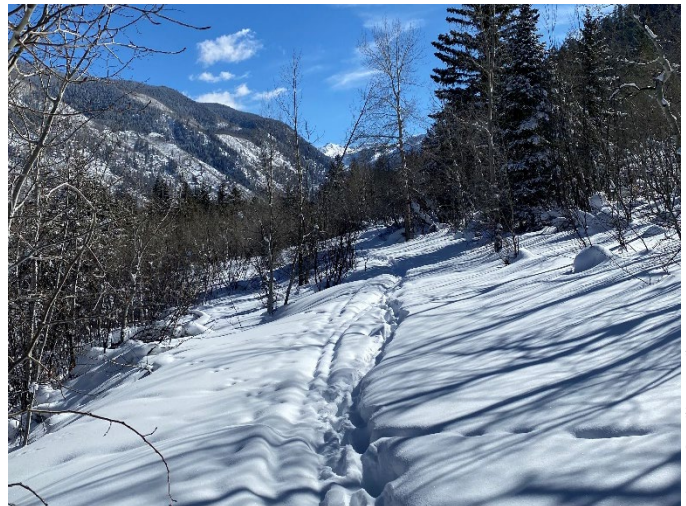
Full Width Trail: 2 Snowcat passes, pictured on Owl Creek Tr.



Med Width Trail: 1 Cat/Tractor Pass, pictured on Rio Grande Tr.



Narrow Width Trail: Snowmobile or 4x4, pictured at Cozy Pt. OS



Non-groomed Trail: Ski packed, pictured on Benedict Trail

Photo Credits: Nordic Program

Trail System Infrastructure

Despite spanning 106 kilometers of Nordic trail, today's system has zero permanent infrastructure with all elements of the trail system set-up each fall season and taken down each spring. This infrastructure includes reflective trail alignment stakes, signage, temporary culverts to cross ditches, underpass matting, large kiosk maps at major nodes, dog waste bins, and much more.

Along with fall season mowing, many sections of fences are removed and gates opened between parcels allowing the trail to connect for winter use. Multiple sections of shade fencing are placed in high sun or heat areas to minimize melt. When snow depth allows, the trails are “bladed” in using the snowcats to improve the levelness and grade of the trail and overall skiing quality.



A sampling of disc signage used on the trails

Image Credit: Nordic Program Staff

In addition to the Nordic specific infrastructure placed seasonally, the system uses benches, picnic tables, parking lots, bathroom facilities, and other year-round trail amenities. While this setup and removal can be cumbersome, the Nordic program prides itself on being low-impact, versatile, and a respectful steward of the land operated on.

The Nordic Program uses and maintains two year-round, permanent structures to house snowcats, light grooming equipment, and other infrastructure such as signage and stakes. One garage is located in Snowmass adjacent the Snowmass Golf Course trails and one in Lazy Glen along the Rio Grande Trail. In the winter season, equipment is also stored at the City of Aspen Parks department campus adjacent the Aspen Golf Course.

The Aspen Snowmass Nordic Trail System does not provide ski patrol, but provides hazard and safety risk signage in the field and via grooming updates online. While skiing on any trails in or near avalanche exposure (most of which are not maintained by the Nordic Program such as the Maroon Bells), users are advised to have the proper knowledge, equipment, and plan, and to ski at their own risk.

Trail System Access

A priority of the Nordic Trail system is providing cross-country skiing close to user concentrations including residential community centers, tourist lodging, event centers, and at critical trail junctions. All major nodes of the system have maintained parking areas and are serviced by public transportation. Use of public transportation allows for one-way ski trips, increases access, and limits impacts on parking.

Existing Conditions and Trail Descriptions

The Nordic Trail System's different trail typologies offer distinct ski experiences. For example, the North Star Nature Preserve east of Aspen along the Roaring Fork River provides a mellow, contemplative ski, while the Aspen High School Trails are challenging and heavily used for training and racing purposes. The Owl Creek Trail provides a longer, rolling and scenic ski between Aspen and Snowmass Village connecting the varied terrain and trails of each town, while the Aspen Golf Course has many loop variations on flatter terrain.

Designated dog-friendly trails exist throughout the Nordic Trail System allowing people to walk or ski with their dogs. These trails include Labrador Lane and Village Way Trail in Snowmass, Bernese Boulevard on the Aspen Golf Course, the Marolt Open Space Loop, and The Rio Grande Trail. Maroon Creek Road and Independence Pass Roads are also dog-friendly walking and skiing routes (though these are not maintained by the Nordic Program).

See the Existing Trail Descriptions and Maps in Appendix A for further trail information and descriptions.



Image Credit: Nordic Program Staff

Example of a kiosk map placed at major access points throughout the trail system

Organizational Structure

The Aspen Snowmass Nordic program is funded through the Pitkin County Open Space and Trails mill levy and operated by the City of Aspen Parks Department via an intergovernmental agreement. The funds provided by Pitkin County are used primarily for base operations, trail maintenance, staffing, and equipment. Funding for additional proposed improvements to the Nordic Trail System are evaluated on a case-by-case basis.

The Aspen Snowmass Nordic Council is a volunteer advisory board to the program, operates as an IRS 501(c)(3) tax exempt organization and receives private donations through small community contributions. Funds from the Nordic Council are used for special projects to aid the greater Nordic program and the Nordic Council also assists in coordinating acquisitions of trail easements.

Positions related to operating the program include:

- *Pitkin County Open Space and Trails Director* oversees all programs related to Trails and Open Space, works closely with the Open Space and Trails Board as well as overseeing Nordic Trail System financial decisions, distribution of funds, and approving of budgets.
- *City of Aspen Parks and Open Space Director* oversees City of Aspen Parks staffing and operations related to Nordic Trails.
- *City of Aspen Senior Open Space and Natural Resource Manager* primary supervisor of year round Nordic staff, advises on operations, land use, administration, and natural area maintenance.
- *City of Aspen Nordic Coordinator* manages day-to-day operations of the Nordic Trail System and is involved in all decisions related to the management of the program.
- *City of Aspen Nordic Trails Staff* perform daily operation and maintenance of trail system in winter season.



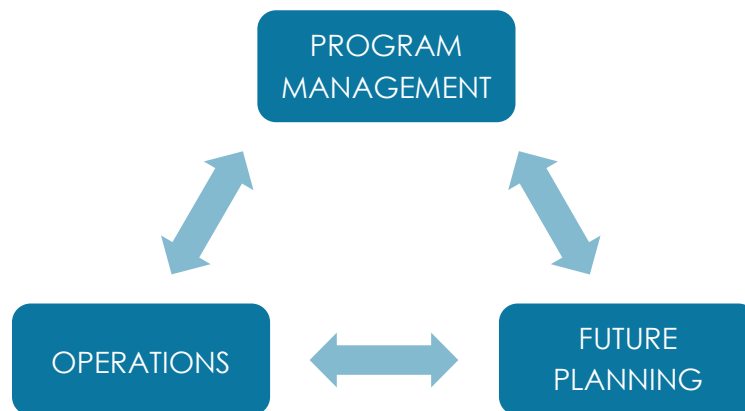
Photo Credit: Nordic Program Staff

Autumn season mowing of the Nordic trail alignments

The City of Aspen and Pitkin County jointly and individually own a variety of specialized equipment for the operation and maintenance of the Nordic Ski Trail system. This equipment ranges from road vehicles and trailers, to snowcats, tracked 4x4's, snowmobiles, tractors, and other mechanized grooming equipment. Trails ownership, easements, and use agreements are held by the agencies that purchased or otherwise obtained them.

Within the Nordic program, the coordination of the Aspen Snowmass Nordic Trail System is divided into three main interconnected branches – Program Management, Operations, and Future Planning:

- *Program Management* is the year-round work to keep the Nordic trails maintained and functional (land use agreements, staffing, etc.).
- *Operations* are the winter season, physical and tangible work (mowing, grooming, shoveling, etc.).
- *Future Planning* is work done to ensure the Nordic program continues to provide a trail system into the future (event calendar, developing climate resiliency strategies, budget, etc.).



The three interconnected branches provide a framework to meet the goals of providing a resilient, high-quality, enduring Nordic skiing experience in the Roaring Fork Valley. It is through this lens that program maintenance and enhancement, and in particular, the goals of this document are viewed and accomplished.

Partner Groups

Due to the diverse locations of the trails and their close relationship with community infrastructure, many partnerships are necessary. Pitkin County Open Space and Trails and the Nordic Program coordinates with the following partners:

- City of Aspen, Town of Snowmass Village, and the Town of Basalt
- Aspen Skiing Company - access to the Government trail, crossing of both the Snowmass and Buttermilk ski areas, and parking
- Snowmass Club – Snowmass Golf Course
- Maroon Creek Club - Maroon Creek Club trails
- Roaring Fork Club – Roaring Fork Club trails in mid valley
- The Grange Family – Grange Ranch Trails by Basalt High School
- Ute Mountaineer and the Aspen XC Center
- Aspen Valley Ski and Snowboard Club, host of most races and events
- Snowmass Recreation Center
- Colorado Department of Transportation (CDOT) - access, snowplows for parking, old Highway 82 Bridge permit
- Private landowners, Homeowners Associations and Metropolitan Districts
- United States Forest Service
- Roaring Fork Transit Agency (RFTA) – provide transit connections and historically groomed sections of the Rio Grande Trail near Carbondale

The Nordic Program Beyond the Trails



The 2025 Art Cart Rally race berms on Whoa Nelly Sledding Hill

Though the primary function of the Nordic program is the maintenance and upkeep of the Aspen Snowmass Nordic Trail System, the program is a part of winter recreation in other ways as well. Being the primary operator of snow grooming equipment in the valley outside of the Aspen Skiing Company, the Nordic program assists in a variety of other winter events and occasionally, unique, one-off special events.

Most notably, the Nordic Program works closely with AVSC and the Ute Mountaineer in hosting Nordic events of all kind, including the Bonfire Dinner, the Ute Town Series, Rocky Mountain Nordic and Rocky Mountain Intercollegiate races, the Ski for the Pass classic hill climb, and Colorado High School races. Outside of racing, the program staff build and groom the Art Cart Rally course on Whoa Nelly Sledding hill, a project involving large tubing berms and snow harvesting. The Nordic Program is also a steward of the Open Spaces it operates on being not just a presence and representative, but also by bringing users in a quiet and low impact way to places that are often difficult to access in winter.



The Moore Laser Biathlon range prepared by Nordic staff

Photo Credits: Nordic Program Staff

For an example of a full winters schedule of events supported by the Nordic Program, see Appendix E.

Other Existing Trail Systems in Pitkin County



Photo Credit: Mount Sopris Nordic Council

Ski trails through the sage at Spring Gulch

- **Spring Gulch**, outside of Carbondale, is managed by the Mt. Sopris Nordic Council and provides skiers with 28 kilometers of groomed trails. This trail system also receives funding from Pitkin County and is widely viewed as a sister organization to the Aspen Snowmass Nordic Trail System, though it is separately managed and operated.
- **Ashcroft Ski Touring**, privately operated on National Forest land, located in Castle Creek Valley south of Aspen. The ski area offers 35 kilometers of skiing and the Pine Creek Cookhouse restaurant.

- **Maroon Creek Road (USFS)** is snowcat groomed by a private snowmobile outfit located at the winter closure of Maroon Creek Road (T Lazy 7 Ranch). The road provides a multi-use trail for skate and classic skiing, as well as walkers and fat bikes. The Ranch does not run snowmobile tours on Sundays in an effort to provide a day for other users.



Classic skiing on the Snowmass Golf Course



Photo Credits: Nordic Program Staff

The mass start of the Owl Creek Chase in Snowmass

GOALS, MANAGEMENT ACTIONS, & SNOWMAKING STUDY

Overview

The goals of this document are summarized by quality and access, protection and preservation, and climate resiliency. Within these goals, actions have been identified via stakeholder input, consideration of operational capacity and constraints, and administrative and board direction. Within each action, tasks needed to accomplish the desired outcome are also specified. The 2018 snowmaking trial and 2025 snowmaking feasibility study have also guided actions toward climate resiliency and are summarized in this section.

Vision and Goals

The Pitkin County Nordic Trails Plan formalizes the vision of the Aspen Snowmass Nordic Council and creates goals for the Aspen Snowmass Nordic Trail System. The following vision and goals have been developed for use over the next 10 years of the Nordic Program, at which time, the Nordic Trails Plan will be reviewed and updated if needed.

Aspen Snowmass Nordic Council Vision statement:

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Aspen Snowmass Nordic Trail System Goals:

GOAL 1: Ensure high quality Nordic trails with easy access.

GOAL 2: Secure long-term or permanent access to existing and future trails through formalized easements or access agreements.

GOAL 3: Develop climate-resilient Nordic trail options and operational systems to mitigate effects of warmer and dryer winter weather fluctuations.

Management Actions

The overall desired outcome is a continued and enhanced Nordic Trail System. Within each goal, multiple actions have been identified and placed under one of the three branches of the organizational structure: Program Management, Operations, and Future Planning. This provides a framework for implementing each action within the current Nordic Program.



Photo Credit: Nordic Program Staff

Grooming on Independence Pass for the annual Ski for the Pass Classic Race

QUALITY AND ACCESS MANAGEMENT ACTIONS

QA.1	Maintain and strengthen partner relationships	Program Management
QA.2	Continued approval of County funding for Nordic Program	Program Management
QA.3	Operating the Nordic system based on user data & contemporary recreation trends	Operations
QA.4	Fall trail preparation: mowing, brushing, and lopping of all trails	Operations
QA.5	Proper base building of snowpack each season	Operations
QA.6	Trail summer surface and micro-grading work	Future Planning

PROTECTION AND PRESERVATION MANAGEMENT ACTIONS

PP.1	Confirm all existing easements	Program Management
PP.2	Secure new easements through land use process as development occurs	Program Management
PP.3	Operate within easement and agreement specifications	Operations
PP.4	Obtain easements on any existing trail segments not formalized	Future Planning

CLIMATE RESILIENCY MANAGEMENT ACTIONS

CR.1	Research and continuing education into best practices, innovations, and current science for Nordic operations	Program Management
CR.2	Adjust grooming schedule for highest snowpack durability given precipitation and temperature forecasting	Operations
CR.3	Obtain & use equipment better suited for low-snow coverage	Operations
CR.4	Implement snowmaking where feasible and practical	Future Planning
CR.5	Implement insulated snow storage where feasible and practical	Future Planning
CR.6	Expansion into climate resilient microclimates such as Difficult Campground, Independence Pass and other areas conducive of holding snowpack in Pitkin County	Future Planning

Quality and Access

QA.1 Maintain & strengthen partner relationships

Desired Outcome:

Strong and stable relationships with all partners of the Nordic trail system.

Tasks:

- Regular communication, in particular, when any operations impact a partner.
- Acknowledgments and seasonal "Thank You's" for private landowners.
- Educate skiers on respectful trail use and private property crossing.

QA.2 Continued approval of County Funding for Nordic Program

Desired Outcome:

Annual Nordic Program budget approval by Pitkin County Open Space and Trails Board.

Tasks:

- Responsible program budget use
- Timely and accurate delivery of budgeting information
- Maintain strong public support of Nordic Trail System
- Continued stewardship of public funding

QA.3 Operating the Nordic System based on user data and contemporary recreation trends

Desired Outcome:

Matching our operations with the publics' use and desires of the Nordic Trail System.

Tasks:

- Prepared for early season grooming as soon as minimum workable snow falls based on early season interest.
- Prioritizing highest use trails for maintenance and grooming using trail counter data. (e.g. new or low)
- Provide both skate and classic grooming when snowpack allows.

QA.4 Fall trail preparation: mowing, brushing, and lopping of all trails

Desired Outcome:

Trails able to capture early season snow and prevention of accelerated melt out due to vegetation impacts in trail corridor.

Tasks:

- Mowing trails to create as smooth and thin a vegetation layer as possible for low snowpack grooming.
- Lopping trail edge vegetation and continually cutting throughout winter season.



The Aspen Cross Country Center, a main access pt to the trails

QA.5 Proper base building of snowpack each season

Desired Outcome:

A smooth, durable, and clean trail base built from the first workable amount of snow, creating a lasting layer to benefit users all season long.

Tasks:

- Use appropriate low snow equipment when packing thin snowpacks.
- Train operators on grooming techniques to reduce operating impact on trail base.
- Staying mindful of snowpack all season.

QA.6 Trail summer surface and micro-grading work

Desired Outcome:

Reduce minimum amount of snow required for opening a trail as well as reduce impacts of warm and dry spells.

Tasks:

- Remove rocks, high points, or other trail obstructions requiring deeper snowpacks
- Slant trails a few degrees north facing to reduce solar gain and melt out, and if possible, re-route hot sections of trail to colder alignments.
- Add wood chips to trails where possible to aid in faster ground freezing and cleaner snowpack if any tear-up occurs

Protection and Preservation

PP.1 Confirm all existing easements and use agreements

Desired Outcome:

Have a readily available inventory of all Nordic easements and use agreements in hand for review and record keeping.

Tasks:

- Identify documents already in hand and documents not readily available.
- Research and locate documents not in our records.
- Create record system for all documents.

PP.2 Secure new easements through land use process as development occurs

Desired Outcome:

Create Nordic easements for any new development occurring on or adjacent to any Nordic trail for ensuring trail access in perpetuity.

Tasks:

- Ensure City and County Community Development Departments are aware of the Nordic Trails Plan and its goals.
- Ensure landowners are aware of easement creation benefits and the community value of Nordic Trails.
- Have the Nordic Program staff be a part of land use discussions when appropriate.

PP.3 Operate within easement and agreement specifications

Desired Outcome:

Ensure the Nordic Program operations are in alignment with easement or agreement terms.

Tasks:

- Communication between Nordic staff and easement or agreement holders.
- Educating staff, users, and outside parties on easement language and allowances.
- Ensuring staff and users are within easement language for the entirety of the season
- Resolve conflicts quickly.

PP.4 Obtain easements on any existing trail segments not formalized

Desired Outcome:

All trails within the system are operating under formal and perpetual easements.

Tasks:

- Identify all trail segments currently operating under informal agreement.
- Work towards formal easements through County land use processes.

Climate Resiliency

CR.1 Research and continuing education into best practices, innovations, and current science for Nordic Operations

Desired Outcome:

Nordic Program staff are informed and aware of all possible options to address climate fluctuations and maintain quality ski trails.

Tasks:

- Attend snow & ski industry conferences.
- Study and visit other Nordic areas addressing similar fluctuations in winter.
- Experiment with or implement innovative technologies/techniques for winter trails.



