

**SAN JUAN REGIONAL PLANNING COMMISSION
AGENDA
AUGUST 20, 2024
SAN JUAN COUNTY COURTHOUSE**

San Juan Regional Planning Commission meetings will be conducted in a hybrid virtual/in-person format. All persons including Board Members, Staff, Applicants and interested Public may meet in person or via zoom. The information necessary to connect to the public meeting is listed below.

7:00 PM Roll Call of Members and Minutes

7:05 PM Improvement Permit Application

Thomas and Jacqueline BonAnno, Tennessee Lode MS 5985 Preliminary/Final Plan Application for the development of a single-family dwelling and associated utility improvements located in the Minnehaha Creek area accessed from CR 51

OTHER:

ADJOURN: Next Regular Meeting – 6:30 PM, Tuesday September 17, 2024

Join Zoom Meeting

<https://zoom.us/j/92136473203>

Meeting ID: 921 3647 3203

One tap mobile

+16699006833,,92136473203# US (San Jose)

+12532158782,,92136473203# US (Tacoma)

Dial by your location

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 921 3647 3203

The San Juan Regional Planning Commission met virtually via zoom and in the San Juan Commission meeting room on July 16, 2024, at 7:01 PM with roll call showing the following attendance:

Bev Rich	X	Ken Safranski	X
Jim Weller	X	Melissa Childs	X
Lindsey Halvorson	Absent	Austin Lashley	X
Jim Harper	X		

Also present via Zoom were Bev Rich, Melissa Childs, and Jim Harper. Present in the San Juan Meeting Room were William Tookey, County Administrator and Chris Tookey, Secretary, along with Jim Weller, Ken Safranski, Austin Lashley, Cary and Greg Hastel and Kirk Huff.

MINUTES: May 21, 2024

Jim Weller made a motion to approve the minutes of June 18, 2024, with a second from Austin Lashley. The motion passed unanimously with a show of hands.

COUNTY IMPROVEMENT PERMIT APPLICATION PRELIMINARY/FINAL PLAN WINNEMUCCA MILL SITE 563B FOR SINGLE FAMILY DWELLING AND ASSOCIATED UTILITY IMPROVEMENTS LOCATED IN HOWARDSVILLE ACCESSED FROM CR2.

The owner Kirk Huff was present to answer questions. After background of the project from William Tookey, Land Use Administrator and comments from the owner and a Public Hearing comment time was given to the Public. Since there were no further comments the Public Hearing was closed. The members of the Planning Commission were given time to express any concerns. The lengthy discussion and going over the background of the project, questions and further presentations from the owner, the Planning Commission then made a motion from Ken Safranski to recommend to the San Juan County Commissioners that they approve the County Improvement Permit Application Preliminary/Final Plan with the eight conditions as presented. Jim Harper seconded the motion, and the motion passed unanimously with a roll call vote.

A letter was sent to the San Juan County Commissioners.

William Tookey told the Planning Commission members that he was scheduling a site visit on the first August meeting of the San Juan County Commissioners (August 14) to go visit the Silver Cloud Lodge Plan in Chattanooga area and any of the Planning Commissioners were invited to join them. He would send them a notice.

The meeting was adjourned at 7:50 PM.

Respectfully Submitted,

Christine M. Tookey, Secretary

MEMORANDUM

August 20, 2024

TO: San Juan Regional Planning Commission

FR: William A. Tookey

RE: Tennessee Lode MS #5985 Improvement Permit Preliminary/Final Plan

Mountain Studios has submitted an Improvement Permit application on behalf of Thomas and Jacqueline BonAnno for the development of an 844 sq. ft. cabin, 140 sq. ft. covered deck, gravel driveway, septic system, underground water storage tank and associated utility improvements on the Tennessee Lode MS 5985. The property is located in Minnehaha Creek area and will be accessed by Country Road 51.

The property is currently owned by Thomas and Jacqueline BonAnno and the taxes are current.

The application fees have been paid.

The adjacent landowners were previously notified via US Mail of the proposed Improvement Permit application.

During their regular meeting of May 8, 2024 the Board of County Commissioners held a public hearing to receive comments concerning the sketch plan application. Upon completion of the public hearing the Commissioners approved the application with the following conditions:

1. That the applicant acknowledges that emergency services will not be available in a timely manner and perhaps not at all.
2. That an expert determination be made that the proposed improvements are located outside of the Alpine Tundra Ecosystem.
3. All improvements to the Tennessee Lose shall fully and completely comply with, and strictly conform to, all terms, conditions and restrictions contained in the San Juan County Zoning and Land Use Regulation, all permits issued, and all applicable State and Federal rules and regulations.
4. The applicant shall fully and completely comply with the San Juan County Zoning and Land Use Regulation 4-110 Design and Development Standards for all Improvement and Use Permits.
5. The Land Use Administrator visits the site prior to the Preliminary/Final review.
6. That the Tennessee Lode MS #5985 and the Sampson Double MS #15355 be consolidated into one parcel.

7. That the proposed improvements are identified and staked on site by a Colorado Licensed Surveyor.
8. That the applicant be placed on the Town of Silverton's Utility billing system for water and refuse.
9. That story poles be located on the site defining the corners and maximum height of the proposed cabin and that the results be included in the Scenic Quality Report.
10. The failure to comply with these conditions shall be grounds for the revocation of this Land Use Permit.

The applicant has included in their application a report from Barr Engineering Company that has determined that the proposed improvements are located outside of the Alpine Tundra Ecosystem.

The applicant also installed story poles on the site to define the corners and maximum height of the proposed cabin and updated their Scenic Quality Report to reflect that.

I was also able to visit the site with Building Inspector Bevan Harris and have attached some photos of the site visit. The proposed building site will have considerably less visual impact in the Minnehaha Basin than most of the current residential structures in the area.

Section 1-107.1 of Zoning and Land Use Regulations requires that if an applicant has an existing residential property in the Mountain Zone the application must be reviewed using the criteria of the subdivision regulations in Chapter 7 or PUD Regulations.

The applicant currently owns the adjacent Eastern Star Lode MS #5985 which is used for residential purposes. The applicant also owns the adjacent Sampson Double that does not currently have any improvements located on it.

The application appears to follow the general guidelines of a Use Subject to Review Application rather than the subdivision regulations. Much of the Chapter 7 Subdivision Regulations are not applicable to the proposed development.

However, under the Chapter 7 Subdivision Regulations the applicant would be responsible for affordable housing as specified:

.8A AFFORDABLE HOUSING

(e) For a subdivision or PUD with less than ten (10) residential units or less than 15,000 gross square feet of commercial space a housing assistance fee shall be paid to the County in the following amount:

2 lots .05% of the full market value of the gross land area
3 lots 1% of the full market value of the gross land area

Any fees collected under this provision shall be used for the development of affordable and/or employee housing and shall be collected at final plat approval.

The affordable housing fee would be determined depending upon if the Double Sampson was included

The applicant would also be required to designate areas for public use as stated below.

.15 *A subdivision shall include the designation of areas, or sites, of character and location suitable for public use for schools and parks, according to one of the following alternatives or a combination of them as determined by the Board of County Commissioners.*

(a) 5% of the gross land area of the final plat shall be dedicated to public use.

(b) 5% of the full market value of the gross land area of the final plat, determined at the time of the final plat submission, shall be paid by the subdivider to the county.

The public use could be identified for the defining the specific designations to ensure the traditional public access for winter recreation continues.

The Commissioners also approved a variance to the 50' setback as required by the subdivision regulations to allow for a 30' setback from private property and 20' setback from public lands as allowed under the Improvement Permit regulations.

The Planning Commission has the option to recommend approval as submitted, approval with conditions or denial.

Should the Planning Commission choose to recommend approval, they should do so with the following conditions prior to the issuance of an Improvement Permit:

1. That the applicant acknowledges that emergency services will not be available in a timely manner and perhaps not at all.
2. All improvements to the Tennessee Lose shall fully and completely comply with, and strictly conform to, all terms, conditions and restrictions contained in the San Juan County Zoning and Land Use Regulation, all permits issued, and all applicable State and Federal rules and regulations.

3. The applicant shall fully and completely comply with the San Juan County Zoning and Land Use Regulation 4-110 Design and Development Standards for all Improvement and Use Permits.
4. That the Tennessee Lode MS #5985 and the Sampson Double MS #15355 be consolidated into one parcel.
5. That the proposed improvements are identified and staked on site by a Colorado Licensed Surveyor.
6. That the applicant be placed on the Town of Silverton's Utility billing system for water and refuse.
7. That the applicant agrees to an affordable housing fee as defined in the subdivision regulations.
8. That the applicant agrees to provide traditional access to the property for recreational purposes to be in compliance with the subdivision regulations that require the designation of land for public use.
9. The failure to comply with these conditions shall be grounds for the revocation of this Land Use Permit.



Story Poles



Story Poles



Mr. BonAnno's existing cabin from proposed building site.



Story Poles



Other cabins in Minnehaha



The following was the review of the Sketch Plan Application and is provided for your convenience.

Mountain Zoning District requires a minimum parcel or lot area of 5 acres with a setback of 20 feet from public lands and 30 feet from private property lines. The Tennessee Lode is 9.7 acres. The proposed cabin would exceed the setback requirements.

The elevation of the cabin is 11,835 ft. Because the elevation is above 11,000 ft. the maximum square footage allowed for the cabin is 1,000 sf and a maximum of 200 sf for the shed. The proposed cabin has a floor area of 844 sq. ft.

Residential development of any sort within the alpine tundra ecosystem is prohibited. It does not appear that the proposed development of the cabin is within the alpine tundra ecosystem.

The applicant has substantially met the requirements for application submittals as required by 3-102 Requirements for Uses and Improvements.

All applications for review will be examined initially to determine whether the proposal is consistent with the County's Master Plan.

Master Plan Strategy LU-2.1 Encourages future development in the economic corridors which include the upper Animas Valley from Silverton to Eureka, Cement Creek from Silverton to Gladstone and the South County Line to just above the Mill Creek Subdivision. And Strategy LU-2.2 Identify areas in the growth corridors that are suitable for residential use considering natural hazards, habitat resources, scenic impacts and sensitivity to residential land uses. The proposed development is not located in the identified growth corridors. However, the Master Plan notes that private property rights are respected in San Juan County. The Plan also states that residential development on mining claims is to be built in low-visibility places outside of environmentally sensitive areas, leaving visible ridgelines and other scenic resources undeveloped and minimizing the impacts on the environment. I believe this application is attempting to meet the intent of the Master Plan.

- a. Adequate potable water is available or can be developed to safely support the proposed use.

The applicant plans to deliver potable water to be stored in an on-site cistern.

- b. Adequate sewage disposal can be provided to support the proposed use.

The applicant plans on installing an on-site wastewater treatment system. The septic system has been engineered by Summit Engineering, LLC.