Snowmaking on Loop 30 during the 2018 snowmaking trial.

CR.2 Adjust grooming schedule for highest snowpack durability given precipitation and temperature forecasting

Desired Outcome:

Grooming occurs when snowpack has time to “set-up” for higher durability during warm and/or dry spells and adjusted during precipitation events to capture all new snow.

Tasks:

- Schedule grooming such that snow has time to set (if above freezing during day, this must be in late evening to allow snow time to set during coldest part of night).
- Have flexible grooming options for precipitation events.
- Monitor forecasting and industry science.

CR.3 Obtain and use equipment better suited for low-snow coverage

Desired Outcome:

Nordic Program has equipment capable of grooming on thin snowpack with minimal impact.

Tasks:

- Identify equipment or equipment modifications suited for low snowpacks.
- Budget and schedule for purchasing.
- Train staff on using equipment.

CR.4 Implement snowmaking where feasible and practical

Desired Outcome:

Reliably open a Nordic trail(s) at the beginning of winter without relying on natural snow, and benefit from the artificial snows' durability against warm or dry spells in-season.

Tasks:

- Use the 2025 feasibility study to identify trail area & budget for snowmaking.
- Work with partners and stakeholders on development of plans.
- Install and implement snowmaking.

CR.5 Implement insulated snow storage where feasible and practical

Desired Outcome:

Reliably open a Nordic trail or trail section at the beginning of winter without relying on natural snow or snowmaking conditions and without the labor of early season snowmaking.

Tasks:

- Identify ideal location for snow storage.
- Install snowmaking at storage spot using information from feasibility study.
- Fill storage spot each winter and insulate.
- Spread stored snow onto trail each fall.

CR.6 Expansion into climate resilient microclimates such as Difficult Campground, Independence Pass and other areas conducive to holding snowpack in Pitkin County

Desired Outcome:

Establish Nordic trails in locations where warm and/or dry spells have less effect, or where in-season trail melt or damage is lessened by natural trail resilience to climate fluctuations.

Tasks:

- Identify areas in the valley with micro-climates conducive to maintaining winter snowpack including areas listed already.
- Work with partner organizations to obtain appropriate use permits and agreements.
- Configure staff and equipment scheduling to incorporate new trails.

For the new trail screening criteria and a complete list of new trail opportunities identified by this plan, see Appendix B, C, and D.



Durable man-made snow near AVSC, April 26, 2019



Natural snow melting on the Aspen Golf Course, February 27, 2024

Photo Credits: Nordic Program Staff

Results of the 2018 Snowmaking Trial and 2025 Feasibility Study



The Nordic snowmaking trial in 2018 on top of Clubhouse Hill

successful in that it proved snowmaking could be done on the Nordic trails, though difficult to coordinate with Highlands snowmaking operating simultaneously, and the man-made snow provided quality Nordic skiing.

The success of the trial year, and the intensifying climate fluctuations during the Nordic season, led to a more comprehensive snowmaking feasibility study. Completed in summer 2025, SE Group and Sno.Matic Engineering finished a year long study of snowmaking for Nordic trails in Aspen.

The study examined both the Aspen High School trails Loop 30 (known as the race loop) and a portion of the Aspen Golf Course Loop 00 and 10 (known as the recreation loop). While there is a need and use case for both areas, difficulties with water access and availability at the race loop make near-term implementation infeasible.



Photo Credits: Nordic Program Staff

A proposal of snowmaking trails on the Aspen Golf Course

Ultimately, the pursuit of snowmaking on the Aspen Golf Course has a strong use case (the highest user counts of all trails), could be installed in coordination with the Golf Course and driving range remodel (potential for cost sharing), and has available water. The Aspen High School trails, though having strong race and training value, is a better candidate for other snow solutions such as snow storage or farming.

Beyond the physical logistics of snowmaking examined during the feasibility study, the weather between 2025 and 2060 was modeled and analyzed using the Climate by Forest Tool created by the

USDA Forest Service using RCP scenarios based on Green House Gas concentrations. In the model, it is very clear climate fluctuations and historic trends are likely to make snowmaking a valuable part of ensuring Nordic Skiing in the Aspen area as the natural snow season will become increasingly shorter over time with less precipitation.

BETWEEN 2025 AND 2060, THE ASPEN ECO REGION IS PROJECTED TO SEE A DECREASE IN SNOW WATER EQUIVILANT OF 65-80% AND SNOW RESIDENCY TIME OF 40-50%. – 2025 SE GROUP REPORT

For complete feasibility study, see Appendix F.



ASPEN SNOWMASS NORDIC TRAIL SYSTEM MANAGEMENT PLAN APPENDICES

Summer 2026





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APPENDIX A: EXISTING TRAIL SYSTEM

EXISTING TRAIL DESCRIPTIONS

Aspen Golf Course & Cross Country Center

The Aspen Cross-Country Center is located at the Aspen Golf Course, 1 mile west of downtown Aspen off Highway 82. The Center offers ski lessons, tours, retail shop, rentals, a lounge, lockers, snacks, and videos. **Difficulty:** Beginner. **Length:** 5 km. **Access:** RFTA bus service available. Moore, Marolt and High School trails are all easily accessible from the golf course trails.

Bernese Boulevard

Located on the Aspen Golf Course, the Bernese Boulevard provides dog owners and their pets a scenic route around the perimeter of the golf course. Please keep your pet under control at all times. **Difficulty:** Beginner. **Length:** 3.2 km.

High School Trails

The High School tracks offer excellent skiing on varied terrain, and in warmer weather have better snow conditions because of the higher elevation and exposure. A shorter 3 km loop omits the steeper hills, and a longer 5km loop negotiates hillier terrain. **Difficulty:** Intermediate/Advanced. **Length:** 5 km.

James E. Moore Trail

The James E. Moore Trail has a short loop and a connecting trail to the High School, Iselin and Owl Creek trails. Both the flat connecting trail and loop wind through open sage areas that are home to deer; fox and other wildlife. **Difficulty:** Beginner and Intermediate. **Length:** 3.2 km. **Access:** The safest access is via the roundabout pedestrian underpass. Or, from the parking lot at the Aspen Golf Course, cross under Highway 82 on foot and go 200 feet to the left (east). RFTA bus service available.

Marolt Property Trails

These tracks are used primarily as an access route between the west end of Aspen and the Aspen Golf Course and the High School tracks. Dogs are allowed on designated routes only. **Difficulty:** Beginner. **Length:** 2.4 km. **Access:** From Aspen via the Marolt Trail, by foot, take Hopkins west to 7th Street and go left, then turn right at the Marolt Pedestrian Bridge.

Maroon Creek Club Trails

These tracks are accessed from the Tiehack Nordic Bridge, the old Highway 82 Bridge from the Aspen Nordic center, or from the Buttermilk base area. **Difficulty:** Intermediate. **Length:** 3.2 km on and around the golf course. **Access:** Pick up the tracks beyond the Panda Peak lift at the Buttermilk Base area. RFTA bus service available.

Snowmass Golf Course

The Snowmass Golf Course trail system is the western hub of the Aspen/Snowmass Nordic Trail System. The Cross-Country Center, located on the golf course, has a retail shop, snack bar, restaurant, lessons, rentals and tours. **Difficulty:** Beginner through Intermediate. **Length:** 8 km. **Access:** By car from Aspen or Snowmass, take Brush Creek Road and turn left onto Club House Drive. By bus, take the free skier shuttle to Snowmass Village, and get off at Town Park Station

Labrador Lane

Labrador Lane is a dog friendly trail at the Snowmass Cross-Country Center. **Length:** 3.2 km. **Access:** Follow instructions for Snowmass Cross-Country Center listed above.

Village Way

Village Way is a multi-use access route between Snowmass Village and the Snowmass Golf Course tracks. The trail is fairly steep and not generally groomed for cross country skiing, making the route challenging in either direction. Dogs are allowed. **Difficulty:** Intermediate **Access:** From Snowmass Village, this is best reached from the bottom of the Assay Hill Lift. From the golf course, follow the same direction as the Owl Creek Trail but turn right after Owl Creek Road.

Terminator

The Terminator trail, which loops around the Two Creeks development, is an exciting trail for advanced cross-country skiers. This loop can also be used to access the Owl Creek Trail. **Difficulty:** Advanced. **Length:** 5 km for the loop. **Access:** Follow the same direction as the Owl Creek Trail but continue straight uphill after crossing Owl Creek Road.

Owl Creek Trail

This popular and scenic trail connects Aspen and Snowmass Village, hugging the south side of the Brush Creek and Owl Creek valleys. The easiest and most popular stretch of trail runs from the West Buttermilk Road to the Snowmass Cross-Country Center. Another popular option from West Buttermilk Road is to ski to Glendale Divide and back. The Terral Wade (Tiehack) Bridge allows skiers seamless access to the Owl Creek Trail from the Aspen Cross-Country Center. Follow the green disks to stay on course when crossing the Buttermilk Ski Area. Be aware and yield to downhill skiers. **Difficulty:** Intermediate; most of the trail is good for beginners, but the occasional hills add some difficulty. **Length:** 14.5 km from the Aspen Golf Course to the Snowmass Cross-Country Center. **Access:** *Snowmass Village:* Village Way Trail or Snowmass Cross-Country Center. Follow signs. *West Buttermilk Road:* Drive west on Owl Creek Road from Highway 82 to West Buttermilk Road, turn left. The Owl Creek Trail crosses 1.4 miles up the road, by a small parking area on the right. *Tiehack:* Experienced skiers can ski from the base of Tiehack up along the right side of the alpine trail to the Oregon Trail towards and across Main Buttermilk. Follow the green disks. *Aspen Golf Course:* **Access** Tiehack via the James E. Moore Trail and the Terral Wade Bridge.

Rio Grande Trail

A popular walking, skiing and snowshoeing trail, the Rio Grande follows the old Denver and Rio Grande Railroad bed along the Roaring Fork River. The trail gently meanders through the quiet woods and open sage areas. Note: the snow can deteriorate quickly on this trail. The Rio Grande is a dog friendly trail. Dog owners are required to keep their companion on a leash and to pick up after their pet. **Difficulty:** Beginner **Length:** Up to 32 km one way, from Aspen to Basalt: **Access:** The eastern end starts behind the Aspen Post Office. Numerous additional access points exist between Aspen and Basalt. RFTA bus service available.

Maroon Creek Road

The county road to Maroon Lake is not plowed in the winter due to USFS winter closure. T-Lazy 7 operates snowmobile tours to the lake and grooms the road to the lake. There are no classic tracks, but it is a gentle climb with nice scenery. Check Colorado Avalanche Information Center (<http://avalanche.state.co.us>) for information on backcountry conditions. Respect closed signs. Share the trail with other users. **Difficulty:** Beginner/intermediate. **Length:** 10 k to Maroon Lake. **Access:** Drive 3.5 miles up Maroon Creek Road until the road is closed. Park in the lot across from the stables. Dogs are allowed.

North Star Nature Preserve Loop

The Preserve is 175 acres of land east of Aspen that has been preserved to allow its natural ecology to continue with a minimum of human impact. Cross-country skiing and snowshoeing are one of the few uses permitted on the flat, open meadows close to the Roaring Fork River. Please stay on marked trails and respect the wildlife. **Difficulty:** Beginner. **Length:** A little over 2.4 km. **Access:** Go 1.5 miles east of Aspen on Highway 82 and look for the small parking area on the right.

Benedict Trail

This section of trail serves as a connection from the East end of Aspen to the North Star Nature Preserve. It is narrow, winding and mostly in the trees. A small portion of the trail is subject to avalanche danger. **Difficulty:** Intermediate. Not suitable for skating. **Length:** 2.5 km5 from Ute Avenue to North Star Nature Preserve. **Access:** Follow Ute Avenue to the Ute Trail parking lot, then up a public access 100 yards to where the trail crosses. RFTA bus service available.

Independence Pass Road

This road is not plowed in the winter. Check Colorado Avalanche Information Center (<http://avalanche.state.co.us>) for information on backcountry conditions. Share the trail with other users. **Difficulty:** Beginner through Intermediate. **Length:** Up to 25 km one way. **Access:** Drive 5 miles east of Aspen on Hwy 82 until the road is closed. Dogs are allowed.

EXISTING TRAIL MAPS

Aspen Area Trails

TRAIL RULES & ETIQUETTE



HAVE FUN, BE SAFE Remember sunscreen, water and in case of emergency, call 911 from a cell phone.



DOGS are only allowed on the dashed trails depicted on this map. Please keep your dog under control, and remember to pick up after your dog. Also, we ask that you keep dogs leashed around the Nordic Center.



BIKES Fat tire bikes are not permitted on the Nordic ski trail system, with the exception of the Rio Grande Trail and the Marolt Trails, or other marked routes.



SNOWSHOEING & WALKING Walkers are only allowed on the dashed trails depicted on this map. Otherwise we ask that you have skis on your feet! Snowshoeing is allowed on our groomed trails, but please do not walk on the classic ski tracks and stay to the edge of the trail, especially in soft conditions.



MOTORIZED VEHICLES No motorized vehicles are allowed on the trail system.



PRIVATE PROPERTY Many of our trails cross private property, and we are grateful for the support of local land owners. Skiing off trail jeopardizes our access so please stay on the groomed trail, especially on the Owl Creek Trail.

SIGNAGE SYSTEM



You'll notice that each trail has a number. The numbers ending in zeros (10, 20, 30, etc.) are considered main loops. The spur trails and connectors off of the main loops are numbered sequentially (11, 12, 21, etc.) Collectively, this numbering system will help you find your way around each area as well as help you connect from trail to trail.



Every trail is color coded according to the difficulty level of the terrain – green is easiest, blue is intermediate and black is advanced.



When in doubt, look for trail maps posted at major intersections.



TRAIL RULES & ETIQUETTE



HAVE FUN, BE SAFE Remember sunscreen, water and in case of emergency, call 911 from a cell phone.



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MOTORIZED VEHICLES No motorized vehicles are allowed on the trail system.



PRIVATE PROPERTY Many of our trails cross private property, and we are grateful for the support of local land owners. Skiing off trail jeopardizes our access so please stay on the groomed trail, especially on the Owl Creek Trail.

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You'll notice that each trail has a number. The numbers ending in zeros (10, 20, 30, etc.) are considered main loops. The spur trails and connectors off of the main loops are numbered sequentially (11, 12, 21, etc.) Collectively, this numbering system will help you find your way around each area as well as help you connect from trail to trail.



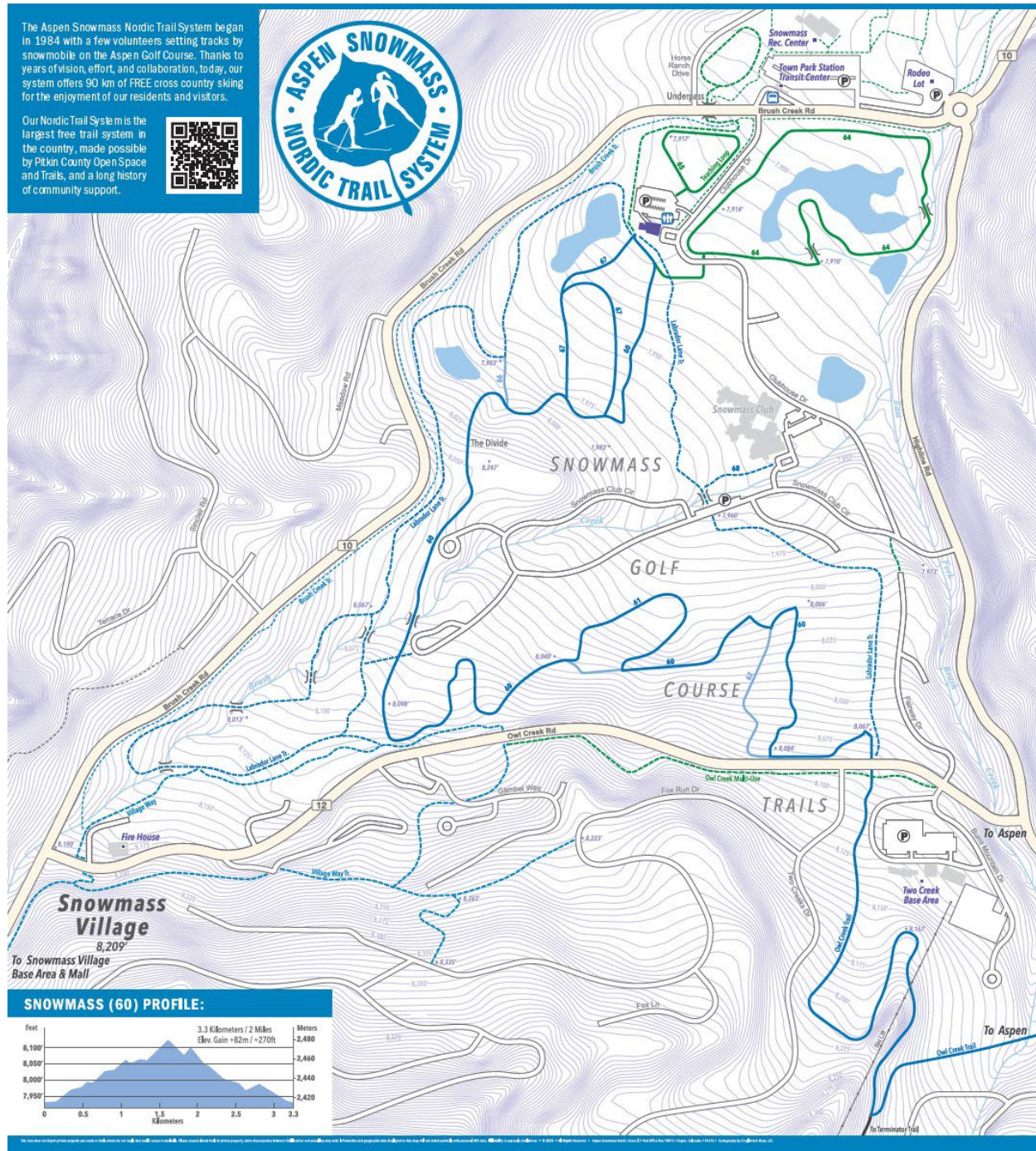
Every trail is color coded according to the difficulty level of the terrain - green is easiest, blue is intermediate and black is advanced.



When in doubt, look for trail maps posted at major intersections.

The Aspen Snowmass Nordic Trail System began in 1984 with a few volunteers setting tracks by snowmobile on the Aspen Golf Course. Thanks to years of vision, effort, and collaboration, today, our system offers 90 km of FREE cross country skiing for the enjoyment of our residents and visitors.

Our Nordic Trail System is the largest free trail system in the country, made possible by Pitkin County Open Space and Trails, and a long history of community support.



SIGNAGE SYSTEM



You'll notice that each trail has a number. The numbers ending in zeros (10, 20, 30, etc.) are considered main loops. The spur trails are connectors off of the main loops and are numbered sequentially (11, 12, 21, etc.). Collectively, this numbering system will help you find your way around each area as well as help you connect from trail to trail.



Every trail is color coded according to the difficulty level of the terrain – green is easiest, blue is intermediate and black is advanced.



When in doubt, look for trail maps posted at major intersections.

TRAIL RULES & ETIQUETTE



HAVE FUN, BE SAFE Remember to bring sunscreen and water. In case of emergency, call 911 from a cell phone.



SNOWSHOEING & WALKING Walkers are only allowed on dashed trails. Snowshoeing is allowed on groomed trails, but please do not walk on the classic ski tracks and stay to the edge of the trail, especially in soft conditions.



NO DOGS allowed on the Owl Creek Trail or the Terminator Trail.



BIKES Fat tire bikes are not permitted with the exception of the Rio Grande Trail and the Marolt Open Space, or other marked routes.



LEGEND

The Aspen Snowmass Nordic Trail System began in 1984 with a few volunteers setting tracks by snowmobile on the Aspen Golf Course. Thanks to years of vision, effort, and collaboration, today, our system offers 90 km of FREE cross country skiing for the enjoyment of our residents and visitors.

Our Nordic Trail System is the largest free trail system in the country, made possible by Pitkin County Open Space and Trails, and a long history of local community support.



Trail Difficulty (Skiing)
Easiest
Intermediate
Difficult

Nordic Ski Trail (Skiing Only, See Difficulty Below) ————— 
 Multi-Use Trail (Walking, Snowshoes & Dogs Allowed) ————— 
 Plowed Trail (Multi-Use) ————— 
 Non-maintained Trail (Backcountry Trail - Use Caution) ————— 

Trail Number or Name.....**1017**

Parking.....

Restrooms

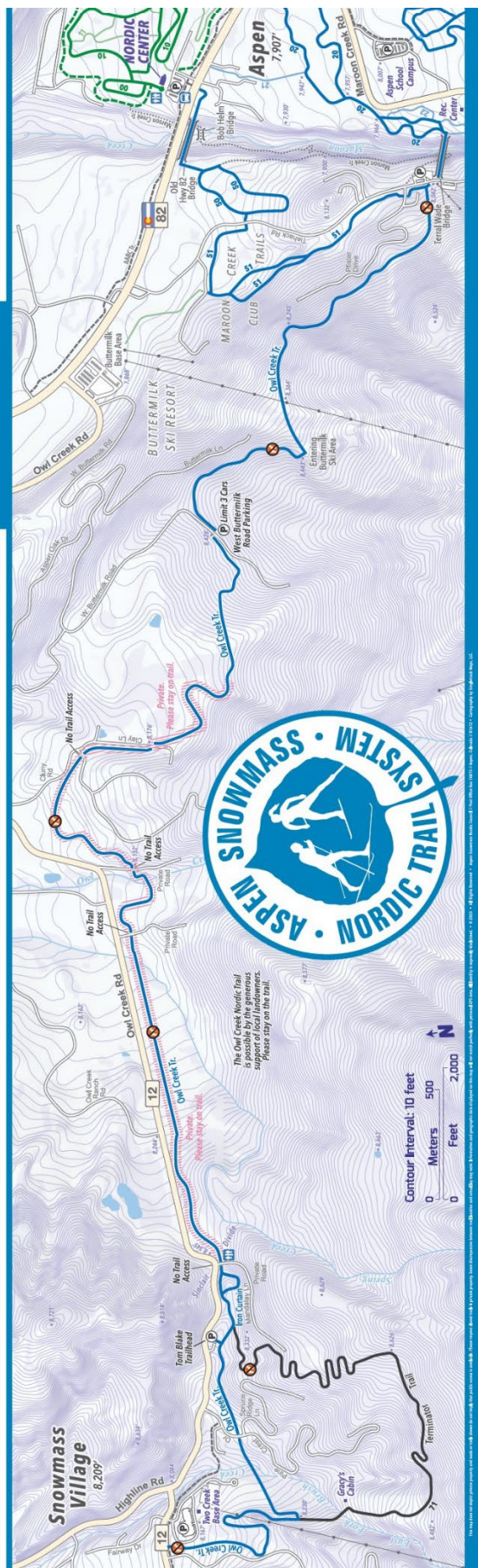
Bus Stop

Trail Difficulty (stars)

Easiest

Intermediate.....

Difficult



Rio Grande Trail

SIGNAGE SYSTEM



You'll notice that each trail has a number. The numbers ending in zeros (10, 20, 30, etc.) are considered main loops. The spur trails and connectors off of the main loops are numbered sequentially (11, 12, 21, etc.) Collectively, this numbering system will help you find your way around each area as well as help you connect from trail to trail.



Every trail is color coded according to the difficulty level of the terrain – green is easiest, blue is intermediate and black is advanced.



When in doubt, look for trail maps posted at major intersections.

TRAIL RULES & ETIQUETTE



HAVE FUN, BE SAFE Remember to bring sunscreen and water. In case of an emergency, call 911 from a cell phone.



DOGS are only allowed on dashed trails and must be leashed on the Rio Grande Trail. No dogs allowed MM 26-28. Please keep your dog under control, and remember to pick up after your dog.



BIKES Fat tire bikes are not permitted with the exception of the Rio Grande Trail and the Marolt Open Space, or other marked routes.



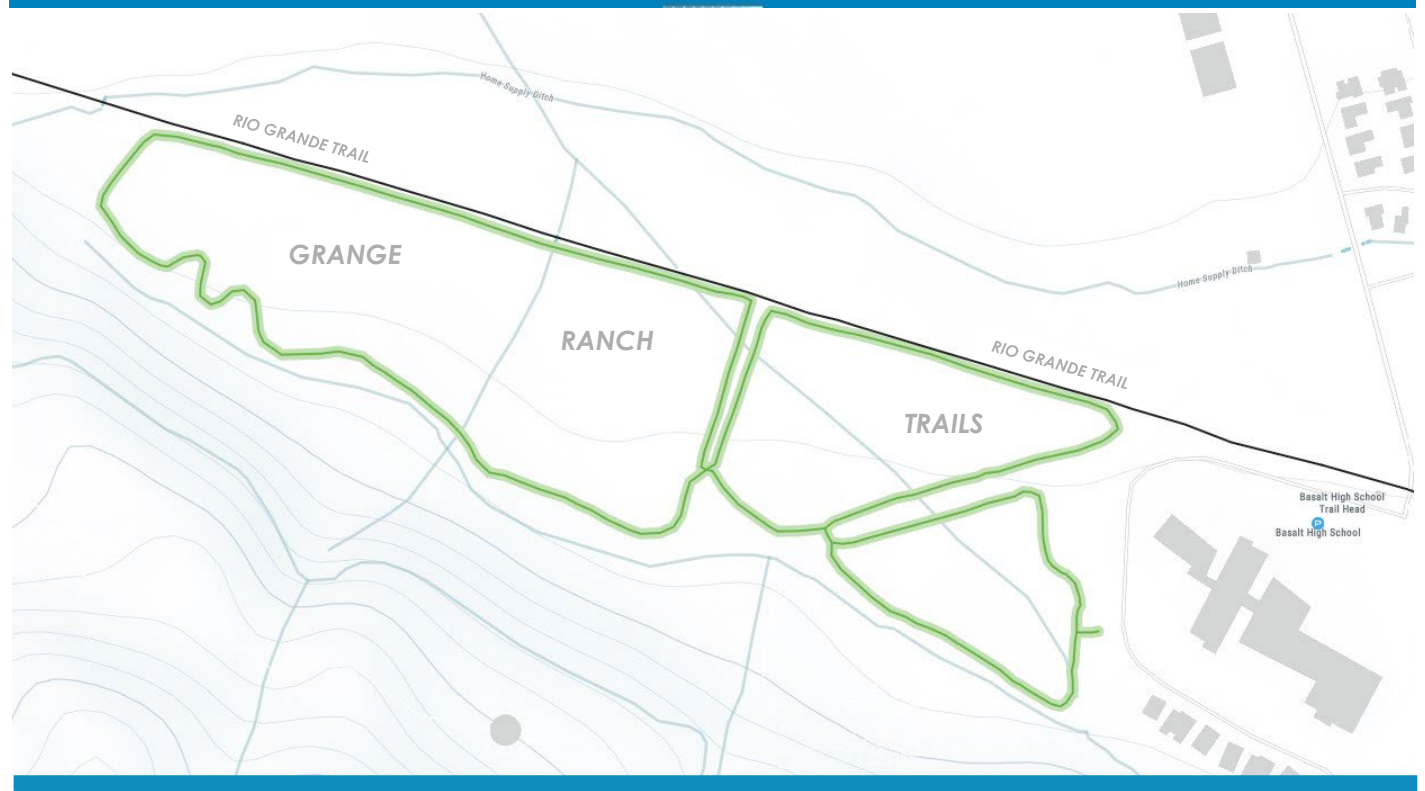
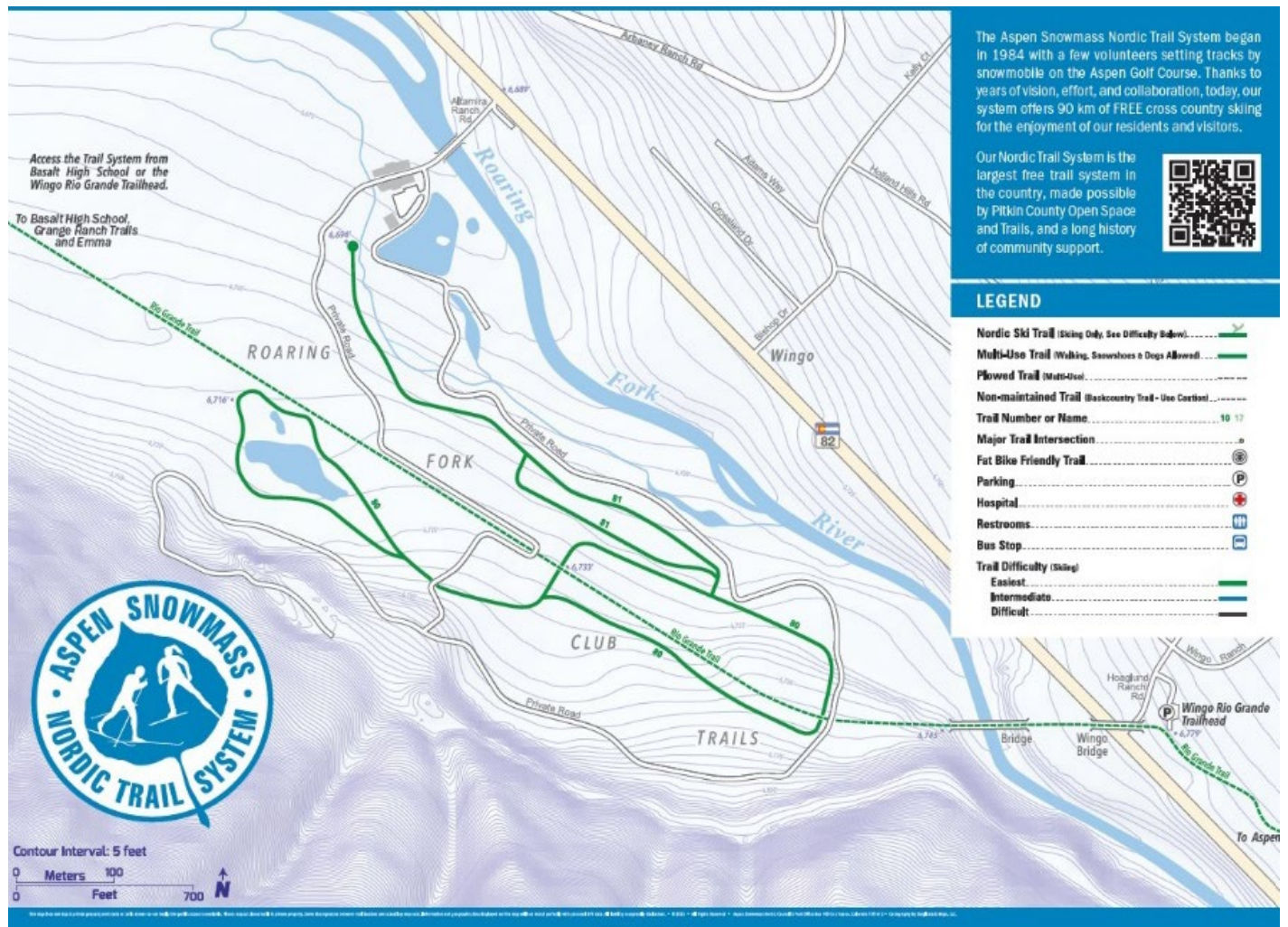
SNOWSHOEING & WALKING Walkers are only allowed on the dashed trails depicted on this map. Otherwise we ask that you have skis on your feet! Snowshoeing is allowed on our groomed trails, but please do not walk on the classic ski tracks and stay to the edge of the trail, especially in soft conditions.



MOTORIZED VEHICLES No motorized vehicles are allowed anywhere on the trail system.



Roaring Fork Club and Grange Ranch



APPENDIX B: NEW TRAIL DESIGN AND SCREENING

Expansion Background

As the Nordic Trail System continues to gain use, improve, and grow, the Nordic Council has developed guiding principles to focus any efforts towards improvements and expansion. Concurrently, it is important growth does not exceed the need for and appropriate use of trails or the Pitkin County Open Space and Trails' ability to properly maintain these trails. A primary consideration is ensuring high-quality grooming of existing trails along with the ability to groom trails in new areas.

Guiding Principles for New Trail Design and System Expansion

The **first priority** is to maintain the quality and integrity of the existing Nordic Trail System and strive towards the best user experience:

- **Secure existing endangered trails** where formal long-term easements do not exist, or to reroute trails to better/more secure alignments. This is specifically identified as a management action under goal 2 of this document.
- **Resolve critical road crossings** so that skis do not need to be removed to cross roads allowing a seamless skiing experience.
- **Create high quality skiing platforms** for all groomed trails. Improve sections of trails that do not meet the guidelines of a high-quality skiing experience. Examples include trails that have not been graded properly, are very steep, or trails that have problems with snow coverage due to aspect (sun exposure) or their rocky nature.
- **Focus on the amount of use** as more use warrants more effort. Trails close to urban areas will require more facilities, wider trails, variety of use, terrain and signage.

The **second priority** is to expand and enhance the Nordic Trail System, in particular to anticipate future development and climate variations, using the following design considerations:

- **Ensure the ability** to maintain and groom the trails.
 - It is strongly preferred that trails are not groomed on top of hard surface summer trails, such as asphalt and concrete.
 - Consider areas of snowier microclimate, greater shade, ideal aspect, or higher altitudes.
 - Consider opportunities for snowmaking or the use of manmade snow.
- **Provide a variety** of terrain and skiing experiences from easy to difficult, from core to rural.
 - Identify opportunities for groomed classic-only ski trails
- **Integrate adjacent trails** that may be less used trails, currently un-groomed trails, or potential high-quality trails. This may be achieved by additional grooming, signage, or easements.

- **Identify linkages** where trails are needed to connect existing trails and to create connections to community centers e.g. downtown Aspen, the Airport Business Center, or Burlingame Housing.
- **Consider parking** needs.
- **Ensure useable public** transportation connections.
- **Trail Resilience:** New trails must consider climate variations and have good snow holding ability, e.g. north facing, at high elevation, or shaded by vegetation.
- **Resolve multi-use conflicts** through signage, designate trails appropriately, conversion of plowed trails to groomed trails, ranger enforcement, and identifying new trails.

It **must be noted**; the above vision principles rely greatly on the following:

- Landowner cooperation and public support
- Collaboration with jurisdictions
- Review and input on land use applications for affected properties

New Trail Screening

The following set of questions should be analyzed and answered during the planning process for future trail developments. While value is not placed on any specific question, this is a starting point for discussion of expansion (or contraction) or changes. Consideration should also be given to the preceding guiding principles.

- Does this expansion connect seamlessly with current trail system?
- Does this expansion meet the goals of Nordic Trails Design guidelines (variety of terrain)?
- Does this expansion address climate resilient skiing considerations?
- What are the increased operational costs or savings?
 - Does this expansion trigger additional equipment needs or staff time?
 - Prepare cost benefit analysis comparing proposed changes
- Would we eliminate existing trail segments in exchange for this expansion opportunity?
 - Outreach the idea for reduction of service with adjacent communities or impacted parties
- If Nordic Council resolves to recommend expansion beyond the scope of current budget or projected budget, the following are steps to implement the changes:
 - Nordic council submits recommendations to either City of Aspen Open Space and Trails Board, Pitkin County Open Space and Trails Board, Basalt Parks Open Space and Trails, or Town of Snowmass Village Trails committee, based on appropriate jurisdiction.
 - Or seeks other funding opportunities.
- What kind of public scoping and process will be needed?
- Is the land public, private, or based on an easement? What will be the planning, zoning, or other land-use implications?
- Are there impacts to wildlife, including critical winter habitat zones?
 - Review expansion with existing wildlife studies and/or Colorado Parks and Wildlife.
- If expansion opportunity exists apart from current trail system, special attention should be paid to increased operational costs, and to how the expansion addresses the goals of the 2026 Nordic Trails Plan revision, as stated in Goal 3.

APPENDIX C: POTENTIAL TRAIL OPPORTUNITIES

The following tables depict both vital trail connections and easements, as well as potential large scale trail developments and opportunities. The tables also identify several areas where people currently enjoy skiing on non-maintained winter trails, and further improvements could be made such as improved wayfinding, route clearing, access improvements, or easements. All the following opportunities require the design and screening process listed in Appendix B before implementation.

Aspen Vicinity Nordic Trails Opportunities

The following trail descriptions are organized from east to west starting at Independence Pass. First, there are the trails already in the Aspen Snowmass Nordic Trail System which have been identified for enhancements. These trails may lack permanent easements, may require improved road crossings, or may be improved by re-routing the trail onto a different alignment. Trail alignments that may be at risk in the future are identified. Second, are areas currently used informally for Nordic skiing, or are summer activity areas, identified as potential alignments providing high-quality additions to the trail system.