- c. Will the proposed use have any adverse impact on public or private property in the vicinity of the development?

The proposed improvements should have minimal impact on the adjoining properties. Adjoining property owners have been notified and at this time I have not received any comments from them.

- d. Will the proposed use have any adverse effect on scenic values, historic sites or structures, air or water or environmental quality, wildlife, erosion or other geological conditions?

The applicant has included a scenic quality report. It appears that the cabin has been designed and located to minimize the visual impact. I would like to see story poles located at the corners and at the proposed maximum height be constructed to help determine the possible visual impact.

The improvements should not have any impact upon historic sites or structures.

The improvements should create minimal adverse impacts upon wildlife. All solid waste, garbage and refuse must be kept within the building, in a separate secure enclosed area or in wildlife/bear-resistant containers until it is properly disposed of at the Transfer station. The applicant plans on constructing a 173 SF storage shed in which solid waste would be secured.

It appears that the property is on the edge of tree line and could be within the alpine tundra. 1-107.1 of the County Land Use Code prohibits any residential development. The applicant may need to provide an expert determination.

- e. Adequate road access exists or can be developed to ensure access appropriate to the use.

The applicant will access the Tennessee Lode by extending the current driveway to the Eastern Star Lode from CR 51. The proposed extension would cross BLM land and will need an access permit from BLM.

- f. The design and development of the site shall preserve, insofar as possible, the natural terrain and drainage of the land, the existing topsoil and existing vegetation. Disturbed areas shall be revegetated with native plant species certified weed free as soon as possible after disturbance in order to prevent the establishment and dominance of non-native invasive species.

The proposed improvements have been located to minimize the natural terrain and drainage of the land. All disturbances will be revegetated with native plant species certified to be weed free.

- g. Sites subject to hazardous conditions, for example avalanche, flood, land slide, rock fall, mud flow, open mine shaft, corrosive water, etc., shall be identified and shall not be built upon or used until satisfactory plans have been approved by the County for eliminating or appropriately mitigating such hazards. The provisions of Chapters 8, 9, 10 and 11 shall govern the evaluation of those natural hazards covered by such provisions.

The County Geohazards Map identifies that the cabin will be built on a talus slope. Trautner Geotech has provided an initial review of the property and would complete a full geotechnical engineering study prior to development.

- h. 4-110.4 requires that the applicant shall permit continued public access to any historic public trails that cross the property.

I will need to do a site visit to identify any historic public trails that may cross the property. If any trails are identified they will need to be added to the certified survey plat. While there may not be any trails identified on the ground the area has had significant historic winter use. Identifying and preserving the historic winter access may be necessary.

- i. Individual building sites shall be placed on the Town of Silverton's utility billing system for water and refuse when water is hauled to the site.. Any applicant who shows that it is obtaining water from an approved permitted well or is purchasing water from an acceptable source of potable water other than the Town of Silverton may be permitted to be placed on the Town of Silverton's billing system for refuse only.

The applicant will be required to be placed on the Town's utility billing system for water and refuse.

- j. Section 1-107.1 of Zoning and Land Use Regulations requires that if an applicant has an existing residential property in the Mountain Zone the application must be reviewed using the criteria of the subdivision regulations in Chapter 7 or PUD Regulations.

The applicant currently owns the adjacent Eastern Star Lode MS #5985 which is used for residential purposes. The applicant also owns the adjacent Sampson Double that does not currently have any improvements located on it.

The application appears to follow the general guidelines of a Use Subject to Review Application rather than the subdivision regulations. Much of the Chapter 7 Subdivision Regulations are not applicable to the proposed development.

If the applicant plans improvements for the Sampson Double, then it should be included as part of the application review. Which I believe was the primary reason that Section 1-107.1 was adopted so that the properties and their impacts could be reviewed in total rather than incrementally.

Chapter 7 – 112 FINAL PLAT DESIGN STANDARDS requires that all subdivisions comply with the following standards:

- .1 The design and development of the subdivision shall preserve, insofar as possible, the natural terrain and drainage of the land, the existing topsoil and existing vegetation.
The proposed improvements preserves the natural terrain and drainage.
- .2 Land subject to hazardous conditions, such as avalanche, flood, land slide, rock fall, mud flow, open mine shaft, nonpotable water, etc., shall be identified and shall not be subdivided until the hazard has been either eliminated or appropriately mitigated, or plans for the hazard to be eliminated or mitigated are included as part of the Final Plat submission.
No improvements will be located in hazardous conditions.
- .3 Lots.
The lots are greater than 5 acres the other lot requirements are not applicable.
- .4 Streets: No subdivision shall be approved until the applicant has provided the County with clear evidence that all streets and lots within the subdivision will have year-round access to the state highway system by wheeled vehicles.
This is a judicial base requirement for subdivisions. However, no property is actually being subdivided. They are only being reviewed under the subdivision requirements.

The driveway access needs to be identified and preserved in the final plat. If there are plans to improve the Sampson Double the access to that property needs to be identified and preserved as well.

The rest of the road requirements are not applicable.
- .5 Roadbed Construction Standards.
Roadbed Construction Standards are Not Applicable.

- .6 Sidewalks shall be provided where required by the county, on both sides of all streets, not less than 4 feet in width, and constructed of reinforced 3000 P.S.I concrete at least 4 inches thick. The area from the curb line to sidewalk shall slope ¼ inch per foot toward the street.

Sidewalk Standards are Not Applicable

- .7 Block lengths shall be reasonable in length and the total design shall provide for convenient access and circulation of emergency vehicles. Where blocks exceed 1000 feet in length, pedestrian rights-of-way not less than 10 feet in width shall be provided where appropriate for adequate pedestrian circulation. Improved walks of not less than 5 feet in width shall be placed within the rights-of-way.

There are no blocks.

- .8 The minimum lot size shall be 5 acres.

The application meets these requirements.

.8A AFFORDABLE HOUSING

(e) For a subdivision or PUD with less than ten (10) residential units or less than 15,000 gross square feet of commercial space a housing assistance fee shall be paid to the County in the following amount:

- 2 lots .05% of the full market value of the gross land area
3 lots 1% of the full market value of the gross land area

Any fees collected under this provision shall be used for the development of affordable and/or employee housing and shall be collected at final plat approval.

The affordable housing fee would be determined depending upon if the Double Sampson was included

- .9 Easements shall follow rear and side lot lines wherever practical and shall have a minimum width of 20 feet, apportioned equally in abutting properties. Where front line easements are required, a minimum width of 15 feet shall be allocated as a utility easement. Perimeter easements shall not be less than 15 feet in width, extending throughout the peripheral area of the subdivision, and shall be designed so as to provide efficient installation of utilities. Special guying easement at corners may be required. Public utility installations shall be so located as to allow for multiple installations within the easements. The developer shall establish final utility grades prior to utility installations.

There are no easements necessary.

- .10 Driveways shall not have direct access to major highways.
The driveway will access CR 51
- .11 Sanitary Sewage Disposal.
Each property will have an individual engineered and permitted on-site wastewater treatment system.
- .12 Water supply systems shall be provided consistent with the standards and requirements of these regulations. Where on-lot water supply systems are proposed, the subdivider shall either install such systems on each lot or require by deed restriction, or as a condition of sale, that the purchaser of said lot install such a system at the time of principal building construction.
Water will be delivered to site and stored in individual cistern.
- .13 Storm Drainage and Flood Plains.
Not applicable
- .14 In any case where a subdivision is planned for only a portion of a particular parcel of land, the subdivider shall indicate his intent for the remainder of the parcel.
The applicant needs to make a determination on the use of the Sampson Double. If the plans are to develop it then they should be included for review if not then there should be a land consolidation of the Sampson Double and Tennessee Lode.
- .15 A subdivision shall include the designation of areas, or sites, of character and location suitable for public use for schools and parks, according to one of the following alternatives or a combination of them as determined by the Board of County Commissioners.
 - (b) 5% of the gross land area of the final plat shall be dedicated to public use.
 - (b) 5% of the full market value of the gross land area of the final plat, determined at the time of the final plat submission, shall be paid by the subdivider to the county.
This could possibly be addressed by defining specific designations to ensure the traditional public access for winter recreation continues.
- .16 A proposed subdivision shall not, by reason of its location or design, place an undue burden on public utility systems or on community or public facilities or services.
Not Applicable.

7-115 Building Standards

- .1 Maximum Building Height 35 ft.
Proposed Cabin 17'1"
- .2 Maximum size of residence 7500 sq. ft.
Proposed Cabin 844 Sq. ft.
- .3 Maximum Residential Footprint 5000 sq. ft.
Proposed Cabin less than 5000 Sq. ft.
- .4 Minimum setback from property line 50 ft.
Proposed improvement exceeds the minimum 50 ft. setback. The Building envelope would need to be moved to reflect a 50 ft. setback from the property lines.
- .5 Steep Slope
Proposed building construction will be on a steep exceeding 25%
- .6 Off-street Parking;
There shall be a minimum of two off-street parking spaces for each family dwelling unit.
There should be no problem with off-street parking when there is wheeled access to the property. However, when the road is not plowed parking will likely be on CR 110

The Planning Commission has the option to recommend approval as submitted, approval with conditions or denial.

Should the Planning Commission choose to recommend approval, they should do so with the following conditions prior to the issuance of a land use permit:

10. That the applicant acknowledges that emergency services will not be available in a timely manner and perhaps not at all.
11. That an expert determination be made that the building site is located outside of a Alpine Tundra Ecosystem if necessary.
12. All improvements to the Tennessee Lose shall fully and completely comply with, and strictly conform to, all terms, conditions and restrictions contained in the San Juan County Zoning and Land Use Regulation, all permits issued, and all applicable State and Federal rules and regulations.
13. The applicant shall fully and completely comply with the San Juan County Zoning and Land Use Regulation 4-110 Design and Development Standards for all Improvement and Use Permits.
14. The Land Use Administrator visits the site prior to the Preliminary/Final review.

15. That the proposed improvements are identified and staked on site by a Colorado Licensed Surveyor.
16. That the applicant be placed on the Town of Silverton's Utility billing system for water and refuse.
17. The failure to comply with these conditions shall be grounds for the revocation of this Land Use Permit.
18. Any other conditions that the Planning Commission deems necessary.

August 8, 2024

San Juan County Planning Commission
Attn: Willy Tookey, County Administrator
1557 Greene Street
Silverton, Colorado 81433

Subject: Application for Improvement Permit – Preliminary/Final Review

Proposed BonAnno Cabin, TBD County Road 51, Minnehaha Creek, Tennessee Lode,
MS#5985, San Juan County, Colorado.

Dear Willy,

The attached documents have been prepared for a San Juan County Application for Improvement Permit as a Preliminary/Final submittal for the proposed improvements at the Tennessee Lode MS#5985, owned by Thomas and Jacqueline BonAnno.