TRAIL CONNECTOR	CHARACTERISTICS VALUE	RISK NEEDS	PROPOSED ENHANCEMENT
A1: James H. Smith Open Space	Expansion of North Star skiing with beginner and tranquil terrain on the north side of the river.	Currently not groomed.	TO BE UPDATED: North Star Management Plan updated in 2015 providing authorization to expand skiing. Study and design connection to existing trails on North Star.
A2: East of Aspen Trail	Could provide a seamless East of Aspen Trail from North Star Trail to Difficult Campground.	Additional parking at North Star; road crossings. Improve Benedict Trail to North Star route. Private and public land access.	Provide larger parking area. Improve trail connections.
A3: Midland Trail (Shadow Mountain)	Direct connection to downtown from Marolt pedestrian bridge.	Sidewalk currently plowed in winter.	Obtain alignment at base of Shadow Mountain between 5 th and 7 th Streets.
A4: Aspen High School Trails Meadowood Subdivision (critical)	Varied terrain, great racing venue close to town.	Current Meadowood Subdivision agreement is short term.	Obtain long-term easement with Meadowood Subdivision.
A5: Aspen High School Trails AVSC to ARC	Important seamless ski linkage between High School Trails and Moore Open Space.	Need to remove skis crossing plowed entrance to the H.S. parking lot near the AVSC clubhouse.	Overpass needed to eliminate ski removal.
A6: Moore Open Space Crowne Parcel (critical)	Critical connectivity for Aspen trails. Rolling terrain, historically used.	Easement is short term.	Secure long-term easement.

A7: Haleakala Connection	Connects High School Trails to Moore Open Space directly. Offers more loops and seamless skiing.	Large scale construction required, easement review and land use required.	Widen easement and build bridge over Maroon Creek rd.
A8: Aspen Golf Course (important)	Highly utilized, maintained, facilities, multi-use.	Continue to enhance facilities and opportunities. Need for snow to hold longer.	Continue to enhance facilities. Add snowmaking.
A9: Maroon Creek Golf Course Trails	Varied terrain, close to town.	Multiple rd crossings. Potential to provide trail on northern area of Maroon Crk Club, currently "private".	Install grade-separated crossings.
A10: Burlingame via Maroon Creek Golf Course and Double Bar X Ranch	Potential trail connection of Burlingame and Double Bar X Ranch.	Additional area could be groomed per PUD. Need connection through underpass and easement on Double Bar X to connect to Burlingame	Coordinate with Maroon Creek Club, Double Bar X.
A11: Owl Creek Trail W. Buttermilk Connection (important)	Offers an alternative improved route.	Currently steep trail crosses driveway.	Obtain easement for new alignment that would be gentler with less crossings.
A12: Difficult Campground*	Summer road, good snow coverage in winter. Scenic, secluded skiing. Early and late season grooming.	Currently not part of Nordic Trail System.	Would require special use permit or agreement with USFS to groom. Possible multi-use.
A13: Richmond Ridge*	High elevation, good snow coverage, great early and late season use, ski lift access, spectacular views, rolling terrain, near facilities.	Currently not used for Nordic trails. Need access. Possible multi-use. High altitude advantages and challenges.	Partner with Aspen Skiing Company and USFS for use, access and facilities.
A14 Castle Creek Valley Alignment (Aspen to Ashcroft)	Could provide a viable connection in Castle Creek valley.	Options need to be studied. Very large scale project; feasibility.	Coordinate with stakeholders.
A15: Five Trees and Water Plant Trails:	Connects to Aspen High School Trails. Advanced racing terrain. North facing and wooded.	No easements exist.	Coordinate with City of Aspen for long-term use agreement.
A16: Maroon Creek Valley*	Scenic, good snow, gentle terrain.	Currently road is groomed by private special use permittee, ski future not guaranteed.	Secure guarantee of long-term use at appropriate time. Nice terrain, avalanche hazard.
A17: Ashcroft*/** (important)	Scenic, good snow, rolling wooded terrain. Excellent skiing at cross-country area. Restaurant.	Currently area is groomed by private operator.	Secure guarantee of long-term use at appropriate time. Restaurant operation.

* Potential addition to Aspen Snowmass Nordic Trail System

** Separate from Aspen Snowmass Nordic Trail System

Potential Trail Opportunity Maps can be found in Appendix D.

Snowmass Village Vicinity Nordic Trails Opportunities

Interests of Snowmass Village residents focused on the immediate vicinity in and around the Town of Snowmass Village. There is a desire for more, easy dog-friendly ski trails. Owl Creek Trail is popular, however users would like to see fewer road crossings where skis need to be removed. There are several recommendations for new trails including Brush Creek Trail.



Photo Credit: Nordic Program Staff

View of Sam's Knob in Snowmass

TRAIL CONNECTOR	CHARACTERISTICS VALUE	RISK NEEDS	PROPOSED ENHANCEMENT
S1: Owl Creek Road Straight Away (critical)	Critical scenic link in Aspen to Snowmass trail system.	Optimize alignment. Current license agreement is short term. Many road crossings.	Reinstate "Twister" alignment and other historic alignments. Obtain permanent winter easements. Resolve crossings through realignments.
S2: Glendale Drive	Potential alignment has good snow retention, is an easier route. Would provide better access to Owl Creek Trail. Parking at Tom Blake TH.	Need an alternative to steep "Berlin Wall" section.	A potential trail from Glendale Divide to Terminator Trail on a high contour should be explored. An easement exists for portions of alignment.
S3: The Pines	This new alignment would potentially provide improved skiing and fewer road crossings.	The Pines HOA will realign a trail section to an alpine easement to reduce road crossings and provide a wider trail.	Secure long-term easement for new trail that is to be created. Possibly a PUD agreement through Town of Snowmass Village (TOSV).
S4: Snowmass Golf Course (important)	Hub of Nordic skiing, provides great groomed trails and facilities.	Need connection to the recreation center across Brush Creek Road. Separate conflict areas with pedestrians and dog walking users.	Existing underpass too low. Install at-grade or grade separated crossings. Study enhancing facilities.
S5: Town Connector – Village Way Trail	Section of Village Way is being relocated for development.	New alignment may be inconvenient with road crossings.	Possible grade separated crossing at Owl Creek and Brush Creek road intersection
S6: Brush Creek Trail*	Summer trail could be used in winter linking the Brush Creek intercept lot at Highway 82 to Snowmass Golf Course trails.	Current wildlife closure during winter on Pitkin County section. Possible multi-use needs. Requires snow cover.	With TOSV and Pitkin County, explore possibility of Nordic use in winter.

*Potential addition to Aspen Snowmass Nordic Trail System
Potential Trail Opportunity Maps can be found in Appendix D.

Mid-Valley Vicinity Nordic Trails Opportunities

During the 2014 planning and review process, existing and future use trends were studied including what needs are not currently met and estimating the potential demands and uses in the future. With the addition of community support, it became apparent that there is the need for the Nordic Trail System to continue to grow, especially into the wider geographic area of the Roaring Forks' Mid Valley.

During the community meetings, the mid-valley area was perceived as being suitable for the expansion of the Nordic Trail System. In the 2000-teens, The Nordic Council acted as the default mid-valley Nordic ski advocacy agency for the Basalt community, and more specifically, the Roaring Fork Club trails and the lower Rio Grande trail connections. The Nordic Council membership includes residents and elected officials of the Town of Basalt.

TRAIL CONNECTOR	CHARACTERISTICS VALUE	RISK NEEDS	PROPOSED ENHANCEMENT
M1: Rio Grande Trail	Major trail connector through valley. RFTA has maintained Carbondale to Catherine Store section.	Multi-use coordination. Road crossing issues. Near Aspen underpasses need more snow.	Use signage. Possibly move ski trail to previous track alignment. Continue to coordinate with RFTA for grooming.
M2: Roaring Fork Club	Close to Basalt and Rio Grande Trail. North facing, good snow. PUD approval requires grooming of Nordic trails for public.	Trails seldom skied. Public access difficult.	Improve trail connections to transit. Possible new trailhead near bus stop. Coordinate with Roaring Fork Club provide better skier access.
M3: Basalt High School*	Central location, highly popular when groomed, provides growth for the sport. Possible use of adjacent properties.	Conflicts with sledding hill and school activities behind school. Land use approval for additions to North of Grange Ranch.	Study options and coordinate with landowners and town, including recreation department to expand Basalt High School Nordic Trail hub.
M4: Capitol Creek Valley*	Scenic, varied terrain, historic Nordic use, possible valley wide links, annual event occurred.	Maintenance. Need for arrangements with landowners. Traffic and parking.	Nordic Council to coordinate with landowners. Could be part of larger valley system.
M5: Spring Gulch** (important)	Existing cross-country trail system maintained by Mt. Sopris Nordic Council with 28k of groomed trails and is partially funded by Pitkin County OST (20% of operational costs).	Spring Gulch and Mt. Sopris Nordic Councils to remain independent of the Aspen Snowmass Nordic Council, but continue as a strong partner.	Continue to communicate with Mt. Sopris Nordic Council.
M6: Crown Mountain Park	Small trail system surrounded by mid-valley homes.	Independently groomed by Eagle County parks staff.	Nordic council available for collaboration.

*Potential addition to Aspen Snowmass Nordic Trail System

** Separate from Aspen Snowmass Nordic Trail System

Potential Trail Opportunity Maps can be found in Appendix D.

Un-Groomed Valley-Wide Nordic Skiing Opportunities

The following Nordic areas provide a unique experience that the Nordic council has identified as vital to the Nordic trail system in the upper Roaring Fork valley. Most of these areas are not suitable for machine grooming in their current state, and if the community or the Nordic Council identify these as future priorities, a recommendation using the expansion screen must be presented to Pitkin County Open Space and Trails Board.

TRAIL CONNECTOR	CHARACTERISTICS VALUE	RISK NEEDS	PROPOSED ENHANCEMENT
UG1: Hay Park Trail	"Down Valley Government Trail" to remain unmaintained. Link to valley system. Parking available. Possible multi-use.	Steep access from public parking on Capitol side.	Add signage. Coordinate with and discuss alternative access with private landowners. Consider Dinkle Lake Rd access and possible winter gate for closure.
UG2: Northeast facing hillside – Light Hill	Good snow holding. Ditch alignment.	Identify public access locations.	Study options and coordinate with stakeholders, including recreation department and BLM.
UG3: Tom Blake Trail and Stark Trail	To remain ungroomed. Potential connectors between Government Trail and Owl Creek Trail at Two Creeks.	Stark Trail is steep.	Study options.
UG4: Highline Trail from Maintenance Center	To remain un-groomed. Potential connector from Owl Creek Trail to Brush Creek potential trail.	Most of Sky Mountain Park area closed in winter; winter elk range.	Study winter connection and wildlife recommendations.
UG5: Divide Ditch Trail to East Snowmass Creek	More remote style skiing. Gentle terrain. Multi-use.	Parking and access needs. Resolve multi-use conflicts and long-term use.	Resolve parking, access, and long-term use. To remain un-groomed. Repair or replace failed foot bridge.
UG6: Government Trail (important)	To remain un-groomed. Currently a more remote ski experience, scenic, wooded terrain. Potential to loop with Owl Creek Trail.	Improve trail access from Two Creeks side. Improve ski connectivity on both sides.	Work with Aspen Skiing Company on access from Two Creeks via lift or gondola. Explore possibilities on West Buttermilk side. Better winter route marking.
UG7: Hunter Creek Valley	Scenic, gentle terrain, near town.	Access and parking limitations, steep entry.	Discuss access and parking with area stakeholders.
UG8: Windstar Valley Ranch	Scenic terrain in the Old Snowmass area.	Parking and access.	Secure long-term parking and consider designation of non-maintained ski routes.

Potential Trail Opportunity Maps can be found in Appendix D.

Long-term Trails Opportunities

The following areas are identified as having Nordic skiing potential. Due to circumstances such as property ownership, distance from population centers and access, the Nordic Council has pursued these options to date, although there was mention of these areas during the 2008 public meetings. Therefore, these locations should be considered as possibilities only. The trail alignments and easements could initially be acquired as summer trails. Backcountry trails, including the 10th Mountain and other overnight Hut Systems will remain separate from the Aspen Snowmass Nordic Trail System.

- In the **Aspen Snowmass** area, the land near the Rio Grande in the vicinity of **W/J Ranch** may offer gentle terrain with access to the Rio Grande Trail.
- Cozy Point Ranch Nordic opportunities include expanded use of horse trails, and use of fields for biathlon and skijoring.
- Long-term, a trail connection from Brush Creek Road to **Aspen Village** can provide a useful link. In addition, trail opportunities may exist in the Watson Divide area.
- In the **mid-valley** area potential Nordic skiing areas may include the Spring Park Reservoir vicinity on **Missouri Heights**.
- The Crown area near **Emma** provides summer hiking and biking trails that may be considered for un-groomed winter use providing there is sufficient snow coverage and BLM permission.
- Near downtown **Carbondale**, Prince Creek Road and trails could provide a short, but easily accessed trail for residents of Carbondale.
- The **Crystal River Valley** and **Redstone** have Nordic skiing opportunities in the coke ovens vicinity, as well as further up Coal Basin. The potential trails would reflect the Nordic Trails Plan continued interest in more remote and rustic trails and could provide down valley residents with an alternative to Spring Gulch. The Crystal River Valley is also known to hold snow well, and partnerships with the community of Redstone or the US Forest Service could be explored if funding becomes available. If a regional trail were developed in the **Crystal River Valley**, it could have potential for Nordic use as well.



Snowy meadow in Crystal River Valley

APPENDIX D: POTENTIAL TRAIL OPPORTUNITY MAPS

Aspen Vicinity Trail Opportunities Map

Coming Soon

Snowmass Vicinity Trail Opportunities Map

Coming Soon

Mid-valley Vicinity Trail Opportunities Map

Coming Soon

APPENDIX E: EXAMPLE NORDIC EVENT CALENDAR

Example Event Calendar from 2025-2026 Season

Nordic events requiring special planning, grooming, and changes in routine operations

Thurs Nov 27	Opening Day Aspen Cross Country Center (snow dependent)	
Sun Dec 14	Ute Series – High School Get The Lead Out	Mass F
Sun Jan 4	Ute Series – Snowmass Slip 'n Slide	Mass C
Fri Jan 9	CHSAA Race – Aspen High School	Classic
Sun Jan 11	Nordic Extravaganza - AXCC	
Sun Jan 18	Ute Series – Owl Creek Chase	Mass C/F
Wed Jan 21	Ute Series – XC Games Night (X-Games Jan 23-25)	Team Sprint
Sun Feb 1	Ute Series – Rat Race – Spring Gulch	Mass F
Sat Feb 7	Art Cart Derby – Aspen Rec Center	
Sun Feb 8	Ski For Sisu – Spring Gulch	
Sat Feb 14	Nordic Bonfire Dinner – Aspen AXCC	
Sun Feb 15	Ute Series – Ski for the Pass	Mass C
Sat Feb 21	JNQ/RMISA – Aspen High School	Mass C
Sun Feb 22	JNQ/RMISA – Aspen High School	Mass F
Sun Mar 8	Ute Series – Silverboom	Mass F/C
Wed Mar 18	AVSC End of Season Fun Course - Ballfields	
Sun Mar 22	Closing Day Aspen Cross Country Center (snow dependent)	

APPENDIX F: SNOWMAKING FEASIBILITY STUDY

SNOWMAKING DESIGN

FOR THE ASPEN SNOWMASS NORDIC TRAIL SYSTEM



Photo Credit: Aspen Ski Company

Task 3 (Final) Deliverable: Design Development and Cost Refinement

JUNE 2025

Prepared for:



Prepared by:

SE GROUP



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Appendix C. Climate Change Analysis
Appendix D. Above Ground Infrastructure & Automation
Appendix E. HKD Snowmaking Gun Performance
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INTRODUCTION & EXECUTIVE SUMMARY

SE Group, in partnership with Sno.matic Controls & Engineering, was retained by the City of Aspen to evaluate the feasibility, design requirements, and implementation considerations for adding snowmaking to key portions of the Aspen Snowmass Nordic Trail System. This effort also included analysis of trail improvements necessary to meet current FIS (International Ski and Snowboard Federation) homologation¹ standards for Nordic competition.

The scope of work was structured in three tasks: 1: Feasibility Assessment, 2: Schematic Design and Cost Estimation, and 3: Design Development and Cost Refinement. SE Group led the multidisciplinary team, which included input from Morton Trails and HKD Snowmakers. The team assessed snowmaking suitability across two priority areas—the Aspen High School (HS) trails and the Golf Course (GC) trail network—considering physical, environmental, and economic feasibility alongside climate trends and user needs.

This document summarizes the findings of **Task 3: Design Development and Cost Refinement**. It includes:

- A refined layout for both trail networks and associated infrastructure improvements;
- An assessment of climate data and water resources, including detailed recommendations for snowmaking coverage and timing;
- A preferred snowmaking system layout, including system sizing, equipment recommendations, and water source strategies;
- Capital and operating cost estimates, as well as operational staffing recommendations;
- A summary of potential environmental impacts and permitting considerations.

At the **High School**, the recommended snowmaking system prioritizes early-season coverage of the 3.3 kilometer (km) race loop. The system layout includes below-grade hydrant vaults and a new pumphouse with pump and compressor automation. Water would be drawn from the City's Raw water system with a proposed bypass, which may provide the Nordic operation with limited water pumping abilities before December 1, while Aspen Highlands is making snow. The Nordic operation is expected to have full access to Raw water once Aspen Highlands finishes making snow, which typically occurs around or before December 1. *The system would be sized for a design capacity of 800 gpm (gallons per minute – water) and 1,410 cfm (cubic feet (ft) per minute – compressed air),* with 34 stick guns and 4 shared fan guns to achieve coverage goals efficiently while minimizing infrastructure impacts.

The estimated capital cost for the High School system is \$4.30 million, with annual operating and maintenance costs totaling approximately \$129,000. These operating costs reflect anticipated water, electric, and labor expenses, with a maintenance allocation equivalent to 25% of operating costs. *Labor requirements are estimated at 684 hours over the course of the season.*

At the **Golf Course**, a similar system is recommended to serve the site's 2.2 km layout. Snowmaking coverage would rely on 18 portable stick guns and the same set of shared fan guns, with below-grade hydrants to preserve visual character and avoid conflicts with golf operations. A new on-site reservoir would store approximately 2.4 million gallons, filled seasonally via the Marolt Ditch. *The system would be sized at 400 gpm and 1,000 cfm,* with infrastructure concentrated around the driving range.