The Applicant acknowledges and agrees to comply with the conditions of approval outlined by the San Juan County Commissioners during their meeting on May 8, 2024. The Applicant has provided a Story Pole Evaluation and an Alpine Tundra Habitat Assessment by Barr Engineering Co., both requested as a condition for approval. These documents are included with this submittal for review.

Thank you for your consideration of this application for improvements. Please contact Mountain Studio LLC if you have any questions.

Sincerely,



Christopher M. Clemmons
Mountain Studio LLC



SAN JUAN COUNTY COLORADO

1557 GREENE STREET
P.O. BOX 466
SILVERTON, COLORADO 81433
PHONE 970-387-5766 admin@sanjuancolorado.us

Thomas and Jacqueline BonAnno
250 East Park Avenue
Durango, CO 81301

RE: Tennessee Lode M.S. 5985

Thomas and Jacqueline BonAnno:

This is to notify you that your Sketch Plan Improvement Permit application for the development of an 844 sq. ft. cabin, 140 sq. ft. covered deck, gravel driveway, septic system, underground water storage tank and associated utility improvements on the Tennessee Lode MS 5985 has been conditionally approved by the San Juan County Commissioners during their regular meeting of May 8, 2024. The conditions of approval are listed below:

1. That the applicant acknowledges that emergency services will not be available in a timely manner and perhaps not at all.
2. That an expert determination be made that the proposed improvements are located outside of the Alpine Tundra Ecosystem.
3. All improvements to the Tennessee Lode shall fully and completely comply with, and strictly conform to, all terms, conditions and restrictions contained in the San Juan County Zoning and Land Use Regulation, all permits issued, and all applicable State and Federal rules and regulations.
4. The applicant shall fully and completely comply with the San Juan County Zoning and Land Use Regulation 4-110 Design and Development Standards for all Improvement and Use Permits.
5. The Land Use Administrator visits the site prior to the Preliminary/Final review.
6. That the Tennessee Lode MS #5985 and the Sampson Double MS #15355 be consolidated into one parcel.
7. That the proposed improvements are identified and staked on site by a Colorado Licensed Surveyor.

8. That the applicant be placed on the Town of Silverton's Utility billing system for water and refuse.
9. That story poles be located on the site defining the corners and maximum height of the proposed cabin and that the results be included in the Scenic Quality Report.
10. The failure to comply with these conditions shall be grounds for the revocation of this Land Use Permit.

1-107.1 of the San Juan County Zoning and Land Use Regulations states: Within the Mountain Zone, there shall be no uses by right and all uses and activities shall be and are uses subject to review. Residential development of any sort within the alpine tundra ecosystem is strictly prohibited.

As such Condition #2 requires that you provide an expert determination that the proposed improvements are located outside of the Alpine Tundra Ecosystem. 14-104 of the Zoning and Land Use Regulations define Alpine Tundra Ecosystem as:

ALPINE TUNDRA ECOSYSTEMS: Alpine tundra ecosystems are found above tree line and are characterized generally by the absence of extensive tree coverage. Several distinct plant communities are found in the alpine tundra ecosystem, including low shrubs, cushion plants, small forbs, lichens and lush meadows of sedges and grasses. Among other qualities, alpine tundra ecosystems function to collect, store, filter and distribute water for all the in-stream, agricultural, municipal, domestic, industrial and recreational purposes for which water is essential.


I believe your next step would be to have an expert make a determination if the proposed improvements are located or not located in the alpine tundra ecosystem. If they are located on alpine tundra then you will need to work with your consultant to determine if there is a suitable alternate location for your proposed improvements that are not in the alpine tundra. If necessary, they may be required to map the site to define where the Alpine Tundra Ecosystem is located.

Once the Tundra issue is resolved you can move forward with your Preliminary/Final Improvement Permit Application. This would also include the consolidation of the Tennessee Lode and Sampson Double.

I will be happy to make a site visit with you and/or your representatives as soon as practical. I will need the story poles to be erected and the improvements including cabin site and proposed driveway be staked for review.

If you have any questions, please contact me at your convenience.

Sincerely,


William A. Tookey
Land Use Administrator

Application for Improvement Permit

Preliminary/Final Submittal

BonAnno Cabin

TBD County Road 51, Minnehaha Creek
Tennessee Lode, MS#5985
San Juan County, Colorado



Applicant:

Thomas and Jacqueline BonAnno
250 East Park Avenue
Durango, CO 81301
(970) 946-0003

Prepared By:

Mountain Studio LLC
801 Florida Rd, Suite 12
Durango, Colorado 81301
(970) 515-7882

Contractor:


Brian Anderson
9318 Contracting LLC
(970) 799-4375

Table of Contents

1. San Juan County Application for Improvement Permit
2. San Juan County Supplemental Checklist
3. Cumulative Impact Report
4. Warranty Deed, Royalty Deed, Easements
5. Survey Plat
6. Maps of Adjacent Landowners
7. List of Adjacent Landowners
8. Project Narrative
9. Project Plans
 - a) Vicinity Map
 - b) Sketch Plan with County Avalanche Map
 - c) Sketch Plan with County Geohazards Map
 - d) Sketch Plan with Topography
 - e) Sketch Plan with Aerial Image
 - f) Enlarged Site Plan
 - g) Draft Floor Plans
 - h) Draft Building Elevations
10. Proposed Driveway Plan and Profile by Mountain Civil Consulting
11. Septic System Design by Summit Engineering, LLC
12. Geotechnical Report by Trautner Geotech
13. San Juan County Driveway and Road Access Permit Form
14. San Juan County Relationship to County Road and State Highway Systems Form
15. Scenic Quality Report
 - a. *Story Pole Evaluation
16. *Alpine Tundra Habitat Assessment by Barr Engineering Co.

*Item added to meet conditions of approval requested at the San Juan County Commissioners meeting on May 8, 2024.

Application for Improvement Permit

		APPROVAL CHECKLIST		Initial	Date		
Applicant	Name	Thomas & Jacqueline Bonanno					
	Address	250 East Park Ave, Durango CO 81301					
	Phone	(970) 946-0003	Land Use Administrator				
Owner	Name	Same as Applicant					
	Address						
	Phone		Ownership of Surface				
Contractor	Name	9318 Contracting LLC - Brian Anderson					
	Address						
	Phone	(970) 799-4375	Ownership of Minerals				
Legal Description of Property:		Road System Relationship					
Eastern Star 5985, Tennessee 5985, Sampson Double 15535. Merged from former parcels 47750160050018 and 47750160050025. Township 42 North, Range 7 West of the New Mexico Principal Meridian, San Juan County, Colorado. Township 42 N, Range 7 W, Section 16		Zoning Compatibility					
		State Mining Permit					
		Owner Notification					
		Avalanche Hazard					
		Geologic Hazard					
		Floodplain Hazard					
		Wildfire Hazard					
		Mineral Resource Impact					
		Wildlife Impact					
		Historic Site Impact					
Nature of Improvement Planned:		Watershed Gearance					
Proposed single-family cabin with associated utility and access improvements							
		County Building Inspector					
		Building Permit					
		State Electrical Inspector					
		Electrical Permit					
		Land Use Zone: Mountain Zone		San Juan Basin Health Unit			
		Applicant Signature		Sewage Disposal: Test			
		Design					
		Central Sewage Collection					
Date Application Requested		State Division of Water Resources					
Date Submitted for Permit		Adequate Water Source					
Date Permit Issued		Well Permit					
Date Permit Denied		Central Water Distribution					
Reason for Denial		U.S. Forest Service/BLM					
		Access Approval					
		State Division of Highways					
Receipt		Driveway Permit					
FEE PAYMENT							
	Application	Amount	Date				
	Building Permit						
	Subdivision/PUD						
	Hearing Notice						
		Subdivision Variance					
		Subdivision Approval					
		PUD Approval					

SAN JUAN COUNTY

SUPPLEMENT TO APPLICATION FOR IMPROVEMENT AND LAND USE PERMITS

(Attach additional sheets as necessary)

County Land Use Regulations, the County Master Plan and relevant forms may be found on the County website: <http://www.sanjuancountycolorado.us/planning>

NOTE: THIS CHECK LIST HAS BEEN PREPARED TO MAKE IT EASIER FOR APPLICANTS FOR LAND USE PERMITS TO DETERMINE WHAT IS REQUIRED BY SAN JUAN COUNTY FOR LAND USE APPROVAL. IF YOU DON'T THINK YOU CAN COMPLETE IT, CONSIDER HIRING A PROFESSIONAL TO ASSIST YOU. SEVERAL PROFESSIONALS ARE AVAILABLE IN SILVERTON OR ELSEWHERE WHO ARE FAMILIAR WITH THE COUNTY LAND USE CODE AND MIGHT BE ABLE TO ASSIST YOU IN COMPLETING YOUR APPLICATION. THE COUNTY PLANNER CANNOT COMPLETE THIS CHECK LIST FOR YOU!

See Section 3-102 for a preliminary list of information required for all improvement and use permit applications.

NOTE: NO LAND USE OR IMPROVEMENT PERMIT APPLICATION WILL BE REVIEWED BY THE SAN JUAN COUNTY PLANNING COMMISSION OR BOARD OF COUNTY COMMISSIONERS UNTIL THE LAND USE ADMINSTRATOR HAS CERTIFIED THAT THE APPLICATION IS COMPLETE AND CONTAINS ALL REQUIRED INFORMATION.

1. A. Names/Addresses/telephone numbers/email addresses of all Owners of any interest in Property and a description of their interest (fractional ownership, mineral interests, easements, etc.) _____

Thomas & Jacqueline Bonanno	Others with interest in Property
250 East Park Avenue, Durango, CO 81301	are listed in deed documents
(970) 946-0003 bonannotom@hotmail.com	included with this application

B. Property Description/location/size (3-102.3): _____
Tennessee Lode MS# 5985, Minnehaha Creek, 9.70 acres

- Proof of ownership or consent of all owners of any interest in the land (3-102.2)? Y N
- Proof of legal and adequate access for maximum use of proposed development and provision of emergency services consistent with the proposed use? (3-102.2, 3-102.12, 3-102.13, 4-103.3(f)) Y N
- federal access permit if access is across federal land (3-102.13, 4-103.3(f)(ii))

easement if access is across private property owned by others (4-103.3(f)(ii))

County driveway permit if access is from adjacent County road or if access requires new intersection with or change to any County road (3-102.12)

State driveway permit if access is from adjacent State highway (3-102.12)

Road Use and Maintenance Agreement if multiple properties accessed from a private road (3-1-2.13, 4-103.3(f)(ii)) Same owner, N/A

How does the applicant propose to get to and from the state highway system?

C. What is the proposed improvement or use? Single family cabin

D. Name and contact info for any contractor who will be working on the project.

Brian Anderson - 9318 Contracting LLC (970) 799-4375

E. Are there any existing structures or other improvements on the Property? Y N
If yes, describe them in detail including nature or type of improvement, location, etc. and provide photographs of all such improvements. _____

F. Are there any historic structures, sites or artifacts known on the property? Y N
If so, describe them in detail including nature or type, location, etc. and provide photographs of all such structures, sites and known artifacts. _____

Two tailing piles on the hill below the driveway. Please reference sheet "E" sketch
plan included with this application

G. Are all property taxes assessed against the property fully paid up (2-105.5, 3-102.18)
 Y N If the Answer is NO, the application cannot be processed until all taxes are fully paid.

2. Applicable Land Use Zone: Mountain Zone; elevation of property? 11,835

A. Is the proposed use consistent with the intent of the applicable zone as stated in the Code (see section 1-106.1 for statement of intent for each zone)? Y N

B. Is proposed development consistent with applicable zone regulations re density, minimum parcel size, setbacks (see 1-113)? Y N

C. If the proposed use is in the Mountain Zone (see 1-106.1):

- Does the proposed use adversely affect natural and scenic environment? If so, how? _____

No

-
- Is the proposed use consistent with seasonal access? Y N
 - Is it within the alpine tundra ecosystem (see 1-107.1)? Y N Note: Residential development is prohibited within any alpine tundra ecosystem.
 - Is the applicant or any related person or entity the owner of any existing residence in the Mountain Zone? Y N If so, what existing property?

Eastern Star Lode MS #5985 - Adjacent property to the west

Note: Under 1-107.1, if an applicant has an existing residential property in the Mountain Zone, any land use application cannot be processed as a use subject to review but must be reviewed using the criteria of the subdivision regulations in Chapter 7.

D. If the proposed development is at or above 11,000 feet elevation, does it meet the limitations on square footage (4-110.20)? Yes - does not exceed 1,000 SF

E. Is the proposed use a vacation rental? Y N If so, is it permitted under and consistent with the vacation rental regulations (4-110.21)?

F. Is the proposed development a subdivision? Y N If so, see Chapter 7 of the Code for additional requirements.

3. Are any Overlay Zones applicable? (check all applicable) No

Scenic preservation – is property within 1500 ft of SNGRR? Hwy 550?
 Alpine Loop? (1-107.4, 1-114)

Mineral (see 1-107.5) – is property located within Sections 10, 13, 14, 15, 16, 17, 22
 25 of T 41 N, R 7 W? (1-116.1)

Watershed Protection? (1-107.6)

Town – County Mutual Interest (1-107.7) – is property ever likely to be connected to
 Town services or annexed into Town? (1-107.7, 1-117)

Does the property likely cross a county line or is access from another County?

4. Master Plan Compliance (4-103.3):

A. What provisions of Master Plan apply to area or to proposed use/development?

The proposed building site is in a low visibility area due to the terrain
which minimizes the visual impact on the environment

B. Is the proposed development consistent with applicable Master Plan provisions? List applicable sections and explain how proposed development/use is consistent with those provisions?

Yes - under the "Town and Mining Claim Use" on page 20 - the proposed cabin is sited intentionally to limit visibility

5. Is County review of the application likely to cost the County more than the base review fee (see 2-104.1)? Y N If so, what additional services is the County likely to require in connection with its review of the application? _____

6. How many properties/parcels/claims are located within a relevant area for determination of cumulative impacts under (4-103.1 and .2)? 125 Describe the area deemed to be relevant and the basis for that determination A one-mile radius was used to determine the relevant vicinity around the proposed cabin. see additional sheet w/map for A-D, attached to this checklist

- A. How many other parcels are accessed via same road? _____
- B. How many other parcels are located within the same drainage basin or other relevant area and might be affected by drainage from the property? _____
- C. How many other parcels are located within the same air shed? _____
- D. Are any other parcels likely to obtain water from any underground source which is interconnected with any underground water source which is proposed to be tapped for water for use on the property? If so, how many? _____ ↓

7. Do any natural hazards pose a risk on the property or with regard to any access to the property? (check as applicable)

- Avalanche Hazard (Chapter 8)
- Geologic Hazard (Chapter 9)
- Floodplain Hazard (Chapter 10)
- Wildfire Hazard (Chapter 11)

Explain the nature of the natural hazards which may pose a risk in connection with the proposed development and how the applicant proposes to minimize or avoid such risks.

8. Historic Impact Review (3-105) Might the proposed development have any impact on historic sites or assets located either on or off the property? (4-103.3(e)) If so, identify the historic sites

or assets which might be affected and explain how they might be affected and how the applicant proposes to avoid such effects. _____

No impact on historic sites or assets

9. Potential Health Impacts – Might the proposed use (when considered cumulatively with existing or potential development on all other properties within the relevant area – see number listed in 6 and in 6(a – d)above) have any adverse impact on health of humans, wildlife or natural habitat or on environmental quality? (3-106, 4-103.3(a) and (e))

Y N Wildlife

Y N Dust, smoke, fumes, contaminants or air pollution

Y N Noise

Y N Water pollution

Y N Adverse affect on quality of water for human consumption? (1-115.3)

Y N Soil contamination, erosion, etc.

Y N Hazardous materials/substances

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

10. Might the proposed development (when considered cumulatively with existing or potential development on all other properties within the relevant area – see number listed in 6(a) above) have any adverse impacts on County roads? (3-107) Y N

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

Applicant maintains access road and driveway for existing cabin. No additional

load or impact on County roads

11. Might the proposed development (when considered cumulatively with existing or potential development on all other properties within the relevant area – see numbers listed in 6 and 6(a – d) above) have any adverse impacts on other property? (4-103.3(d)) Y N

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

12. Might the proposed development (when considered cumulatively with existing or potential development on all other properties within the relevant area – see numbers listed in 6 and 6(a – d) above) have any adverse impacts on scenic values? (4-103.3(e)) [] Y N

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

13. Might the proposed development (when considered cumulatively with existing or potential development on all other properties within the relevant area – see numbers listed in 6 and 6(a – d) above) have any adverse impacts on wildlife (habitat, food sources, migration, hunting, etc.)? (4-103.3(e)) [] Y N

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

14. Might the proposed development (when considered cumulatively with existing or potential development on all other properties within the relevant area – see numbers listed in 6 and 6(a – d) above) have any adverse impacts on erosion or other natural condition? (4-103.3(e)) [] Y N

Explain the nature of each potential impact and how the applicant proposes to minimize or avoid such risks. _____

15. Are Skyline Regulations (3-102.7, 4-110.18) applicable? Y [] N If yes, has the Applicant demonstrated compliance with Skyline regulations? Y [] N

Photos of existing property conditions (3-102.7(a))

Representations of proposed development against skyline (3-102.7(b))

Story poles (if necessary) (3-102.7(c))

16. Has the applicant provided a Scenic Quality Report (4-110.19)? Y N

16. Has Applicant provided proof of availability of adequate source of potable water for maximum potential use of proposed development, fire fighting and other purposes (3-102.8, 4-103.3(b))

Deeded water right

Central water system

Well permit

Water storage system

17. Has Applicant provided proof of adequate sewage disposal for maximum use of proposed development (3-102.10, 4-1-3.3(c)) Y N

Central sewer system existing or new

Individual septic system permit ←

Engineered septic design included
with application

18. Has the Applicant provided proof of adequate utilities for maximum use of proposed development (4-103.3(g))? Y N

a. electric SMPA service commitment

other solar power system

b. telephone communications land line service commitment

cell phone service available

satellite phone service available

other

19. A. What emergency services might be required by the proposed development or its potential uses?

Fire

EMS

Law Enforcement

Mountain or back country rescue

Other _____

B. What are probable response times for any indicated emergency services?

Fire 15 mins from Silverton

EMS 15 mins from Silverton

Law Enforcement 15 mins from Silverton

Mountain or back country rescue _____

Other _____

C. Has the Applicant provided proof of availability of each emergency service which might be required for the proposed use (unless deemed unnecessary) (4-103.3(h))? Explain how Applicant proposes to secure each emergency service which may be required by or in connection with the proposed development or its use?

During a previous emergency, the applicant transported the injured person to Gladstone where they met the emergency services

D. If any emergency service listed is deemed unnecessary, explain why it is unnecessary? _____

20. Is Expert Assistance required for any portion of the County's review? If so, in what area and for what purpose? No

21. Are any special permit conditions needed to:

- a. Protect of health, safety or welfare of general public? (2-110.1)
- b. Protect of persons or property? (2-110.1)
- c. Protect of historic assets? (1-114.3, 2-110.1)
- d. Protect of scenic views and vistas? (1-114.2, 1-115.1, 1-116.4, 2-110.1)
- e. Protect cultural assets? (2-110.1)
- f. Protect against natural hazards? (2-110.2 and .3)
- g. Protect environmental assets? (1-114.2, 1-115.1 1-116.4)
- h. Address soils, slopes, geologic hazards? (1-114.4, 1-115.2, 1-116.5)
- i. Adequately address access incl. roads, drives, parking? (1-114.5, 1-116.6)
- j. Protect water purity? (1-115.1)
- k. Preserve access to mineral development? (1-116.3)