The estimated capital cost for the Golf Course system is \$3.33 million, with annual operating and maintenance costs totaling approximately \$51,000. These costs follow the same methodology used for the High School, reflecting electric usage, labor, and a maintenance allocation. *Labor needs are estimated at 380 hours per season.* A fully automated option has been evaluated for the driving range portion of the Golf Course, which would add an estimated \$330,000 to capital costs, bringing total capital costs for the Golf Course to \$3.66 million.

¹ FIS process for review, approval, and registration of a racecourse for sanctioned competition.

For **both systems**, *the total capital cost would be approximately \$7.62 million*. If full automation is pursued for the driving range portion of the Golf Course, total capital costs for both venues would amount to \$7.95 million. *Total seasonal labor requirements are estimated at 1,064 hours, and combined operating and maintenance costs would be approximately \$180,000 annually*, which includes water, electric, labor, and maintenance costs.

Collectively, these improvements are expected to enhance the reliability and longevity of Aspen's Nordic skiing product, support early-season training goals, and provide a durable foundation for future homologation and competitive event hosting.

1. TRAIL DESIGN

SE Group, with input from Morton Trails, was retained to review existing trail layouts at both the High School and Golf Course venues and recommend refinements to enhance skier experience, ensure operational compatibility with snowmaking, and support the potential for FIS homologation at the High School. The City of Aspen team played a critical role in this process by test-skiing proposed alignments, suggesting adjustments, and guiding key decisions.

A. SITE VISIT OBSERVATIONS

Upon project initiation, team members from SE Group, Sno.matic, Morton Trails, and the City of Aspen conducted a joint site visit on July 31, 2024. This visit was timed during summer so that the project team could observe terrain features typically hidden under snow in winter. The team walked both the High School and Golf Course Nordic areas, using GPS files to identify the locations of existing winter trail alignments, which were not visible in the summer landscape. This fieldwork allowed the team to evaluate trail topography in context, identify design opportunities and constraints, and assess potential locations for water storage. A full site visit summary is included in **Appendix A**.

B. EXISTING TRAIL AND TERRAIN ANALYSIS

Differences in terrain, microclimate, and user function informed design approaches for the Golf Course and High School. Presently, trails at both venues are groomed on natural snow, shifting based on operational discretion from the Aspen Snowmass Nordic Trail System. Formalizing alignments is necessary for trails receiving snowmaking.

GOLF COURSE

The Golf Course trail system is used primarily by beginner and intermediate skiers, including tourists, first-time users, and families. It serves as the main public-facing venue for Nordic skiing and is less frequented by advanced or competitive skiers. This trail network typically opens later and closes earlier than the High School Nordic system, with Golf Course trails usually opening by December 1 and closing around the third weekend in March to accommodate the transition to spring golf operations. During the ski season, the Golf Course Pro Shop serves as the Aspen Cross Country Center, offering demos, rentals, lessons, and ski tuning and repair services. The Golf Course has approximately 12 km of groomed trails at full grooming capacity.

Within the Golf Course trail system, the project team was asked to focus on two distinct functional zones: a beginner- focused loop around the driving range, referred to as the Teaching Loop and Advanced Teaching Loop (approximately 1.0 km total) and a broader recreational loop, referred to as Golf Course East and the multiuse trail Bernese Boulevard, designed for general use (approximately 1.1 km and 1.0 km respectively). These trails range from an elevation of 7,850 ft to 7,870 ft, and users typically experience the terrain as flat with more milder climbs on the teaching loops. Certain sections of trail, including areas near conifers and on slopes with a south or west aspect, tend to melt out easily. These “hot spots” require patching during low-snow years. As a result, the user experience can be compromised when natural snowfall is insufficient.

HIGH SCHOOL

The High School trail network is primarily used by Aspen Valley Ski and Snowboard Club (AVSC) athletes, local competitive skiers, and advanced recreational users. It serves as a high-performance venue, supporting daily training needs and occasional events. This area typically opens earlier and closes later than the Golf Course Nordic system, with the High School trails usually opening by early November—earlier if conditions allow—and remaining in use through early to mid-April.

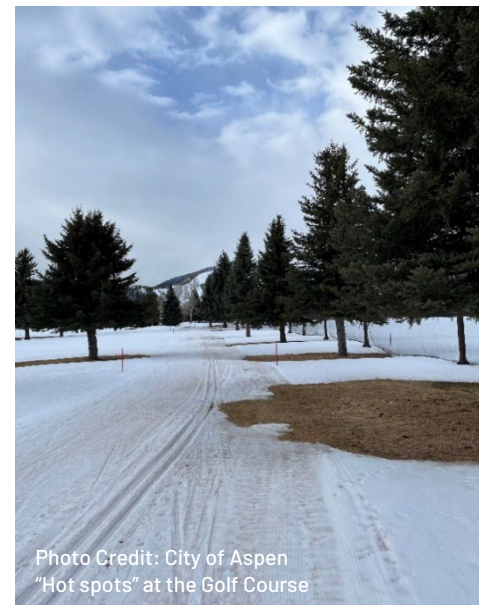


Photo Credit: City of Aspen
“Hot spots” at the Golf Course

The High School system sits slightly higher, ranging from 8,000 to 8,150 ft. It benefits from relatively cooler temperatures and north-facing slopes that help retain snow. The existing groomed loop totals 5.9 km and more formal race loops, such as 1.2 and 2.5 km loops, are frequently created for training and events that share a common footprint. This layout supports flexible programming for training and competition. The nearby baseball fields serve as start/finish areas for races and offer excellent viewing opportunities for spectators.

C. PROPOSED TRAIL ANALYSIS

The proposed trail layouts reflect each site's unique topographic and operational characteristics. Unlike the existing trails, which shift year-to-year as grooming differs slightly, the proposed trail layouts are “formal” and would need to be the same year-to-year, since they require grading and permanent snowmaking infrastructure to be installed. Developed by the Aspen Snowmass Nordic Trail System staff, the designs optimize snow retention, skier circulation, and alignment with future infrastructure. At both venues, terrain grading would be a key enabling action, ensuring the trail surfaces are consistent, the drainage is effective, and the snowmaking system can operate efficiently.

GOLF COURSE

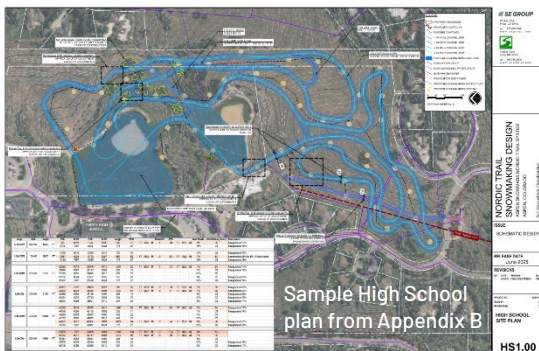
Snowmaking is proposed on the full length of the Teaching and Advanced Teaching Loops (1.0 km total), 1.1 km of the Golf Course East loop, and approximately 0.2 km of the Bernese Boulevard trail in front of the parking lot. While only a short segment of Bernese Boulevard would receive snowmaking, approximately 1.0 km of its alignment would be shifted to improve layout and functionality.

The Teaching and Golf Course East loops would be graded to 24 ft in width; the Bernese segment would be 14 ft wide. Grading would occur across roughly 2.5 acres and is designed to create a more challenging teaching environment—introducing moderate climbs and downhill—while preserving the landscaped character of the Golf Course. During the design process, careful alignment avoided impacts to tee boxes, greens, cart paths, and mature vegetation to the greatest extent possible.

This project also presents an opportunity to coordinate trail grading and infrastructure improvements with Golf Course operations to identify solutions that benefit both summer and winter use. Shared improvements could enhance site efficiency, preserve aesthetics, and reduce long-term maintenance needs.

HIGH SCHOOL

Proposed trails at the High School feature formal loop designs that share a common footprint. *The two longer loops can both be skied in both directions, creating two 2.5 km and two 3.3 km potentially homologatable course configurations. In addition, a 1.1 and 1.2 km “sprint course” has been planned, which may be homologatable as well.* This yields 6 total potentially homologatable courses, supporting flexible programming for training and competition. The surrounding baseball fields serve as logical start/finish areas and offer excellent viewing opportunities for spectators.



At the High School, there are areas of recommended grading to improve grooming consistency and enhance the race experience. This total area to be regraded is 0.25 to 0.5 acres. The disturbance required to achieve this regrading is discussed in **Section 6**. The recommended grading design would support snow retention while minimizing the need for deep snowpack buildup.

Detailed grading extents and proposed methods are illustrated in the schematic site plans included in **Appendix B**. The snowmaking feasibility assessment that follows in this report is based on these accepted trail layouts.

D. PROPOSED MODIFICATIONS TO MEET FIS HOMOLOGATION CRITERIA

Evaluation of the proposed High School race loops for FIS homologation was based on the recommendations and requirements set by the *FIS Cross-County Course and Venue Design Guidelines*, Spring 2023 edition.² The City and design teams also considered desirable components that, although not required for homologation, contribute to a successful facility and exciting, enjoyable competition experience. The final 6 race loop alignments reflect the desire to meet FIS homologation requirements while giving the City and participating competition planners the flexibility to plan successful and enjoyable events.

REQUIREMENTS

Below are some of the requirements considered during design and required for a cross-country race course and homologation certificate. IBU (International Biathlon Union) approval for a biathlon venue was not considered as part of this process.

- Specific distances of loops: Ideally 2.5 km, 3.3 km, or 3.75 km with options for cut-offs and multiple laps. The proposed 1.1 km and 1.2 km loops are intended to meet homologation standards through inclusion of multiple laps during competition or as a sprint course.
- Required climbs per loop: A climb is a course segment that has an average grade between 6% and 14% and is categorized into climb classes based on the Partial Total Climb (PTC), the total elevation gain of an ascent. An "A" Climb is defined as a course segment with at least 30 meters (m) (approximately 98 ft) total ascent. A "B" climb has between 10 m and 29 m of ascent (between 33 ft and 95 ft). A "C" climb has an average grade greater than 6% but is less than a 10 m (33 ft) ascent. FIS recommends 0-to-1 A climbs and 1-to-3 or 2-to-3 B climbs for 2.5 km and 3.3 km courses respectively. The proposed 2.5 km and 3.3 km courses reflect that climb distribution.
- Maximum climbing grade: FIS states that climbing segments should be no greater than 18% where feasible but these steeper sections of 18% gradient are preferred for sprint courses in particular. There are multiple sections of each loop that are greater than 18% but are not sustained climbs greater than 15 ft ascent and are still considered within the acceptable A and B climb average gradient changes.



Photo Credit: Scott Lacy/The Aspen Times
Race at the Nordic trails at Aspen High School

Together, these physical requirements establish the technical foundation for homologation. In addition to meeting these criteria, the design team aimed to incorporate other features that would enhance the functionality and experience of the venue for racers, spectators, and operations teams.

DESIRED COMPONENTS

Below are some of the components that contribute to a successful Nordic competition venue that were considered during the design process even though they are not required for homologation.

- Spectator visibility: Each loop is configured so that the athletes are within sight of the start/finish area and spectators, teammates, and coaching staff are able to see athletes multiple times. There are also multiple easily accessible, sunny locations in which spectators can watch.
- Elevation efficiency: A start/finish roughly at the mid-point of the available elevation eliminates the need for trails which generally either descend, or climb from the far point, all the way back to the finish.

² <https://www.fis-ski.com/cross-country/documents>

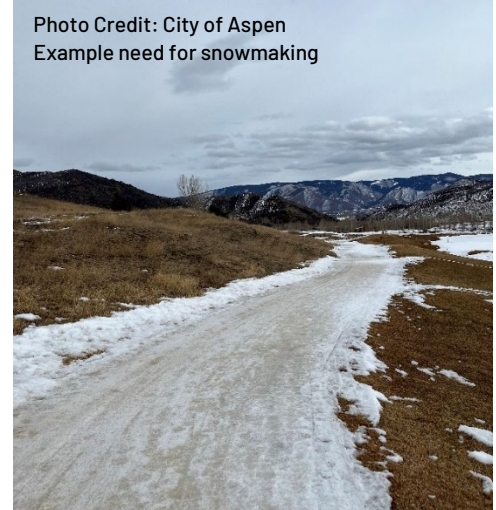
- Ease of grooming and maintenance: Overlapping sections of race course loops help minimize the need for additional grooming and snowmaking coverage. The proposed loops largely overlap each other and use cut-offs to define specific length loops. These alignments also give flexibility for different total race lengths using the 1.1 km, 1.2 km, 2.5 km, and 3.3 km loops as varying lap distances. The loops also make use of existing dirt roads, hills, and natural variations in the slope that require minimal, if any, grading to create a viable race experience.

The proposed High School trail design not only meets the technical requirements for FIS homologation but also integrates enhancements that support a more dynamic and enjoyable race environment. With a layout that prioritizes visibility, operational efficiency, and minimal maintenance effort, the resulting loops are well-suited to host a wide range of successful, spectator-friendly events in the years ahead. As detailed, planning and design effort carefully considered all FIS homologation requirements in order to allow the City to subsequently seek formal homologation through FIS. This evaluation was intended to seek/achieve homologation at this time.

2. THE NEED FOR SNOWMAKING

The City of Aspen is pursuing snowmaking on its Nordic trail systems to improve the reliability and quality of winter operations. Although both the High School and Golf Course venues currently receive adequate natural snowfall during a typical year, conditions during the early season and in dry years are unpredictable. This variability makes it difficult to schedule programming, support consistent training, and ensure high-quality public access. Key users and staff repeatedly identified the lack of early-season dependability as a significant operational challenge. Climate trends suggest that these uncertainties will increase in the coming years.

Photo Credit: City of Aspen
Example need for snowmaking



A. CLIMATE CHANGE ANALYSIS

To understand how future conditions may affect the need for snowmaking in Aspen, SE Group conducted a climate change and temperature analysis.

The Climate by Forest tool was used to model changes in temperature and precipitation. This tool utilizes specific Representative Concentration Pathway (RCP) scenarios that model different concentrations of greenhouse gases (GHGs). The two RCPs that were used are RCP 4.5 and RCP 8.5. For more information on the specifics of these RCP scenarios, please refer to the full Climate Change Analysis in **Appendix C**.

According to the model outputs, average daily minimum temperatures in Aspen are projected to rise by approximately 2.2°F (under RCP 4.5) to 3.9°F (under RCP 8.5) by 2090, depending on GHG emissions.³ Average maximum temperatures are projected to increase by 1.8°F (under RCP 4.5) to 3.6°F (under RCP 8.5) over the same period.⁴

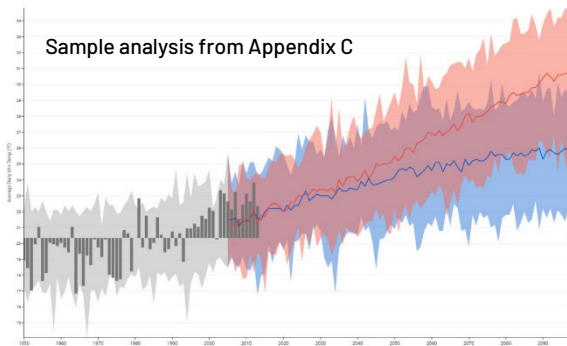


Exhibit 1. Average Daily Minimum Temperature Under Climate Change in Aspen, CO

Note: Grey shading indicates observed temperature history. Blue shading and blue trend line represent RCP 4.5. Red shading and red trend line represent RCP 8.5.

A different model from the Rocky Mountain Research Station was used to understand how snow water equivalent (SWE) and snow residence time (SRT) (the duration of time that snow stays on the ground) would change in the future.

In Aspen's ecoregion, snow water equivalent (SWE) is projected to decline by 65–80%, and snow residence time (SRT) by 40–50%, by 2090 under the RCP 8.5 scenario—relative to average conditions from 1975 to 2005.⁵

Early-season snowmaking will depend on the continued availability of cold weather windows. The following section assesses how often those conditions actually occur—and how climate change may affect them.

B. HISTORICAL AND PROJECTED TEMPERATURES

To determine whether a future snowmaking system may reliably cover Aspen Nordic trails by key early-season dates, SE Group completed an analysis of wet bulb temperatures using 10 years of recent hourly data (2013 to 2024).

³ USDA Forest Service 2024a

⁴ USDA Forest Service 2024b

⁵ Luce et al. 2023a

WET BULB TEMPERATURE

Wet bulb temperature is a calculated index that combines temperature and humidity readings to account for the effects of both conductive and evaporative cooling of the water droplets that are sprayed in the air during snowmaking operations. A higher temperature with low humidity has an equivalent wet bulb temperature to a colder temperature with high humidity. While it is possible to make snow up to approximately 28°F wet bulb, snowmaking becomes far more productive and efficient below 25 to 26°F wet bulb.

For this analysis, 25°F wet bulb was used as the operational threshold, with a conservative assumption that snowmaking operations would only begin after 8 consecutive hours below that threshold.

RECENT CONDITIONS (10-YEAR AVERAGE)

Table 1 shows the multi-year average number of hours at or below 25°F wet bulb, using the 10 years of historical record, segmented by date milestones (e.g., November 1, November 15, etc.). The data indicates there are approximately 605 hours available for snowmaking by mid-December in a typical year. Nearly two thirds of these hours fall below 20°F wet bulb. This figure indicates that based on the historical record, there are an ample number of snowmaking hours available to meet system needs.

Table 1. Average Observed Snowmaking (Wet Bulb) Hours from 2013-2024

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	41	15	56
By 11/16	107	54	161
By 12/1	299	107	407
By 12/15	460	145	605
By 12/25	815	199	1,013

RECENT RELIABLE CONDITIONS

Table 2 refines this analysis by showing the number of hours that occurred in at least 8 out of 10 years. This 80% reliability threshold enables realistic planning for most years without overbuilding for outliers. Even under this more conservative approach, 567 hours are available by mid-December—enough to fully cover both the Golf Course and High School trail systems.

Table 2. Observed Reliable Snowmaking (Wet Bulb) Hours from 2013-2024

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	2	6	8
By 11/16	25	26	51
By 12/1	191	62	253
By 12/15	402	118	567
By 12/25	589	147	816

PROJECTED CONDITIONS – LOWER EMISSIONS SCENARIO (RCP 4.5)

Tables 3 and 4 assess snowmaking conditions around year 2090 under a lower emissions future, under which temperature data was adjusted upward by 2.1°F to reflect projected warming under the RCP 4.5 scenario.