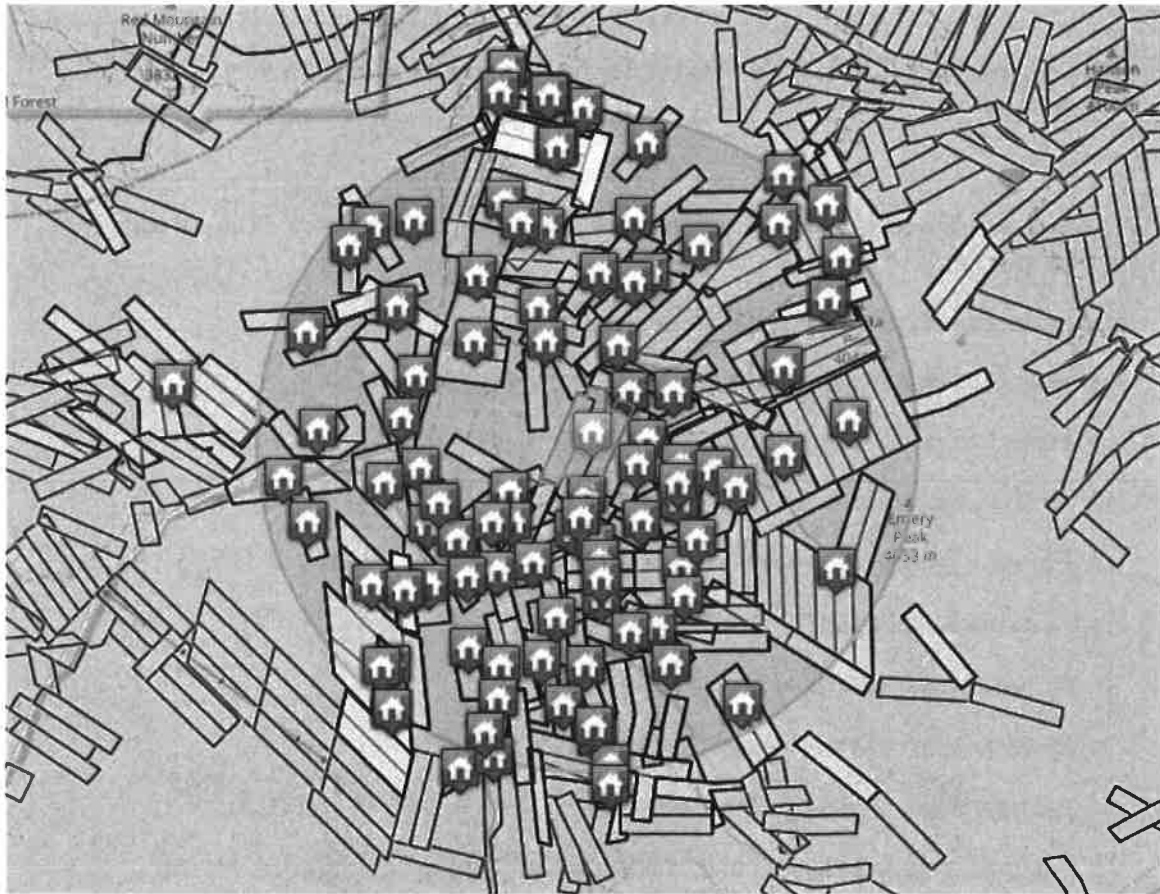
Cumulative Impact Report

Additional Information for the San Juan County Supplement to Application for Improvement Permit Checklist

Question #6 from the SJC Checklist:

How many properties/parcels/claims are located within a relevant area for determination of cumulative impacts under (4-103.1 and .2)? Describe the area deemed to be relevant and the basis for that determination.

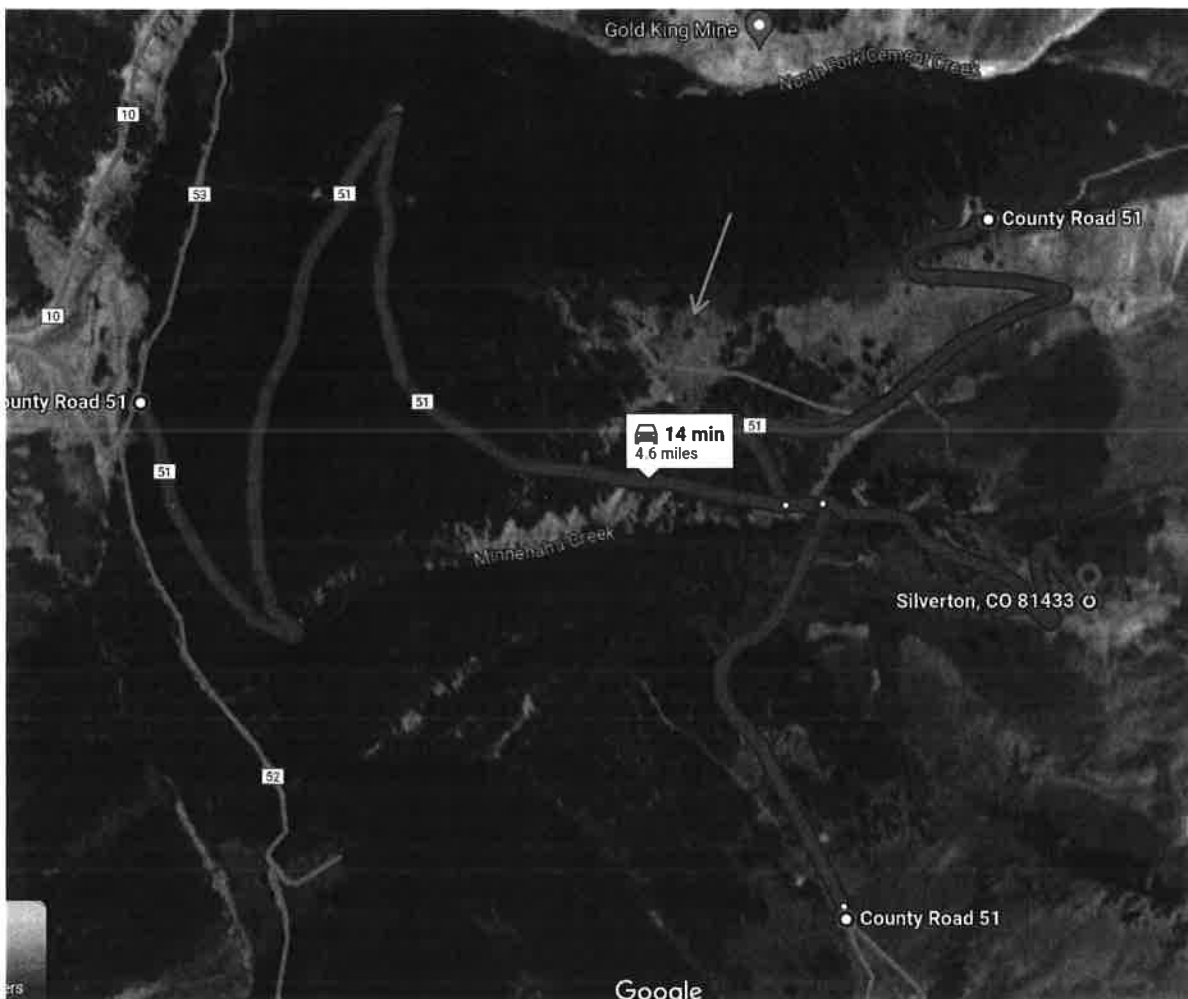
A one-mile radius was used to determine the relevant area around the proposed cabin, which is shown on the map below. There are 125 properties/parcels/claims in this radius according to the San Juan County Property Map and GIS.



Question #6A from the SJC Checklist:

How many other parcels are accessed via the same road?

There are approximately 36 parcels accessed off County Road 51, as it is shown in the map below. There are 9 existing cabins accessed off County Road 51, and the remainder of these parcels are undeveloped at this time.



Question #6B from the SJC Checklist:

How many other parcels are located within the same drainage basin or other relevant area and might be affected by drainage from the property?

There are approximately 10 parcels located in the drainage path from the proposed cabin to Minnehaha Creek where it joins Cement Creek near Gladstone.

Question #6C from the SJC Checklist:

How many other parcels are located within the same air shed?

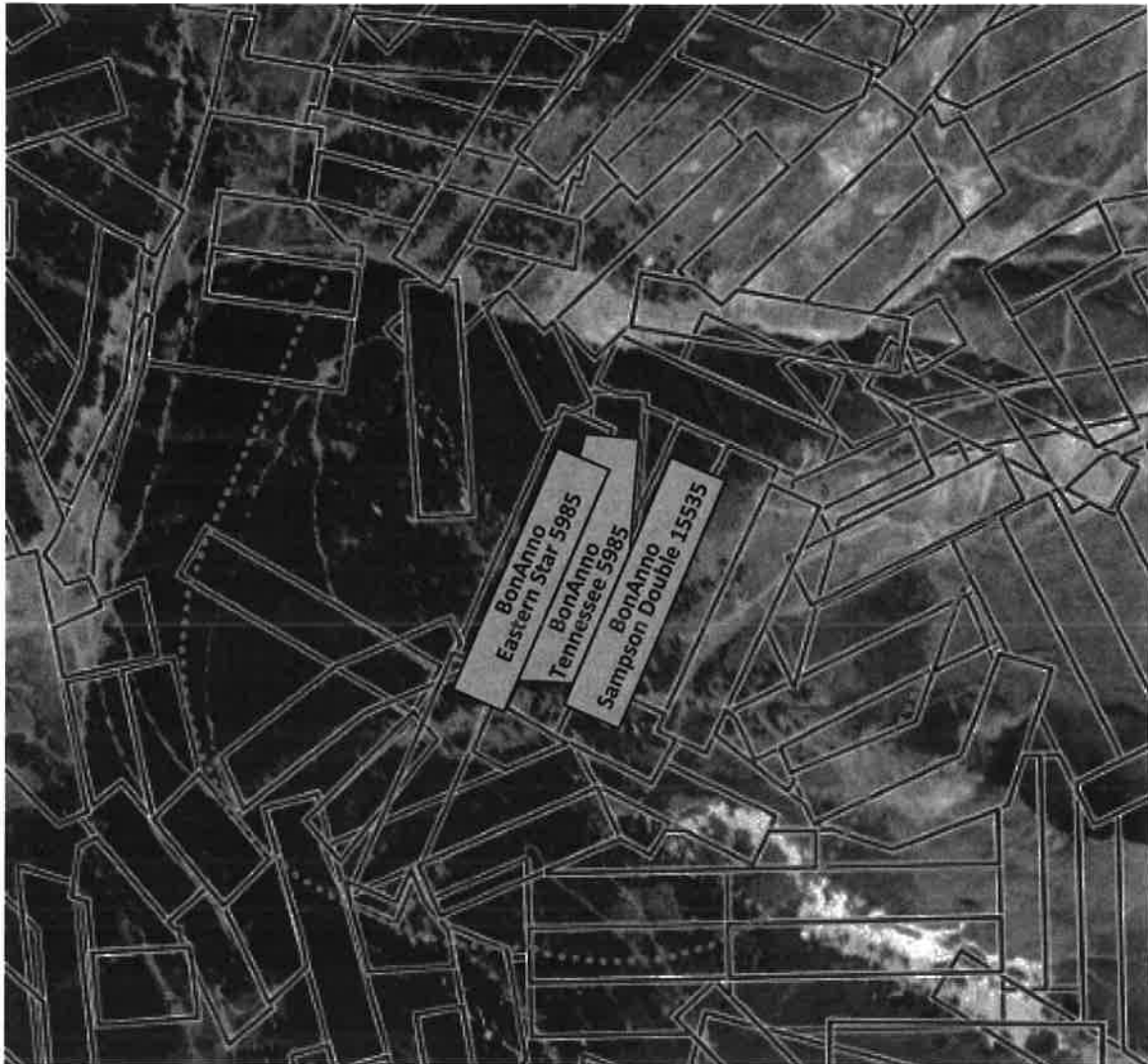
There are approximately 50 parcels located in the Minnehaha Basin vicinity.

Question #6D from the SJC Checklist:

Are any other parcels likely to obtain water from any underground source which is interconnected with any underground water source which is proposed to be tapped for water use on the property?

N/A, no water is proposed to be tapped on the property.

Map of Adjacent Landowners within 1,500 ft



List of Adjacent Landowners within 1,500 ft

JOY MANUFACTURING CO;
c/o JOY GLOBAL INC
135 S 84TH ST STE 300
MILWAUKEE WI 53214

OHMAN SANDRA M
7740 CAMINO REAL APT G107
MIAMI FL 33143-7160

BEHNKEN TRUST;
BEHNKEN JAMES G & ANNALISA P
1605 MONTE LARGO DR NE
ALBUQUERQUE NM 87112-4892

CROSS BENJAMIN AND SCHIFFEL JOHN
868 5TH ST
DURANGO CO 81301-5639

PERCE REVOCABLE LIVING TRUST;
GEORGE S & KAREN LEE PERCE
PO BOX 1264
TUBAC AZ 85646-1264

HOCH CHARLES V AND BRUCE A
26 BOULDER VIEW DR
DURANGO CO 81301-8144

CAMERON ASHLEY Y & JOEL C
110 WHISTLING HORSE TRL
DURANGO CO 81301-8991

3 PANDAS LLC
6225 HOOD MESA TRL
FARMINGTON NM 87401-2391

HENDRICK DAVID & STEPHANIE
1112 CHALCEDONY ST
SAN DIEGO CA 92109-2632

CAMPAGNA AUGUST J
8965 NOWARD RD
WATERVILLE OH 43566-9718

SAN JUAN CORP
15100 FOOTHILL RD
GOLDEN CO 80401-2064

FLYNT BOYD DANNY & CARA
290 SALT BRUSH ST
DURANGO CO 81301-6616

SPEAR STEVEN W & MINDI K
10607 UTICA AVE
LUBBOCK TX 79424-7322

HARPER SHAWN W & CHERYL L
PO BOX 2204
BAYFIELD CO 81122-2204

RENOUX
PO BOX 4922
RIO RICO AZ 85648-4922

FRANCIS MICHAEL J & JANET LEE
7841 COUNTY ROAD 203
DURANGO CO 81301-8644

SPORL JEFF & ABBIE
157 FANTANGO RD
DURANGO CO 81301-7022

HENNIS TODD C
15100 FOOTHILL RD
GOLDEN CO 80401-2064

DYER PAUL M & MARTHA A
1916 GLENISLE AVE
DURANGO CO 81301-4847

HIGH MOUNTAIN PROPERTIES LLC
205 W 17TH ST APT E
TULSA OK 74119-4645

BEAVIS ROBERT K
5605 COMETA PL NE
ALBUQUERQUE NM 87111-1411

MINNEHAHA ALPINE LLC
5612 128TH ST SW
MUKILTEO WA 98275-5538

SEELY BRIAN DAVID; LOUGEE RYAN
PO BOX 8003
ASPEN CO 81612-8003

AIKEN JAMES AND ROSEMARY
PO BOX 764
IGNACIO CO 81137-0764

HONOROF KIMBERLY ANN
105 FAIRSIDE DR APT 1D
LYNDEN WA 98264-1716

Project Narrative

Applicant Name and Address:

Thomas and Jacqueline BonAnno
250 East Park Avenue
Durango, CO 81301
(970) 946-0003

Project Location:

TBD County Road 51, Minnehaha Creek
Tennessee Lode, MS#5985
San Juan County, Colorado

Legal Description

Eastern Star 5985, Tennessee 5985, Sampson Double 15535. Merged from former parcels 47750160050018 and 47750160050025. Township 42 North, Range 7 West of the New Mexico Principal Meridian, San Juan County, Colorado.

Proposed Development:

844 SF cabin, 140 SF covered deck, gravel driveway, septic system, underground water storage tank, underground propane, solar electric system, and associated site and utility improvements on the Tennessee Lode MS 5985.

Zoning:

Mountain Zone
Historic Preservation District

Acreage:

Tennessee – 9.70 acres (project location)
Eastern Star – 10.51 acres (existing cabin)
Sampson Double – 9.84 acres

Water Service:

The applicant will be hauling their water to the property, which will be stored in an underground water storage tank as shown on the site plan (sheet "F") plans included with this application.

Sewer Service:

An on-site wastewater treatment system (OWTS) is proposed for the cabin as shown on the included site plan (sheet "F"). The septic system has been engineered by Summit Engineering, LLC, a Colorado licensed professional engineer. The septic design drawings have been included with this application.

Due to the closure of San Juan Basin Public Health, the application process and agency for submitting OWTS in San Juan County has not been determined. The applicant will submit to the appropriate agency once this has been resolved.

Power:

The cabin will be off-grid and powered by solar panels with battery storage. The solar panels will be ground mounted down the hillside from the cabin as shown on the site plan (sheet "F") included with this application. They will be oriented to receive the most sunlight possible, while also being concealed from public view as much as possible without compromising functionality.

The applicant also plans to have an underground propane tank to power a backup generator for the project as the backup power source. The propane tank and generator locations are shown on the site plan included with this application.

Phone:

The applicant currently has Starlink phone service at the property.

Access from County Roads:

The property is accessed by County Road 51 (Minnehaha) by way of County Road 110. The proposed cabin will be accessed by extending the existing driveway currently used to access the existing cabin located on the adjacent property, Eastern Star Lode, which is also owned by the applicant. The new driveway extension begins on Eastern Star Lode, then crosses a sliver of BLM land between the two claims before ending at the project site on the Tennessee Lode, as shown on the site plan included with this application. The driveway will comply with any comments received by the County Department Supervisor.

The applicant has filed an application for a right-of-way with BLM to allow construction of the new driveway extension where it crosses over BLM land. The application has been processed with BLM (serial number COC-80940) and is expected to be approved soon.

Heating:

The applicant plans to use hydronic radiant in-floor heat which is heated by the propane powered water heater, along with wood burning stove as the heating source for the cabin.

Exterior Lighting:

Exterior lighting will be installed at the cabin entrance, the covered deck space, and near the backup generator, all for safe egress in, out and around the exterior of the cabin. All exterior lighting will be in conformance with the San Juan County Dark Sky requirements.

Solid Waste Management:

The applicant will be responsible for trash removal from the property. On-site trash will be contained within the building or within a wildlife/bear-resistant trash receptacle at all times until it is disposed at the Transfer Station for the required fee.

Landscaping:

Revegetation can be provided by the applicant in accordance with the requirements of San Juan County to preserve the natural appearance of the area and minimize visual impact as seen from CR 51. The applicant will create a defensible space around the proposed cabin by removal of combustible ground cover and thinning of trees and shrubs near the cabin, as recommended by the Colorado State Forest Service Firewise Practices.

Surveying:

A survey was prepared by Dirk Hatter of Southwest Land Surveying LLC on October 26, 2022. A copy of this survey is included with this application.

Subsurface Conditions:

Subsurface conditions have been tested and recorded by Trautner Geotech LLC in a Geotechnical Engineering Study dated November 16, 2022. The final design for the proposed cabin foundation will take into consideration the characteristics of the soils, slopes and potential geological hazards in a manner intended to protect the health, safety and welfare of the applicant and users in the area.

Building Siting:

The proposed cabin site will be located near the ridge, directly east of the existing cabin. The siting best utilizes the natural topography, with the cabin situated on a gently sloping natural bench near the ridgeline that contains no vegetation, which will require minimal disturbance at the building site. Being on a bench, the cabin will be set back into the hill and less visible to passersby.

County Avalanche Map:

The Sketch Plan for this project has been overlaid onto the County Avalanche Map, as shown on sheet "B" included with this application. According to the map, the building site is outside any potential avalanche areas or paths.

County Geohazards Map:

The Sketch Plan for this project has been overlaid onto the County Geohazards Map, as shown on sheet "C" included with this application. According to the County Geohazards Map, the building site is in an area of talus slope (ts), defined by the County Geologic Hazard Legend as "An area of active deposition of material from rockfall and debris flow. Mass failure may occur as talus slides or debris flows." Further information of the soils at the building site are detailed in the Geotechnical Engineering Study included with this application.

Foundation:

The intended foundation will consist of concrete stem walls and strip footings that will extend below frost depth and 12" minimum below native grade. The deck will include steel posts with concrete spot footings that will extend below frost depth.

The proposed foundation for the cabin will follow all excavation and foundation design recommendations outlined by the geotechnical engineer for the specific soils found at the building site.

Elevation at Structure:

The floor elevation of the proposed cabin is 11,835 feet, which is above the 11,000 feet County limit on square footage which limits to a maximum floor area of 1,000 SF.

Cabin Size and Height:

The proposed cabin has a floor area of 844 SF with a 140 SF covered deck. The overall footprint of the cabin is T-shaped with the deck off the southwest side. The cabin will have a single 3:12 sloped shed roof over the entire cabin and deck footprint.

The maximum height of the cabin, which is measured from the lowest adjacent native grade up to the high eave of the 3:12 roof, is approximately 17'-1", which is below the County height limit of 30 feet. The high eave of the cabin is also lower than the adjacent ridgeline, making it hidden from view from the other side of the ridgeline.

Building Plans:

Preliminary building plans and elevations for the proposed cabin are included with this application.

Cabin Style:

The form and material selection most reflect the mountain contemporary style, with a focus on the surrounding views to the south by orienting the cabin and deck towards the views.