- Table 3 shows average available hours under these adjusted conditions. By mid-December, 465 hours remain available, down from the historical average but still adequate.
- Table 4 applies the 8-in-10-year filter to the RCP 4.5 data, showing 426 reliably available hours by mid-December—still enough to meet system coverage goals in most seasons.

Table 3. 10-Year Average Wet Bulb Hours with +2.1°F Adjustment

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	32	11	43
By 11/16	77	36	113
By 12/1	221	86	307
By 12/15	341	124	465
By 12/25	626	178	805

Table 4. 8/10-Year Wet Bulb Hour Reliability with +2.1°F Adjustment

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	0	0	4
By 11/16	10	17	27
By 12/1	135	73	208
By 12/15	284	116	426
By 12/25	422	155	619

PROJECTED CONDITIONS – HIGHER EMISSIONS SCENARIO (RCP 8.5)

Tables 5 and 6 present projected snowmaking hours around year 2090 under the RCP 8.5 scenario, which assumes greater warming (+3.5°F) and reflects a high-emissions future.

- Table 5 captures average available hours under RCP 8.5, with 397 hours below 25°F by mid-December. This pushes the system closer to its minimum required window but still offers operational feasibility.
- Table 6 filters this data for reliability (8 out of 10 years), showing 348 consistent snowmaking hours—still enough to meet target coverage needs, but with less margin.

Table 5. 10-Year Average Wet Bulb Hours with +3.5°F Adjustment

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	27	10	37
By 11/16	60	36	96
By 12/1	180	81	261
By 12/15	278	119	397
By 12/25	522	175	697

Table 6. 8/10-Year Wet Bulb Hour Reliability with +3.5°F Adjustment

Date	Hours <20°F	Hours Between 20°F and 25°F	Total Hours <25°F
By 11/1	0	0	0
By 11/16	4	8	9
By 12/1	103	52	155
By 12/15	218	96	348
By 12/25	322	136	496

The tables above demonstrate that *despite projected climatic warming, snowmaking hours are expected to remain sufficient in most years to meet coverage goals at both Nordic venues around year 2090*. Over time, snowmaking windows will become shorter, requiring more efficient and responsive operations. Automation and strategic crew scheduling may help maximize productivity. The design recommendations in this report respond to these realities.

C. COVERAGE REQUIREMENTS AND SYSTEM CAPACITIES

While climate projections indicate narrowing windows for snowmaking, the conditions modeled show that sufficient cold-weather hours are likely to still exist to support early-season snowmaking operations around year 2090. In practice, this translates to a high likelihood of achieving coverage by mid-November in 8 out of 10 years. Raw water delivery limitations at the High School during October and November may delay coverage into December, when Aspen Highlands is done making snow. At the Golf Course, having reliable early season snow coverage would enable a consistent public experience and support early-season programming. At the High School, it would provide the operational certainty needed to schedule/host events and support athlete training.

To meet operational goals and snow coverage expectations at both trail systems, the team evaluated pumping capacities, snowmaking durations, and trail coverage areas based on conservative early-season temperature conditions.

The **Golf Course** would require approximately *4.1 acres* of snowmaking coverage across priority teaching and recreational loops. To have consistent early season snow coverage in 8 out of 10 years, *the required water pumping capacity would be approximately 375 gpm, assuming 110 hours of system runtime* (requiring 380 total labor hours). To allow for faster coverage in tighter temperature windows, a capacity of 400 gpm is recommended.

The **High School** system would require approximately *9.6 acres* of snowmaking coverage, with an additional 0.5 acres to cover the alpine egress. The goal would be to cover 1.0 to 1.5 km of trail by November 15, and the remainder by December 1. Due to a shared water line with Aspen Highlands (see **Section 3**), water pumping capacity before December 1 would be limited to 300 gpm. After that date, full pumping capacity would become available. Using these assumptions, *an average pumping capacity of 600 gpm and roughly 132 hours of system runtime* (requiring 684 total labor hours) would be sufficient to meet coverage goals in most years. To ensure operational flexibility and reduce snowmaking duration, a total pumping capacity of 800 gpm is recommended.

Together, these system design assumptions support a two-phase operating model: snowmaking would begin at the Golf Course when temperature conditions allow, then transition to the High School as water availability improves. These recommendations reflect realistic timing goals, climate-adjusted temperature projections, and the operational constraints identified.

3. WATER RESOURCES

While cold temperatures are critical, snowmaking performance also depends on reliable, cost-effective water delivery. This section outlines estimated water requirements and recommends an approach for each site.

A. WATER REQUIREMENTS

The Nordic trails would require a snowmaking coverage width of 25 ft, except for a small segment of the Golf Course, which would only need 14 ft of coverage (Bernese Boulevard). This totals approximately 4.1 acres of coverage on the Golf Course and 9.6 acres for the High School. Based on an assumed application rate of 600,000 gallons per acre, which would yield approximately 2.5 to 3 ft of machine-produced snow on the Nordic trails, *the Golf Course would require roughly 2.40 million gallons of water and the High School would require roughly 5.76 million gallons.*

Table 7. Water Requirements Based on Site Location

Site Location	Acres of Coverage	Gallons/Acre	Total Gallons
Golf Course	4.1	600,000	2,400,000
High School	9.6	600,000	5,760,000

B. WATER SUPPLY OPTIONS

Several different (non-exclusive) options were investigated for water supply at both the Golf Course and High School:

- City of Aspen Raw Water: Raw water is available near the High School and typically charged at a rate of \$5.73 per 1,000 gallons. Although there is sufficient supply, this Raw water also supplies the Aspen Highlands snowmaking system, and Aspen Highlands utilizes all available water when operating at full capacity. This would result in Raw water not being guaranteed to supply the High School until Aspen Highlands has finished making snow, which normally occurs around or prior to December 1. In **Table 8** (High School), **Options 1, 2, and 5** use Raw water.
- City of Aspen Potable Water: Potable water is available at both the Golf Course and High School sites; however, it is the least preferred option by the City of Aspen Utilities Department. In addition to carrying a substantial tap fee and high usage rates, potable water is treated with chlorine, which is not ideal for snowmaking. Due to these limitations and preferences, potable water is considered a fallback option. In **Table 8** (High School), **Options 4 and 5** include potable water. In **Table 9** (Golf Course), potable water is used in **Options 2 and 3**.
- 30" Concrete Line from Hydro Plant to Thomas Reservoir: Water could potentially be diverted from this 30" pipeline near the High School. However, the City uses this hydroelectric generation to help broker electricity rates on a quarterly basis. The value of this power is tied to how much renewable energy is produced and how much electricity the City expects to use, making the financial implications of diverting water highly variable and difficult to predict. As a result, it would be challenging for Aspen Nordic to establish a clear or consistent reimbursement rate for lost hydropower revenue. This option is reflected in **Table 8** (High School) as **Option 3**.
- New Intake on Maroon Creek: This would be very expensive as it requires a new intake constructed in the river, a long delivery pipeline, and a remote pumphouse. In addition, water may be insufficient to satisfy snowmaking demands above minimum creek flow requirements. This is captured by **Option 6** in **Table 8** (High School).
- On-Site Storage: Tanks or a reservoir could be used at the Golf Course. At the High School there is no practical location for a storage reservoir, and a tank would be expensive and/or unsightly. This (reservoir) is captured under **Option 1** in **Table 9** (Golf Course).
- Bear Pond: This pond could serve the Golf Course system, as it has an existing irrigation water pipe to the Golf Course. However, this irrigation pond is typically drained in winter and there is no recharge of Bear Pond after mid-October. This was also connected to **Option 1** in **Table 9** (Golf Course); however, it was disregarded in favor of using water from the Marolt Ditch instead.

Table 8. High School Water Supply Options

Option	Water Source	Pros	Cons	Estimated Annual Water Cost	One-Time Tap Fee	Estimated Pipeline Costs	Estimated Cost of Getting Water to Pumphouse
1	Raw water line near the High School building	Easy connection into existing line Plenty of capacity except when Aspen Highlands is operating Raw water is cheaper	No operation when Aspen Highlands is operating at full capacity Primary power extension 400' to proposed pumphouse	\$33,005	None of the existing tap for Aspen Highlands can be utilized	305 ft 8" HDPE pipe \$40/ft material \$50/ft install <u>Net \$27,450</u>	\$27,450
2	12" Raw water parallel line to improve capacity by 2-300 gpm	Low cost Nordic could benefit via realization of high pipeline capacity	Requires coordination and agreement with Aspen Highlands Requires controls to not overdraw Raw water City may not allow for more water flow, so water may not always be available for Nordic	\$33,005	\$0	250 ft 8" HDPE pipe \$40/ft material \$50/ft install 2x\$10,000 connections <u>Net \$42,500</u>	\$42,500
3	30" concrete Raw water feed line tap ¹	Not a long connection Very close to primary power (approx. 60') vs. further extension required at alternate pumphouse	Uncertain tap fee for concrete pipeline Water availability subject to minimum flows in Maroon Creek Pumphouse may need to be benched into the road bank for screening	\$33,005 + Reimbursement for Lost Hydropower Revenue (Highly Variable and Difficult to Predict)	Assume \$0	1,000 ft 8" HDPE pipe plus concrete pipe tab \$40/ft material \$50/ft install \$25,000 tap <u>Net \$115,000</u> Assumes pumphouse at upper site	\$115,000
4	Potable Water, tap near parking lot ²	Adequate supply based on hydrant tests	Requires municipal water tap fee Requires Snomax More expensive Requires backflow preventer or air gap Primary power extension 400' to proposed pumphouse The City of Aspen Utilities Dept least prefers potable water	\$87,119	\$410,560	305 ft 8" HDPE pipe \$40/ft material \$50/ft install \$7,500 backflow preventer <u>Net \$34,950</u>	\$445,510

Option	Water Source	Pros	Cons	Estimated Annual Water Cost	One-Time Tap Fee	Estimated Pipeline Costs	Estimated Cost of Getting Water to Pumphouse
5	8"/6" Raw water tap blended with potable water as required, tap near High School parking lot	Adequate water Ability to use cheaper Raw water when available Expensive potable water when it isn't	Requires municipal water tap fee Requires Snomax More expensive Requires controls to not overdraw Raw water Primary power extension 400' to proposed pumphouse The City of Aspen Utilities Dept least prefers potable water	Estimate \$73,000 if 50% Raw, 50% potable water	\$410,560	305 ft 2x8" HDPE pipe 2x\$40/ft material \$50/ft install \$7,500 backflow preventer <u>Net \$62,400</u>	\$472,960
6	New Intake in Maroon Creek for 1 CFS (448gpm)	No water cost	Very expensive due to intake and long pipeline Water availability subject to minimum flows in Maroon Creek	\$0	\$0	6,500 ft HDPE pipe \$300/ft estimated material + install \$350,000 estimated intake \$650,000 estimated pumphouse <u>Net \$3,000,000</u>	\$3,000,000

¹ The concrete tap alternative would likely require the Parks Department to reimburse the Hydro plant for lost revenue during snowmaking operations. If the Hydro Plant averages 125 kW and is turned off entirely for a month, a total of 90,000 kWh would be lost. At \$0.25/kWh this amounts to \$22,000 per year. However, the snowmaking system would likely be operated about 25% of this time which would drop the lost revenue to about \$6,000 per year if the Hydro Plan can be turned on when snowmaking is not running.

² Because of incoming pressure, potable water at 100 psi would save 6,770 kWh for 7 million gallons. At \$0.25/kWh this is a \$1,700 per year savings in power costs.

Of the options evaluated for the High School, **Options 1 and 2** were selected as the most practical and cost-effective solution. This approach leverages existing infrastructure while enhancing early-season delivery capacity without requiring major permitting hurdles or long construction timelines. Although this option does not provide full water use abilities when Aspen Highlands is drawing at full capacity, it does allow the Nordic system to operate at a limited rate during October and November and reach full pumping capacity after Aspen Highlands concludes snowmaking operations. This sequencing aligns well with operational goals and seasonal system demands.

Table 9. Golf Course Water Supply Options

Option	Water Source	Pros	Cons	Estimated Annual Water Cost	One-Time Tap Fee	Estimated Pipeline Costs	Estimated Cost of Getting Water to Pumphouse
1	Expanded Clubhouse pond to provide 2.4 million gallons	Inexpensive water sourced from the Marolt Ditch in the summer All water on-site	Requires new reservoir close to the clubhouse Does not provide the full 3 million gallon max estimate	\$0	\$0	None – pumphouse adjacent to proposed expanded pond Pond estimated at \$400,000 by City of Aspen (construction in house)	\$400,000
2	Potable water, 4" tap connection ¹	Adequate water for the required system	Requires municipal water tap fee Requires Snomax More expensive Requires backflow preventer or air gap Primary power extension 400' to proposed pumphouse The City of Aspen Utilities Dept least prefers potable water	\$36,300	\$410,560	Minimal connection piping (60')	\$410,560
3	Potable water, 2" tap connection	No need to construct storage	Low capacity – estimated 200 gpm max at 20'/sec limit Reduced system size = longer coverage time Requires Snomax Requires backflow preventer Max capacity estimated at 200 gpm vs. approximately 400 gpm planned The City of Aspen Utilities Dept least prefers potable water	\$36,300	\$164,224	Minimal connection piping (60')	\$164,224

¹ At the Golf Course, savings would be 2,320 kWh which works out to \$580 per year in power costs. However, this savings would not be realized if an air gap is required.

At the Golf Course, **Option 1**—construction of a new on-site pond filled by the Marolt Ditch—was selected. This option provides a reliable, gravity-fed water source near the Clubhouse, minimizing infrastructure needs and allowing for seamless integration into the snowmaking system. The pond would be filled during the summer and fall months, storing sufficient volume for snowmaking and reducing demand on the City's water infrastructure during the winter. It also avoids the capital cost and operational complexity associated with potable water taps, storage tanks, and pumping systems.

C. WATER SOURCE SELECTION

The selection of water sources was a critical component of the overall system design. City engineering staff, utility representatives, and operational leadership were engaged throughout the evaluation process to ensure that the proposed approach would be acceptable to key stakeholders and administrators. Each option was evaluated not only for capacity and cost, but also for long-term sustainability, compatibility with existing infrastructure, and its ability to minimize disruption to other City operations. Importantly, legal considerations—including water rights and the allowable uses of each source—were also factored into the selection process. The resulting strategies reflect the most balanced and feasible solutions given the unique constraints at each location.

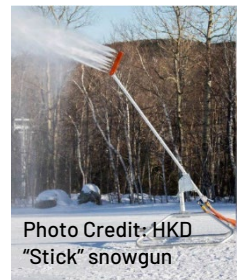
4. SNOWMAKING SYSTEM DESIGN

With water supply strategies identified, the next step in the planning process was to design a snowmaking system that fits the scale, operational goals, and environmental context of each Nordic venue. The following section outlines the primary components of the proposed snowmaking system, beginning with an overview of snowmaking equipment options and proceeding through layout, performance assumptions, and site-specific design recommendations.

A. SNOWGUN OPTIONS

There are three main types of snowmaking “guns”. Each type varies in terms of size, power requirements, snow output, and suitability for different trail configurations.

- **Traditional “air/water” snowguns:** These snowguns mix compressed air and water inside a nozzle and let it expand, creating a rapidly moving spray plume. These snowguns are loud, energy-intensive, and not recommended for the Aspen Nordic trail systems.
- **“Stick” or “lance” snowguns:** These snowguns inject a small amount of compressed air into a water spray formed by a series of pressurized nozzles. This mixing occurs outside the snowgun, with the air providing small ice nucleants to promote freezing. These snowguns can either be mounted on tall posts (typically 30 ft) or on small posts (typically 8 to 10 ft) that are towed around on small sleds. The nozzles can be configured to create a spray that is fairly linear, so they are often used in narrow areas like Nordic trails. These snowguns require both compressed air and water at each hydrant to operate (two separate pipelines), but do not require power. Typical stick guns cost in the range of \$5,000 to \$7,000.
- **Fan snowguns:** These snowguns use a ducted fan to blow a spray of water emanating from multiple nozzles located around the perimeter of the fan. These fan snowguns also typically have a small air compressor to create a stream of ice nucleants that help promote freezing in the snow plume. Fan snowguns work well in marginal temperatures and have a long “throw,” so they are ideal for wider areas like Nordic stadiums. Fan snowguns are larger and heavier than ‘stick’ snowguns. While portable, they typically require a four-wheeler or Snowcat for relocation, and movement is generally limited to periods with sufficient snow cover. Typical fan snowguns cost in the range of \$35,000 to \$50,000.



Overall, “stick” snowguns and fans use approximately the same amount of energy to both pump the water and to convert water into snow. In the case of “stick” snowguns, additional energy is required to operate a central air compressor. In the case of a fan snowgun, additional energy is required to operate the fan and the on-board air compressor at the snowgun. These separate energy requirements largely balance out between the two.

Some specific factors for consideration on the Aspen Nordic trail systems are:

- Fan snowguns require power at each snowgun location, so that power needs to be installed in the trench with the water pipeline. “Stick” snowguns require air piping to be added to the trench. For the most part, the cost of power infrastructure and air piping is equivalent.
- Fan snowguns require an electric pedestal at each snowgun location for the snowgun power feed. While it is technically possible to install these pedestals in a buried vault, this is not advised for safety/integrity reasons. Therefore, in most cases, pedestals must be installed in a permanent, above-ground configuration. On the other hand, air and water hydrants for “stick” snowguns can be installed in the small below-ground vaults where there are visibility or obstruction concerns.

- The incremental cost to automate fan snowguns is fairly low since there is already power at the snowgun location. “Stick” snowguns are more expensive to automate both because there are more snowguns (lower production volume per snowgun than fans) and there is not already power at the snowgun location.
- “Stick” snowguns require a central air compressor. This increases the footprint requirement at the pumphouse to accommodate air compressors, as well as potential noise impacts. The noise impact can be mitigated by locating air inlets and vents away from noise-sensitive areas.

B. RECOMMENDED SYSTEM TYPE AND DETAILS

A preferred system configuration was identified based on site needs and equipment tradeoffs.



Photo Credit: City of Aspen
Example of portable “stick” snowguns

SYSTEM TYPE

The City of Aspen aims to minimize fixed, above-ground permanent structures like electrical pedestals and tower snowguns due to their visual impact. This eliminates most use of fan snowguns or on-board compressor variants of ‘stick’ snowguns. However, a few screened locations—where utility access and aesthetic impacts are less of a concern—may be suitable for such installations. Therefore, the majority of terrain on the trail systems is planned to be covered by portable “stick” snowguns. The stadium at the High School and open areas where electrical pedestals can be integrated into existing features would be serviced by fan snowguns.