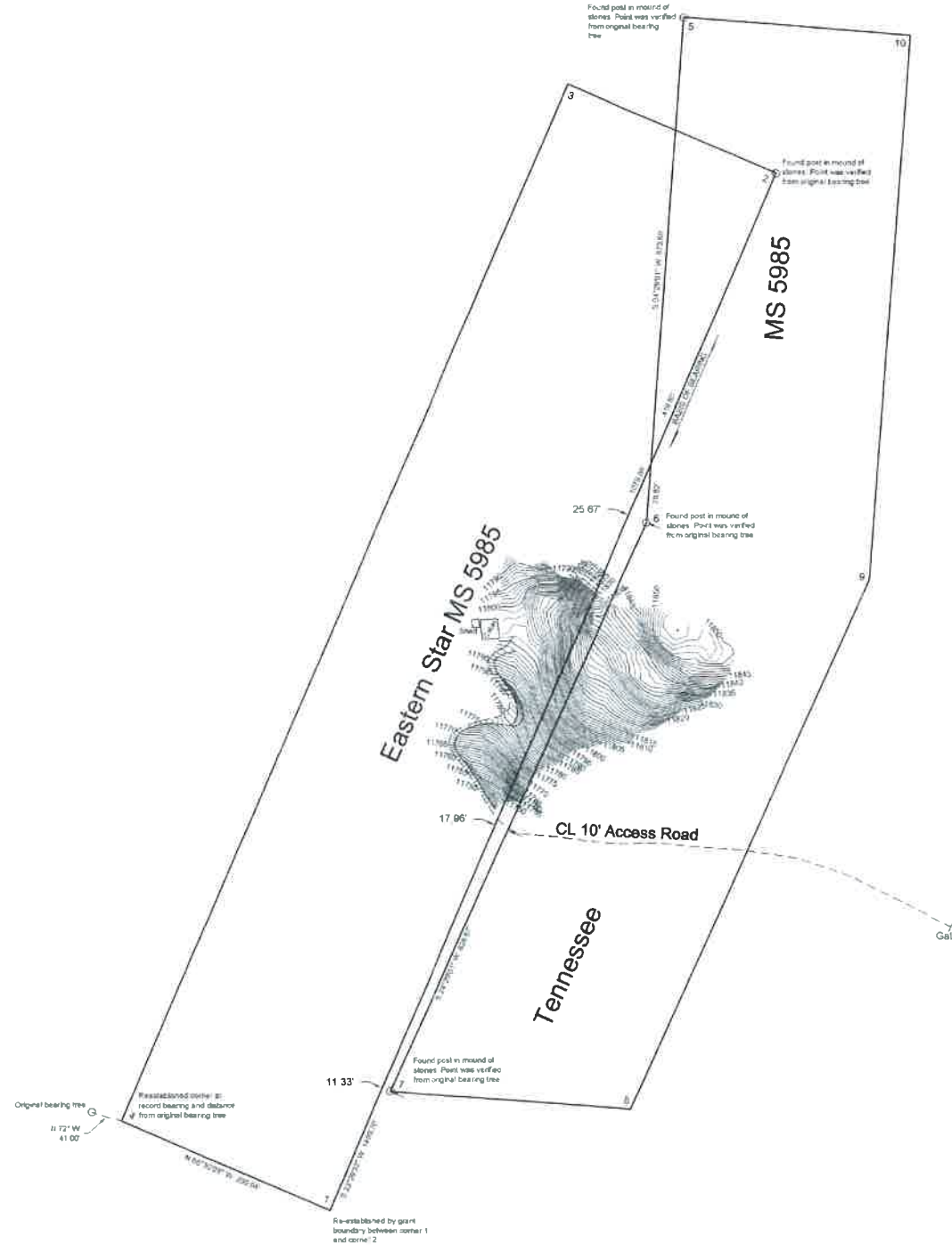
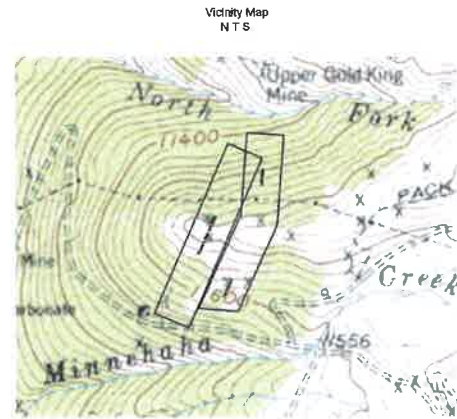
Building Materials:

The applicant plans to use colors and materials that embody the local area and mining aesthetic. A colorized rendering of the cabin, which shows proposed building materials and design, is included in the Scenic Quality Report for your review. The proposed materials consist of the following:

- Rustic/rusty corrugated metal siding
- Dark colored matte finish metal roof with matching trim
- Dark colored window sashes/frames to match metal siding
- Metal posts at deck
- Low-reflective glass on more expansive glazing

Results of Survey

MS 5985 Eastern Star and Tennessee lode
Suspended Township 42 North, Range 7 West, New Mexico Principal Meridian
San Juan County, Colorado



PLAT & DOCUMENT REFERENCES:

1. MS 5985 - Eastern Star and Tennessee lode - James Dyson, October 14th, 1889

GENERAL NOTES:

This survey was performed without the benefit of a title policy or commitment.

Certifications hereon shall run only to the persons(s) for whom this survey was prepared and on his behalf to the agencies listed on this/these sheet(s). Certifications are not transferable to additional institutions or subsequent owners.

No guarantee as to the accuracy of the information contained on the attached drawing is either stated or implied unless this copy bears an original signature of the professional land surveyor hereon named.

Only prints of this survey marked with an original seal and signature by the surveyor shall be considered true, valid copies.

Legend
 O Found Monument - See Description
 — Boundary Line
 N.T.S. Not To Scale



BASIS OF BEARING:
 The line between corners 1 and 2 of MS 5985 Eastern Star lode is assumed to bear N 23°29'32" E. and is monumented as shown hereon. All other bearings are relative thereto.

CERTIFICATE OF SURVEY:

I, Brian Dirk Hatter, a Registered Land Surveyor in the State of Colorado, do hereby certify that this plat accurately represents that the surveying services addressed herein have been performed by the professional land surveyor or under the professional land surveyor in charge. It is based upon the professional land surveyor's knowledge, information and belief. It is in accordance with applicable standards of practice. It is not a warranty or warranty, either expressed or implied. I further certify that the monuments shown hereon actually exist, and that their positions are as shown.



NOTICE 13-85-105-C.R.S. as amended
 ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

U.S. MINERAL SURVEYORS REGISTERED LAND SURVEYORS IN COLORADO		SOUTHWEST LAND SURVEYING LLC 12015 H Lane, Delta, CO 81416 (970) 387-0500...Silverton (970) 874-3680...Delta (970) 874-0883...Asax EMAIL: shatter@swresources.us	
PLAT SCALE: 1"=100' FIELD CREW: KCH, DLR DRAWN BY: BDH, KCH SHEET 1 of 1	REVISIONS: _____ _____ _____	Results of Survey MS 5985 Eastern Star and Tennessee lodes Suspended T 42 N. R 7 W. N.M.P.M. San Juan County, Colorado	Thomas & Jacqueline Bonanno 250 East Park Avenue Durango, Colorado 81301 JWB 10/26/22



**MOUNTAIN STUDIO
ARCHITECTS**

AZ | CO | NM | UT

MOUNTAIN STUDIO LLC
891 FLORIDA RD | SUITE 12
DURANGO, CO 81301
970 | 515 | 7882

PROJECT #:

2303

ASSESSOR'S
PARCEL #:

47750160050029

NEW CONSTRUCTION OF:

THE BONANNO CABIN

TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

SHEET TITLE:

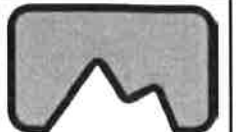
VICINITY MAP

SHEET #:

A

SCALE: 1" = 1000'

FOR IMPROVEMENT PERMIT | 03.11.2024



MOUNTAIN STUDIO ARCHITECTS

AZ | CO | NM | UT
MOUNTAIN STUDIO LLC
801 FLORIDA RD | SUITE 12
DURANGO, CO 81301
970 | 515 | 7882

PROJECT #:
2303
ASSESSOR'S
PARCEL #:
47750160050029

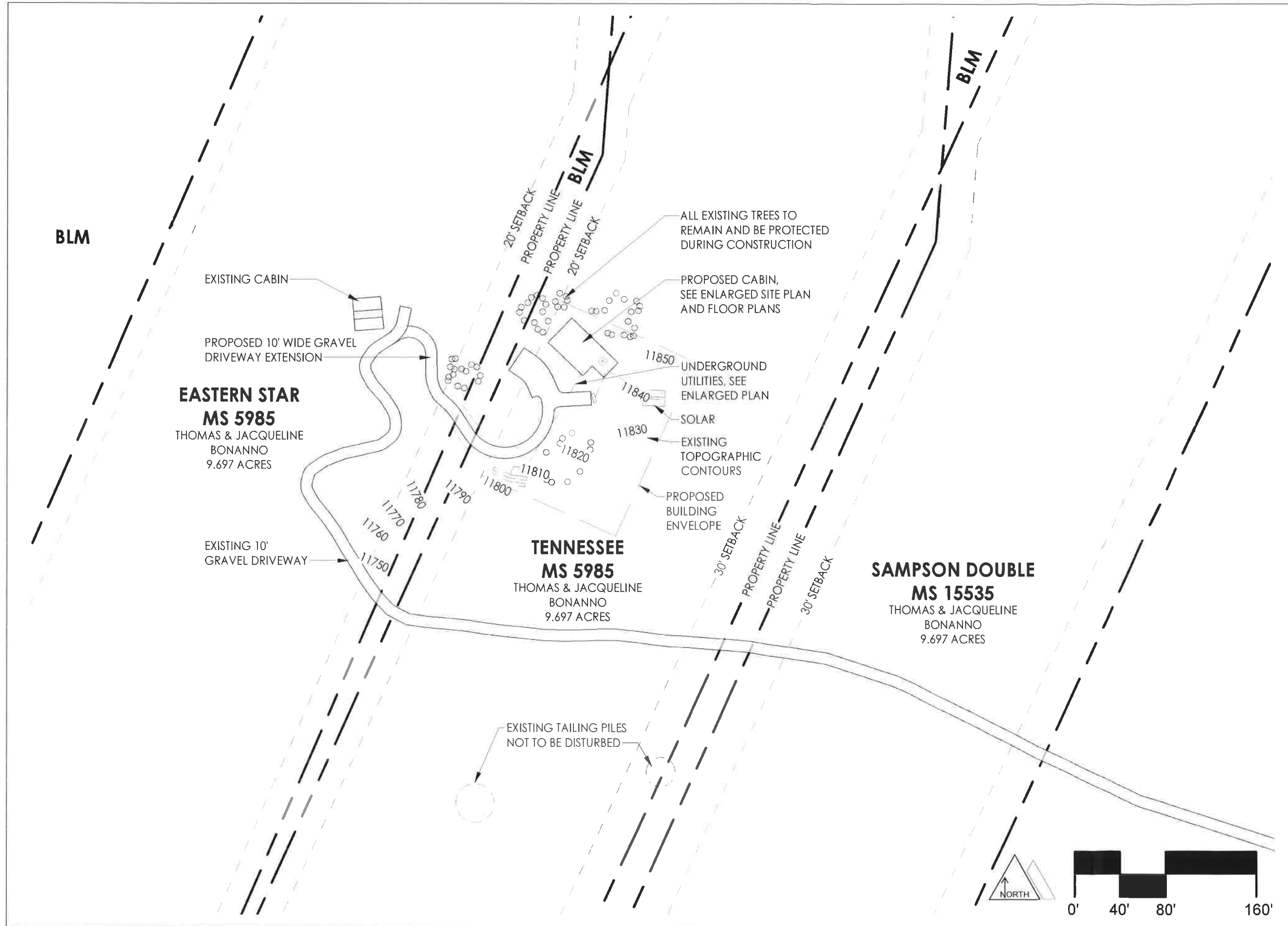
NEW CONSTRUCTION OF:
THE BONANNO CABIN
TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

SHEET TITLE:
SKETCH PLAN WITH
TOPOGRAPHY

SHEET #:
D

SCALE: 1" = 80'-0"