Both the “stick” and fan snowgun equipment can be shared between the two venues providing that production timelines align. It is recommended that each location have a baseline number of dedicated snowguns so that snowmaking can progress at both sites simultaneously if desired, with additional snowguns transported between the sites as priorities dictate.

It is recommended that the City of Aspen purchase 4 fan snowguns to be shared between both sites, along with 34 “stick” snowguns (30 Phazer and 4 Impulse R5, if using HKD) for the High School. Of these, 18 stick snowguns could also be used at the Golf Course as needed. A recommended distribution layout is provided for both locations in **Appendix B**.

COMPRESSED AIR OPTIONS

Compressed air supply is a key design factor for systems relying on ‘stick’ snowguns. The following options reflect different strategies for meeting the required air delivery without overcommitting capital or maintenance resources.

It is assumed that each of the locations would have the capacity to operate 4 fan snowguns. While fan snowguns can operate up to 125+ gpm, a typical throughput with temperatures in the low 20s is around 60 gpm. This would then consume up to 240 gpm of the pumping capacity. A “stick” snowgun operating at 20°F wet bulb would generally produce 19 gpm using 47 cfm of air. This suggests that the required air capacity for the High School is 1,410 cfm and the required air capacity for the Golf Course is 1,000 cfm.⁶

Given this, there are several options for compressed air supply:

- Rent compressors: Given the limited hours that snowmaking would be running, the most economical alternative is to rent air compressors for 1 to 2 months. It is most cost-effective to rent diesel compressors, though rented electric compressors are quieter and more suitable for the two locations. It is assumed that if compressors were rented, space would be provided in the pumphouse buildings to roll the compressor inside, connect power and an air discharge lines. The advantages of renting compressors is that the initial capital cost would be significantly reduced, the City of Aspen would not be responsible for maintenance costs, and the compressor could potentially be shared between the two locations, especially if two compressors were rented.⁷

⁶ This allows full use of the proposed Golf Course water capacity if all fans are initially located at the High School.

⁷ A typical electrical compressor rental rate for 1,600 cfm is \$17,000 (+\$3,000 cabling) per month.

- **Purchase compressors:** This option has the advantage of not requiring an annual expenditure of the rental option. While more expensive, an oil free rotary screw compressor can be purchased which is highly reliable, simple to operate, and would require very little maintenance given the few hours it would operate.

Overall, a preliminary budget price to purchase oil-free air compressors is \$546,000 for the two required at the High School and \$273,000 for the one at the Golf Course, or \$819,000 total. This includes an allowance for tariffs and is likely a conservative estimate providing a starting point for evaluation. In 2024, the rental rate for electric compressors was approximately \$12.50 per cfm per month, which would equate to a comparable rental rate of approximately \$30,000 per month, or \$60,000 for 2 months. That provides a straight-line payback of about 14 years if the compressors are rented for 2 months per year.



Photo Credit: Sno.matic
Example of a compressor

For the purposes of this analysis, it is assumed that electric compressors would be purchased. However, from an economic standpoint, it makes sense to consider renting part of the air capacity for a 1-month period (mid-November to mid-December) and shuttling it between the two venues.

ABOVE GROUND STRUCTURES

A conventional snowmaking system has hydrant standpipes protruding above the ground along the trail corridor, typically being spaced 100 to 125 ft apart on Nordic trail systems. A hose is connected between these hydrants and the snowgun to provide water flow. In a “stick” snowgun system, there are 2 hydrants at each location (air and water). In a fan system, there is only a water hydrant, but every 2 to 3 hydrants (roughly 250 to 300’ spacing) are equipped with an electrical pedestal.



Photo Credit: Sno.matic
Example electrical pedestal

Both the Golf Course and High School Nordic trail systems have aesthetic and multi-use constraints that restrict permanent snowmaking structures to screened locations. As a result, below-ground hydrant vaults are recommended for the majority of locations. These vaults consist of a 3 to 4 ft diameter vertical culvert with a lid (galvanized or plastic). To eliminate the potential for confined space entrapment, gravel is added up to 18 to 24” from the ground surface, and a 45° fitting is installed on the outlet of the hydrant to make it easier to attach hoses. A vault can hold a single or double set of hydrants. One drawback of below-grade vaults is that fresh snowfall can require crews to dig out hydrants mid-operation. However, since snowmaking typically occurs early in the season, this risk is limited. At the 2 venues, snowmaking would primarily occur early in the winter season and run times would be relatively short. In locations where hydrants or fan snowgun pedestals could be screened, they could be installed above ground.



Photo Credit: Sno.matic
Example hydrant vault

FACILITY RECOMMENDATIONS

For the **High School**, the snowmaking pumphouse would be located near the upper ball field, close to both power and Raw water connections. *This pumphouse would house two 400 gpm water pumps, each with a 100 HP motor. These pumps would draw water directly from the Raw water system, which would provide approximately 100 psi of pressure at the point of connection.* A central compressor (or compressors)—recommended to be an oil-free rotary screw compressor—would also be located within the pumphouse. This compressor could either be rented or purchased. There would be provisions to operate up to 4 fan snowguns, using pedestals shown in the site plans in **Appendix B**. There would also be one valve distribution vault, allowing piping legs to be isolated in the event of a pipe or hydrant malfunction.

For the **Golf Course**, the pumphouse may be located near a tree island between the driving range and the proposed snowmaking pond. *This pumphouse would house one 400 gpm water pump that has a 100 HP motor.* The pumphouse would also include space for a purchased or rented electric compressor. There would also be provisions to operate up to 4 fan snowguns that would be shared with the High School.

This layout ensures both sites can operate independently during peak snowmaking periods and makes efficient use of shared equipment where feasible.



Photo Credit: Sno.matic
Example of pumps for a snowmaking system

C. AUTOMATION

Snowgun automation is an attractive option for facilities with labor constraints. It also improves efficiency by optimizing the snowgun setting (flow) as temperatures change. However, several considerations should be weighed:

- **Portable vs. fixed snowguns:** Almost all automated “stick” snowguns use fixed, permanent snowgun towers located next to the hydrant set. The ability to remotely start-up and shutdown a snowgun is a great benefit of automation, and this is difficult with a portable sled-mounted snowgun. It is possible to install fixed snowgun towers on flanges or pipe mounts that can be removed after the snowmaking season, but fixed snowguns cannot be relocated to optimize snow deposition during windy conditions. In addition, it is unusual to move fixed snowguns during the operating season, so 1 snowgun would need to be purchased for each hydrant location. Sufficient portable sled snowguns could be purchased to run one-third to half the hydrants, then moved when snow coverage has been completed at 1 hydrant location.
- **Fan snowgun automation tradeoffs:** Fan snowguns can be installed as fully automatic fixed snowguns, which start-up/shutdown automatically, or as semi-automatic snowguns which are started manually but self-adjust as temperatures change. For fully automatic operation, the fan snowgun should be permanently mounted (just like the automatic “stick” snowgun option above). Given the limited hours the fan needs to run at each location and the high cost of the fans, permanent fans are difficult to justify at a Nordic facility like Aspen. There is typically a relatively small incremental cost to upgrade from a manual to a semi-automatic fan. However, for a hybrid system with a few semi-auto fans and numerous manual “stick” snowguns, there is a risk that when a semi-auto snowgun increases its flow setting (as temperatures get colder), it would outdraw the capacity of the pumps.
- **Labor needs for on-site adjustments:** With Nordic trails, it is critical that operations personnel are at or near the snowgun when it starts to adjust the orientation of the nozzle based on wind direction. On a Nordic trail (excluding stadiums and double track areas), the snow needs to land within a narrow 25 to 30 ft wide corridor, so properly aiming the snowgun is critical. In addition, personnel need to be at the snowgun location to disconnect and drain hoses during shutdown (assuming snowguns are mobile).

- Automation efficiency: In a Nordic facility, the snowguns are generally connected to the hydrants and pre-set to a prescribed snowgun stage prior to system start-up. This makes the start-up and shutdown of snowguns very quick, with most of the time spent rotating or moving a mobile snowgun to optimize deposition. This reduces many of the benefits of snowgun automation in Nordic facilities as opposed to alpine facilities, where the distances and slopes make it much harder for crews to get to the snowguns.

Automation is recommended for pump and compressor systems to allow remote monitoring by crews operating the snowguns. Fan snowguns may be equipped with semi-automatic capability to enable early-season use at either venue with minimal on-site staffing. The automation of “stick” snowguns at the High School is not recommended due to:

- Permanent snowgun infrastructure (hydrants or snowgun towers) cannot be installed above ground due to aesthetic and conservation impacts.
- The need to focus snow on the narrow Nordic track requires personnel to be at the snowgun during startup to aim the snowgun, so some of the benefits of full automation are eliminated.

At the Golf Course, two layouts have been prepared: one assuming manual operations of all “stick” snowguns, and an alternate configuration for an automated system in the area around the driving range. The automatic option requires fixed guns and hydrants to be installed along the trail corridor. The tower guns could be removed during the summer, but typically vaults and brackets would extend above the surface slightly under this scenario.

The proposed snowmaking systems reflect the functional and physical constraints of the Aspen Nordic trail network. Design choices—such as using portable “stick” guns, limiting permanent infrastructure, and sharing equipment between venues—were selected to meet early-season goals while minimizing cost and site impacts. Compressor sizing, hydrant placement, and limited automation were tailored to Nordic-specific operational needs. Overall, the system has been designed to perform efficiently within the given seasonal windows and site parameters.

5. STAFFING REQUIREMENTS AND COST

A. STAFFING REQUIREMENTS

Snowmaking operations at Aspen Nordic are designed to be supported by a small, efficient team. Because the system relies on portable snowguns and buried infrastructure, the majority of labor would occur during system start-up and shutdown, with relatively low staffing needs while snowmaking is in progress.

Each snowmaking session would begin with towing and positioning the snowguns, laying out hoses, and connecting them to hydrants. This work would be done by a crew of 4 to 6 people. Start-up involves turning on the air compressor and water pump, which pressurizes the system within minutes due to the below-frost installation of the pipes. Shutdown at the end of each session involves turning off the systems, disconnecting and blowing out hoses, and storing equipment for the next use. These tasks would be repeated each session and would be the most labor-intensive parts of the operation.

While the system is running, staffing demands would be significantly lower. Monitoring typically requires only 2 to 3 people to shift the guns as winds change and make occasional nozzle adjustments.

The tables below summarize the estimated labor hours required for both venues, based on total snowmaking hours, the number of sessions, average session length, and crew size assumptions. These estimates are based on Sno.matic's operational experience and are intentionally conservative to ensure they cover typical and slightly adverse conditions.

HIGH SCHOOL

At the High School, staffing needs reflect the longer trail network and more extensive snowmaking system than that of the Golf Course.

Table 10. Labor Hours Required for the High School

Snowmaking Session Time Assumptions	Quantity	Notes
Total Snowmaking Hours	180 hours	Based on system pumping capacity. Includes hours for start-up, runtime, and shutdown
Snowmaking Sessions	12 sessions	Based on industry experience
Average Session Duration	15 hours	180 hours ÷ 12 sessions
Start-up Time per Session	2 hours	-
Shutdown Time per Session	2 hours	-
Total Start-up/Shutdown Time	48 hours	12 sessions × (2 + 2)

Labor Hours Calculation	Time	Crew Size	Labor Hours	Notes
Start-up/Shutdown	48 hours	6 people	288	Most labor-intensive part of operation
Runtime	132 hours	3 people	396	180 total hours – 48 for start-up/shutdown
Total Labor Hours	-	-	684	-

At the High School, snowmaking would occur across 12 sessions with an average duration of 15 hours. Each session includes 2 hours for start-up and 2 hours for shutdown, totaling 48 hours. With a crew of 6 people, this results in 288 labor hours for system activation and closure. The remaining 132 hours of system runtime require 3 staff members to monitor operations, adding 396 labor hours. *In total, 684 labor hours are anticipated for the High School system.*

GOLF COURSE

Labor needs at the Golf Course would be slightly lower due to the smaller snowmaking coverage area and fewer snowmaking sessions.

Table 11. Labor Hours Required for the Golf Course

Snowmaking Session Time Assumptions	Quantity	Notes
Total Snowmaking Hours	150 hours	Based on system pumping capacity. Includes hours for start-up, runtime, and shutdown
Snowmaking Sessions	10 sessions	Based on industry experience
Average Session Duration	15 hours	150 hours ÷ 10 sessions
Start-up Time per Session	2 hours	-
Shutdown Time per Session	2 hours	-
Total Start-up/Shutdown Time	40 hours	10 sessions × (2 + 2)

Labor Hours Calculation	Time	Crew Size	Labor Hours	Notes
Start-up/Shutdown	40 hours	4 people	160	Most labor-intensive part of operation
Runtime	110 hours	2 people	220	150 total hours – 40 for start-up/shutdown
Total Labor Hours	-	-	380	-

At the Golf Course, 10 snowmaking sessions are expected. Each includes 4 hours of start-up and shutdown time, totaling 40 hours, with a crew of 4 people—resulting in 160 labor hours. The 110 hours of runtime require only 2 staff, contributing another 220 labor hours. *Altogether, the Golf Course system is projected to require 380 labor hours.*

Across both venues, these estimates reflect the operational pattern typical of Nordic snowmaking: brief periods of intensive set-up and shutdown work paired with relatively passive monitoring while the system runs. This model would enable the systems to function with modest labor resources. *Total combined labor across both systems amounts to an estimated 1,064 hours per season.* These figures support a lean, efficient staffing plan aligned with the scale and design of the Aspen Nordic snowmaking system.

B. CAPITAL, OPERATING, AND MAINTENANCE COSTS

While labor is a key component of the overall investment, capital infrastructure and other recurring operating expenses also play a critical role in evaluating project feasibility and long-term sustainability. This section outlines the associated infrastructure, utilities, maintenance, and labor costs for both the High School and Golf Course systems.

The following tables (**Tables 12** through **15**) provide estimated capital and operating costs for the High School and Golf Course snowmaking systems. Maintenance costs are also included, based on industry averages. Electric costs are based on current Holy Cross Energy rates. While the City of Aspen could alternatively purchase electricity through its municipal utility—offering 100% renewable power—this approach would involve higher rates and a 1-time ECI (Electric Capacity Infrastructure) charge estimated at \$200,000 per site.

HIGH SCHOOL

Tables 12 and **13** summarize the capital costs and operating and maintenance costs for the High School snowmaking system. These figures reflect a more extensive system footprint, higher total coverage area, and a more complex infrastructure—including 34 snowguns, 2 compressors, and greater piping requirements. The Raw water source incurs an ongoing per-gallon cost, contributing to higher annual operating expenses compared to the Golf Course.

Table 12. Capital Costs for the High School Snowmaking System

Snowmaking Infrastructure	Quantity	Price per	Total	Origination of Estimate
Piping Distribution				
Water Pipe - Supply/Weld/Install	7,220 LF	\$70 per ft	\$505,400	Towsley Estimate
Air Pipe - Supply/Fuse/Install	7,220 LF	\$30 per ft	\$216,600	Towsley Estimate
Pipeline excavation	7,220 LF	\$45 per ft	\$324,900	Towsley Estimate
Shading for Backfill	7,220 LF	\$15 per foot	\$104,690	Towsley Estimate
Laterals (2")	940 LF	\$50 per ft	\$47,000	Towsley Estimate
Raw Water Connection	300 LF	-	\$24,400	Sno.matic Estimate
Parallel Raw Water Piping	250 LF	-	\$62,500	Sno.matic Estimate
Hydrant vaults, hydrants - single	22 units	\$4,000 per unit	\$88,000	Towsley Estimate
Hydrant vaults, hydrants - double	25 units	\$3,000 per unit	\$75,000	Towsley Estimate
Electrical Wire - Supply/Install	2,150 LF	\$25	\$53,750	Towsley Estimate
Electrical Wire - Trench	2,150 LF	\$20	\$43,000	Towsley Estimate
Electrical Pedestals	6 units	\$3,000	\$18,000	Towsley Estimate
Pipeline Mobilization	1 unit	\$75,000	\$75,000	Towsley Estimate
Pumphouse Building				
Structure	1,000 sq ft	\$500 per sq ft	\$500,000	Towsley Estimate
Pump Skid	1 unit	\$187,500	\$187,500	TorrenSkid quote
Compressor	2 unit	\$273,000	\$546,000	Copco quote
Mechanical Install	1 unit	\$100,000	\$100,000	Sno.matic Estimate
Snowguns				
Stick Guns (Phazer)	30 unit	\$6,000	\$180,000	Based on HKD pricing
Fan Guns (auto)	4 unit	\$55,000	\$220,000	Based on HKD pricing
Electrical				
Transformers	Assumed provided by utility, requires 1000 kva XFRMR			-
Service Entrance	1 unit	\$100,000	\$100,000	-
Panel Board	1 unit	\$80,000	\$80,000	-
Electrical Install	1 unit	\$100,000	\$100,000	-
Instrumentation and Control				
Instrumentation and Control	1 unit	\$85,000	\$85,000	-
Subtotal Capital Costs				\$3,736,740
Contingency 15%				\$560,511
TOTAL CAPITAL COSTS				\$4,297,251

Table 13. Annual Operating & Maintenance Costs for the High School Snowmaking System

Snowmaking Infrastructure	Quantity	Total
Water		
Raw Water Cost	5.76 million gallons, \$5.73/kgal	\$33,005
Electric		
Electrical Demand Charges ¹ - Holy Cross	-	\$14,919
Electrical Energy Charges - Holy Cross	-	\$10,474
Labor		
Labor Estimation	684 total hours, \$65 per hour (with burden)	\$44,460
Maintenance		
Maintenance Allocation	Recommended = 25% of Water + Electric + Labor	\$25,714
TOTAL ANNUAL COSTS		\$128,572

¹ Demand charges may be higher for the first several years to pay for primary delivery.

GOLF COURSE

Tables 14 and **15** provide equivalent cost detail for the Golf Course. While this system is smaller in scale, it still includes robust infrastructure such as a dedicated pumphouse and 1 compressor. Because water would be coming from a new pond on the Golf Course fed by the Marolt Ditch, there are no anticipated charges for water use, contributing to comparatively lower annual operating costs.

Table 14. Capital Costs for the Golf Course Snowmaking System

Snowmaking Infrastructure	Quantity	Price per	Total	Origination of Estimate
Piping Distribution				
Water Pipe - Supply/Weld/Install	5820 LF	\$70 per ft	\$407,400	Towsley Estimate
Air Pipe - Supply/Fuse/Install	5820 LF	\$30 per ft	\$174,600	Towsley Estimate
Pipeline excavation	5820 LF	\$45 per ft	\$261,900	Towsley Estimate
Shading for Backfill	5820 LF	\$15 per foot	\$84,390	Towsley Estimate
Laterals (2")	700 LF	\$50 per ft	\$35,000	Towsley Estimate
Hydrant vaults, hydrants - single	23 units	\$4,000 per unit	\$92,000	Towsley Estimate
Hydrant vaults, hydrants - double	11 units	\$3,000 per unit	\$33,000	Towsley Estimate
Electrical Wire - Supply/Install	1600 LF	\$25	\$40,000	Towsley Estimate
Electrical Wire - Trench	1600 LF	\$20	\$32,000	Towsley Estimate
Electrical Pedestals	5 units	\$3,000	\$15,000	Towsley Estimate
Pipeline Mobilization	1 unit	\$50,000	\$50,000	Towsley Estimate
Pumphouse Building				
Structure	750 sq ft	\$500 per sq ft	\$375,000	Towsley Estimate
Pump Skid	1 unit	\$150,000	\$150,000	Estimated from HS Quote
Compressor	1 unit	\$273,000	\$273,000	Copco quote
Mechanical Install	1 unit	\$100,000	\$100,000	Sno.matic Estimate
Reservoir				
Reservoir	1 unit	-	\$400,000	Estimate for in-house construction
Snowguns				
Stick Guns (Phazer)	20 units	\$6,000	\$120,000	Based on HKD Pricing
Fan Guns (auto)	0 units	\$55,000	Included in High School Estimate	
Electrical				
Transformers	Assumed provided by utility, requires 500 Kva XFRMR			-
Service Entrance	1 unit	\$60,000	\$60,000	-
Panel Board	1 unit	\$50,000	\$50,000	-
Electrical Install	1 unit	\$75,000	\$75,000	-
Instrumentation and Control				
Instrumentation and Control	1 unit	\$65,000	\$65,000	-
Subtotal Capital Costs				\$2,893,290
Contingency 15%				\$433,994
TOTAL CAPITAL COSTS				\$3,327,284

Table 15. Annual Operating & Maintenance Costs for the Golf Course Snowmaking System

Snowmaking Infrastructure	Quantity	Total
Water		
Raw Water Cost	2.4 million gallons, \$0/kgal	\$0
Electric		
Electrical Demand Charges ¹ - Holy Cross	-	\$10,774
Electrical Energy Charges - Holy Cross	-	\$5,673
Labor		
Labor Estimation	380 total hours, \$65 per hour (with burden)	\$24,700
Maintenance		
Maintenance Allocation	Recommended = 25% of Water + Electric + Labor	\$10,287
TOTAL ANNUAL COSTS		\$51,434

¹ Demand charges may be higher for the first several years to pay for primary delivery.

These cost summaries show that the **High School** system would require a *larger capital investment—approximately \$4.30 million*—due to the longer trail network, higher pumping capacity, and larger number of snowguns (34 total, including 4 fan guns). Annual operating and maintenance costs are estimated at \$129,000, driven primarily by labor, followed by water costs (\$5.73/kgal for 5.76 million gallons), electrical usage, and a maintenance allocation.

By comparison, the **Golf Course** system's *capital costs are estimated at \$3.33 million*. This lower total reflects the smaller number of snowguns (20 stick guns). Annual operating and maintenance costs for the Golf Course are estimated at \$51,000, also driven primarily by labor, followed by electrical usage, and a maintenance allocation. There is no anticipated water cost for the Golf Course, since water would be coming from a new pond on the Golf Course fed by the Marolt Ditch. Automating snowmaking operations at the driving range portion of the Golf Course would add an estimated \$330,000 to capital costs.

For **both venues** together, *the total capital cost to implement snowmaking would be approximately \$7.62 million*, with total annual operating and maintenance costs estimated at \$180,000. If automation is included at the Golf Course, total capital costs amount to \$7.95 million. These figures reflect the full build-out scenario and include all primary infrastructure, utilities, and staffing assumptions for both the High School and Golf Course.

Cost efficiencies would be reinforced by shared equipment (e.g., fan guns) and the strategic use of gravity-fed infrastructure at the Golf Course. Additional savings could be explored in the future through the use of pre-fabricated structures.

It should be noted that permitting costs are not included in the above estimates. **Sections 6 and 7** outline anticipated environmental impacts and permitting requirements, respectively.

6. ENVIRONMENTAL IMPACTS

The proposed snowmaking system and related trail improvements are expected to result in relatively limited environmental impacts. Nonetheless, areas of disturbance should be managed with care to maintain existing site functions and comply with applicable regulations.

A. STORMWATER DRAINAGE AND INFRASTRUCTURE

No new stormwater infrastructure (e.g., culverts or ditches) is proposed at either site, both of which currently have minimal to none. All earthwork would follow local permitting requirements and best practices for restoration. Snowmaking installation is expected to have minimal long-term impact on drainage patterns, given the limited introduction of hardscape and the commitment to restoring grade and vegetation post-construction.

B. GROUND DISTURBANCE

The project would result in two types of ground disturbance at both the High School and the Golf Course:

1. Permanent disturbance from trail grading, which would modify the existing grade to support improved trail alignments, and from minimal surface equipment installation; and
2. Temporary disturbance associated with snowmaking system installation, including utility trenching and construction access, after which the existing grade would be restored.

All areas requiring earthwork would be considered “disturbed.”

PERMANENT DISTURBANCE

At the **High School**, *permanent disturbance may range from 0.25 to 0.50 acres*, depending on whether grading is pursued in addition to snowmaking installation.

At the **Golf Course**, trail improvements and limited surface equipment installation would *permanently disturb approximately 2.5 acres* of ground vegetation.

TEMPORARY DISTURBANCE

Snowmaking installation would require a temporary disturbance corridor up to 20 ft wide along the proposed pipe alignment, providing space for trenching (approximately 6 ft wide), staging, and equipment access. Soil excavation would be limited to the trench footprint where practicable. To support revegetation and soil stabilization, topsoil should be stripped and stockpiled separately, then replaced as the final lift during backfill. Temporary above-ground irrigation infrastructure should be considered to support native area restoration.

Based on current plans, *the project could result in up to 4 total acres of temporary ground disturbance.*

C. MATURE OAKS

Mature oak trees within the High School trail system contribute to the site’s ecological and visual character. The proposed trail alignment has been designed to avoid removal of these trees. Minor branch trimming may be necessary to maintain adequate clearance within the trail corridor, but no stump removal is anticipated.

7. LAND USE REQUIREMENTS

This section draws on the plats and covenants provided to assess whether snowmaking infrastructure is compatible with the designated recreational uses and open space goals at the High School and Golf Course. SE Group prepared a supplemental zoning review to evaluate applicable permitting pathways under both City of Aspen and Pitkin County codes, which can be found in **Appendix F**.

A. HIGH SCHOOL

The High School land property is owned and governed by the City of Aspen and the Moore Family PUD. Portions of the property are adjacent to, and governed by, easements and covenants tied to the Five Trees subdivision, including designated open space areas. As such, coordination with the Five Trees HOA may be required for any modifications to existing easements or new infrastructure proposed within those areas.

Plats and covenants outlining land use requirements for the High School include:

- Document 420462: PUD Plat – Lot Line Adjustment for Moore Family PUD
- Document 420463: Planned Unit Development Guide – Moore Family PUD
- Document 420493: Declaration of Covenants, Conditions and Restrictions – Moore Family Athletic Fields
- Document 420494: Assignment and Assumption of Declaration of Covenants – Moore Family Athletic Fields

A summary of the permitted use, permitted infrastructure, restrictions, and development review implications contained in these documents is provided below.

PERMITTED USE

Permitted use of the Moore Family Athletic Fields is designated for baseball, softball, and soccer and their associated infrastructure. A portion of the property separates the Moore Family Athletic Fields and the Meadowood Subdivision. This portion of the property is designated for open space uses and Nordic skiing; no physical infrastructure like swing sets, barbecue pits, or picnic tables shall be permitted. Special events may be hosted at the Moore Family Athletic Fields four times each year on Sundays from 9 a.m. to 5 p.m. Overall, the use of the property is designated for recreational purposes associated with using the fields.

PERMITTED INFRASTRUCTURE

Mentions of infrastructure within the Declaration Covenants is geared explicitly towards facilitating the use of the baseball/softball and soccer fields. The explicit mentions of infrastructure that is or is not allowed include:

- No lighting will be permitted for any of the fields. The parking lot lighting shall be restricted to the minimum level necessary for safety or legal standards.
- Restroom facilities shall be limited to portable and removable facilities located on the far western edge of the property. Restrooms shall also be removed during the winter season.
- Bleachers are not permitted on the fields
- Snow removal and maintenance on the Nordic trails is allowed
- The use of a sound system or loudspeaker is prohibited

Infrastructure such as snowmaking may be allowed as long as it is reviewed through proper land use and building permit processes. Physical infrastructure for the snowmaking system, like pumps, hydrants, pipelines, or electrical connections, would most likely need to be visually screened or placed in areas that would not impede the primary recreation or use of the fields.

RESTRICTIONS

The Moore Family Athletic Fields are limited to athletic fields, open space, and public recreation. The installation of snowmaking facilities on this property must be compatible with the designated recreational use, must not interfere with public access, and may require review or approval by Pitkin County or other interested parties before implementation.

DEVELOPMENT REVIEW IMPLICATIONS

The installation of snowmaking infrastructure would likely require a site plan review or amendment to the Planned Unit Development if new above-ground infrastructure, utility extensions, or water conveyance structures are proposed. Before implementation, a review of site plans and a potential amendment with Pitkin County and other interested parties shall occur.

ANTICIPATED TIMELINE

Permitting processes for the High School are expected to take 18 to 24 months, with some concurrent tasks listed below:

- Initiate land use application, retain Land Planner (2 months)
- Formal Pre-application conference with City of Aspen Community Development, Planning Office (1 month)
- Formal presentation, request, and conversation with Five Trees HOA and Metro District (2 months)
 - Determination of agreement that would authorize amendments, Five Trees Open Space (2-4 months)
 - Preparation of amended easements (3-5 months)
- Outreach with adjacent neighbors (3 months)
 - Five Trees
 - School District
 - Meadowood
 - Bus barn lane residents
- Development of PD amendment application (3-6 months)
- Establish Raw water agreements (3 months)
- PD amendment submittal and City Council Review and Ordinance (6-9 months)
- Landscape and Grading & Building Permit Submittal (6 months)

A Greenline review process may also be required for the High School. Further detail is provided in **Appendix F**.

B. GOLF COURSE

The Golf Course land property is owned by the City of Aspen and is managed as the Aspen Golf Course Subdivision. Plats and covenants outlining land use requirements for the Golf Course include:

- Document 269092 (1985 Plat): Subdivision Exemption Plat – Aspen Golf Course Subdivision
- Document 451795 (2001 Plat): Amended Plat – Aspen Golf Course Subdivision

A summary of the permitted use, permitted infrastructure, restrictions, and development review implications contained in these documents is provided below.

PERMITTED USE

Snowmaking infrastructure is understood to be generally allowed as long as below-ground elements do not impact landform or drainage, and above-ground elements do not conflict with the existing Golf Course layout. Above-ground elements would likely require review before installation to avoid impacting the property's fairways, greens, or irrigation systems.

PERMITTED INFRASTRUCTURE

Infrastructure such as snowmaking may be allowed as long as below-ground elements do not interfere with golf operations or permanently alter landform or drainage, and above-ground elements do not conflict with the existing Golf Course layout. Above-ground elements would likely require review before installation to avoid impacting the property's fairways, greens, or irrigation systems.

RESTRICTIONS

The Aspen Golf Course Subdivision identifies certain areas, like utility easements, drainage areas, and access routes, that need to remain unobstructed. The installation of snowmaking infrastructure for the Nordic trails must be sited to avoid these areas, or additional permitting must be obtained if they intersect or overlap with existing infrastructure.

DEVELOPMENT REVIEW IMPLICATIONS

Installation of snowmaking infrastructure at the Aspen Golf Course Subdivision would require coordination with the City of Aspen to confirm compatibility with summer operations. New permitting and design review through Pitkin County could also be necessary, specifically for trenching for water and utility lines, and for pumphouses that exist on school district property. It would also be essential to submit a site plan to ensure proper engineering, environmental, and zoning are considered. An engineering review would be needed to ensure adequate grading and drainage plans and erosion control measures are in place. An environmental review would ensure that adding this infrastructure or machine-produced snow would not impact nearby streams or wetlands. A zoning review would ensure utility corridors are correctly sited and snowmaking infrastructure installation is aligned with other uses on the property.

ANTICIPATED TIMELINE

Permitting processes for the Golf Course are also expected to take 18 to 24 months, with some concurrent tasks listed below:

- Initiate land use application, retain Land Planner (2 months)
- Formal Pre-application conference with City of Aspen Community Development, Planning Office (1 month)
- Formalize any water right documentation (6 months)
- Outreach with adjacent neighbors (3 months)
- Development of PD amendment application (3-6 months)
- Establish Raw water agreements (3 months)
- PD amendment submittal and City Council Review and Ordinance (6-9 months)
- Landscape and Grading & Building Permit Submittal (6 months)

CONCLUSION AND RECOMMENDED NEXT STEPS

The proposed snowmaking system would cover 3.3 km at the High School and 2.2 km at the Golf Course. At the High School, annual water use is projected at 5.76 million gallons. Water would be drawn from the City of Aspen's Raw water pipe system, potentially via a new bypass near the Aspen Highlands pump station. This bypass would allow for up to 300 gpm to be delivered while Aspen Highlands is operating at capacity, and full access would be available once Aspen Highlands completes snowmaking—typically by December 1.

At the Golf Course, an on-site storage pond would be constructed to hold 2.4 million gallons, matching the projected annual demand. The pond would be filled each summer using the existing irrigation system that draws from the Marolt Ditch.

A climate analysis indicates that Aspen receives sufficient cold weather to support snowmaking. In 8 out of 10 years, there are approximately 253 snowmaking hours before December 1 and 567 hours before December 15. Based on these conditions, *the recommended snowmaking capacity is 800 gpm of water and 1,400 cfm of compressed air for the High School, and 400 gpm of water and 1,000 cfm of compressed air for the Golf Course.*

The system would use primarily portable, low-energy stick guns, supplemented by 4 fan guns shared between the two sites. Hydrants would be installed in below-grade vaults in sensitive public areas, with permanent standpipes and electrical pedestals placed only where they can be visually screened. Due to the narrow trail width of Nordic tracks and the desire to remove equipment after snowmaking is complete, the system would be designed with automated pump and compressor controls, while snowguns would be operated manually, though an alternative option has been provided for snowgun automation on the Golf Course.

The estimated capital cost is \$4.30 million for the High School and \$3.33 million for the Golf Course, amounting to approximately \$7.62 million in total capital costs for both systems. If full automation is pursued for the driving range portion of the Golf Course, capital costs would increase by \$330,000, totaling \$3.66 million for the Golf Course and \$7.95 for both systems together. These estimates should be refined during final design, as they reflect current pricing and do not account for funding sources or repayment obligations related to the initial capital investment.

Annual operating and maintenance costs are estimated at approximately \$129,000 for the High School and \$51,000 for the Golf Course, reflecting water, electric, labor, and maintenance expenses. *Labor requirements are estimated at 684 hours for the High School and 380 hours for the Golf Course per season, totaling approximately 1,064 hours annually across both systems.*

When ready to initiate next steps, the City of Aspen Parks Department should evaluate funding feasibility for the proposed snowmaking systems. If funding appears viable, the next step would be to advance construction documentation. Once draft construction documents are developed, the City can engage in preliminary permitting discussions with relevant departments and agencies. These conversations may result in necessary revisions to the construction documents. Final approvals should then be secured based on the refined design, with opportunities to phase construction based on funding availability, site access, and operational needs.

REFERENCES

IN-TEXT CITATION	FULL REFERENCE
Luce et al. 2023a	Luce, C. et al. 2023. White River National Forest Snow Water Equivalent (April 1): Percent Change (1975-2005 vs. 2071-2090, RCP 8.5). Available at: https://usfs.maps.arcgis.com/apps/Cascade/index.html?appid=84d0b8b9388343149f5365de517a6689
USDA Forest Service 2024a	USDA Forest Service. 2024. Climate By Forest Average Daily Maximum Temperature. Available at: https://climate-by-forest.nemac.org/
USDA Forest Service 2024b	USDA Forest Service. 2024. Climate By Forest Average Daily Minimum Temperature. Available at: https://climate-by-forest.nemac.org/

APPENDIX G: ADOPTIONS



Town of Snowmass Village

Agenda Item Summary

DATE OF MEETING:

June 1, 2026

AGENDA ITEM:

Executive Session

PRESENTED BY:

Clint Kinney, Town Manager

BACKGROUND:

The Town Council has reason to convene in Executive Session. To convene in executive session, the Colorado Open Meetings Law requires that the Town announce the topics for discussion with specific statutory citation and to identify the particular matter(s) to be discussed in as much detail as possible without compromising the purpose for which the executive session is authorized. A motion to enter executive session for the announced purposes must be passed by 2/3 of the quorum voting in the affirmative for said motion.

FINANCIAL IMPACT:

N/A

APPLICABILITY TO COUNCIL GOALS & OBJECTIVES:

N/A

COUNCIL OPTIONS:

Convene in Executive Session
Choose not to convene in Executive Session

STAFF RECOMMENDATION:

Town Council will now meet in Executive Session pursuant to C.R.S. 24-6-402(4) and Snowmass Village Municipal Code Section 2-45(c) for the following purpose:

- a) To discuss personnel matters, except if the employee who is the subject of the session has requested an open meeting, pursuant to C.R.S. 24-6-402(4)(f)(I) and Snowmass Village Municipal Code Section 2-45(c)(6), more specifically related to: Performance Review of Town Manager

Provided, there is an affirmative vote of two-thirds of the quorum present at this meeting to hold an Executive Session and for the purposes of considering item (a) above. Provided further, that no adoption of any proposed policy, position, resolution, regulation, or formal action shall occur at this Executive Session.

ATTACHMENTS:

N/A