FOR IMPROVEMENT PERMIT | 03.11.2024





**MOUNTAIN STUDIO
ARCHITECTS**

AZ | CO | NM | UT
 MOUNTAIN STUDIO LLC
 801 FLORIDA RD | SUITE 12
 DURANGO, CO 81301
 970 | 515 | 7882

PROJECT #:

2303

ASSESSOR'S
PARCEL #:

47750160050029

NEW CONSTRUCTION OF:

THE BONANNO CABIN

TENNESSEE CLAIM, EASTERN STAR RD
 SILVERTON, CO

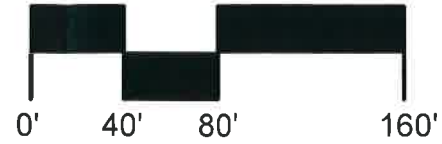
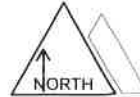
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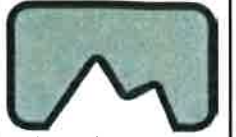
SKETCH PLAN
WITH AERIAL
IMAGE

SHEET #:

E

SCALE: 1" = 80'-0"





MOUNTAIN STUDIO ARCHITECTS

AZ | CO | NM | UT
MOUNTAIN STUDIO LLC
801 FLORIDA RD | SUITE 12
DURANGO, CO 81301
970 | 515 | 7882

PROJECT #:

2303

ASSESSOR'S

PARCEL #:
47750160050029

NEW CONSTRUCTION OF:

THE BONANNO CABIN

TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

SHEET TITLE:

ENLARGED SITE PLAN

SHEET #:

F

SCALE: 1" = 30'-0"

EASTERN STAR MS 5985
THOMAS & JACQUELINE BONANNO
9.697 ACRES

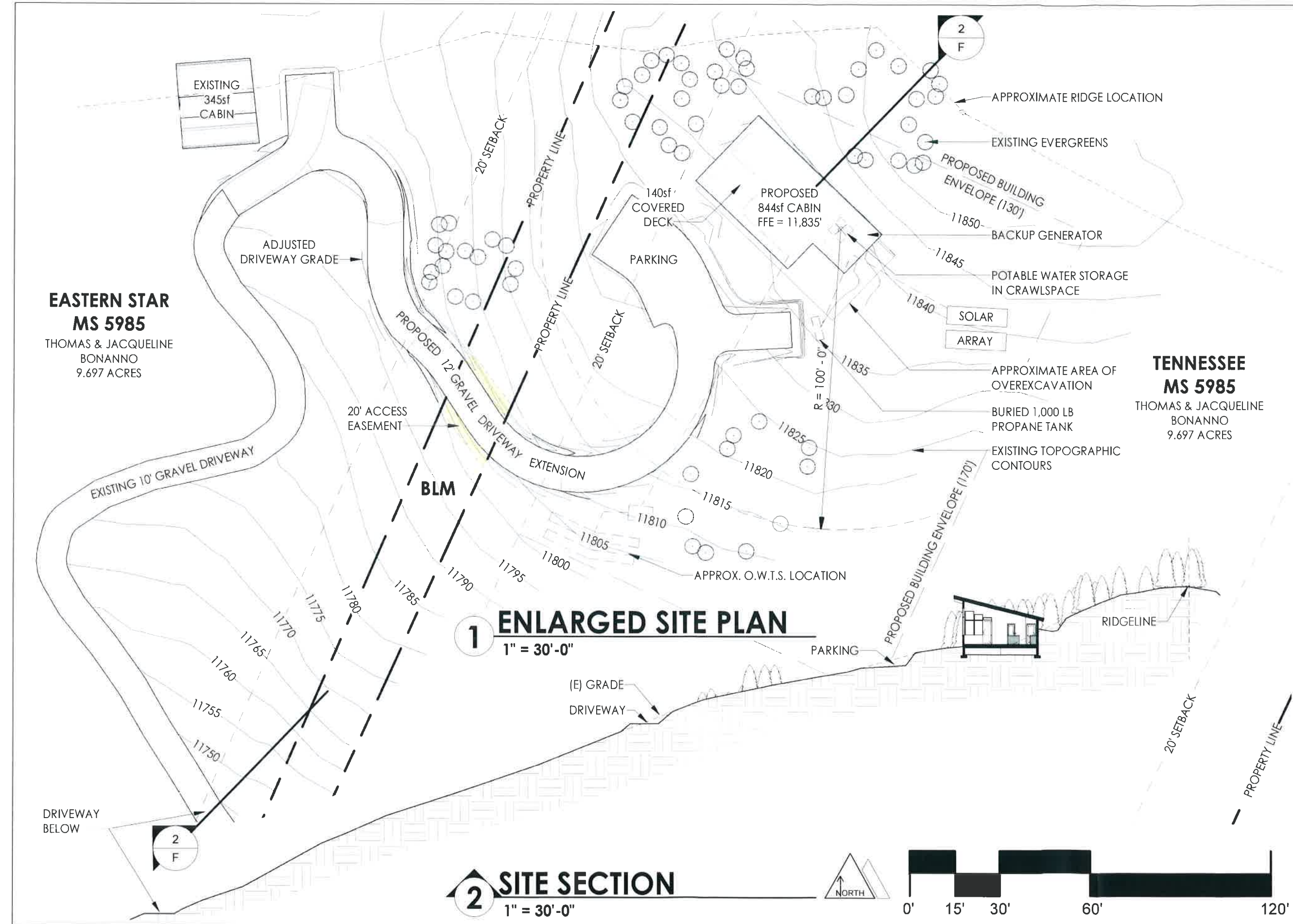
TENNESSEE MS 5985
THOMAS & JACQUELINE BONANNO
9.697 ACRES

1 ENLARGED SITE PLAN

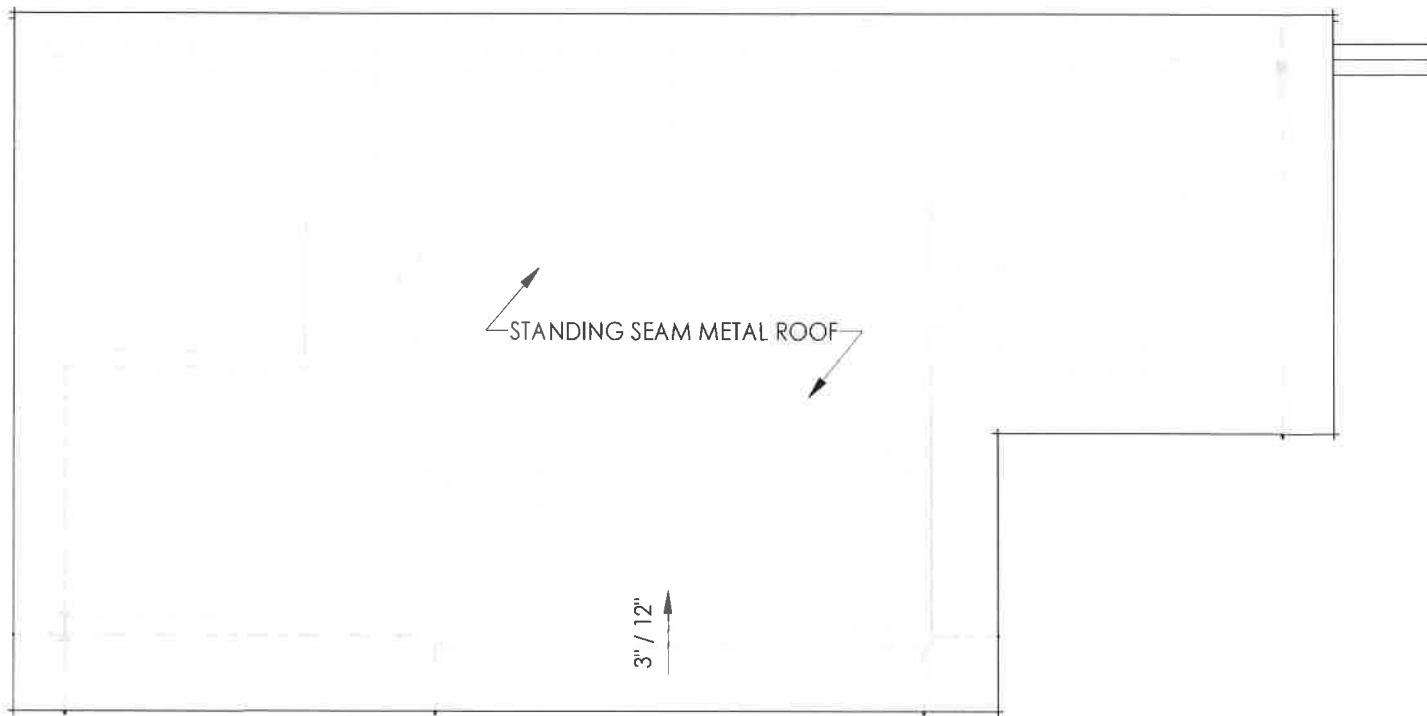
1" = 30'-0"

2 SITE SECTION

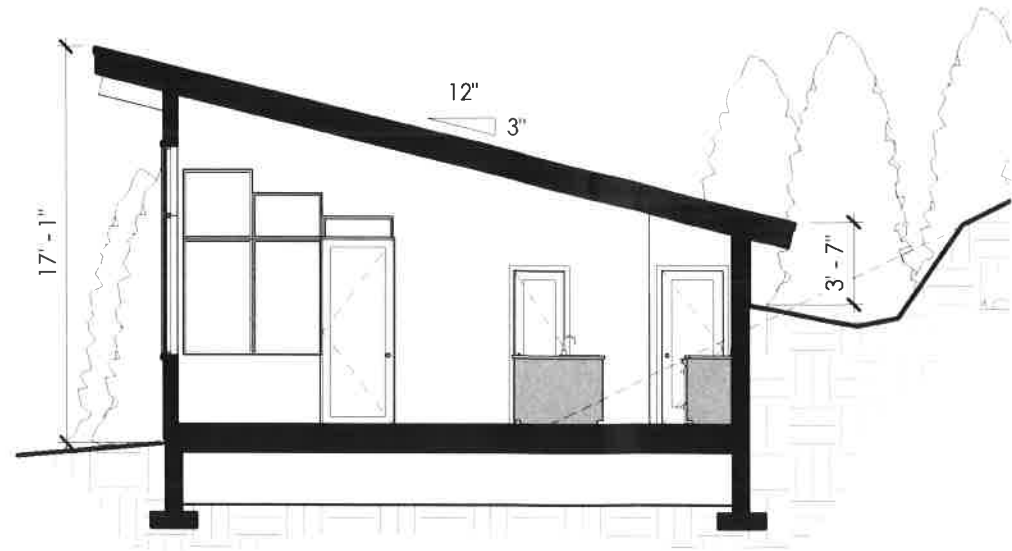
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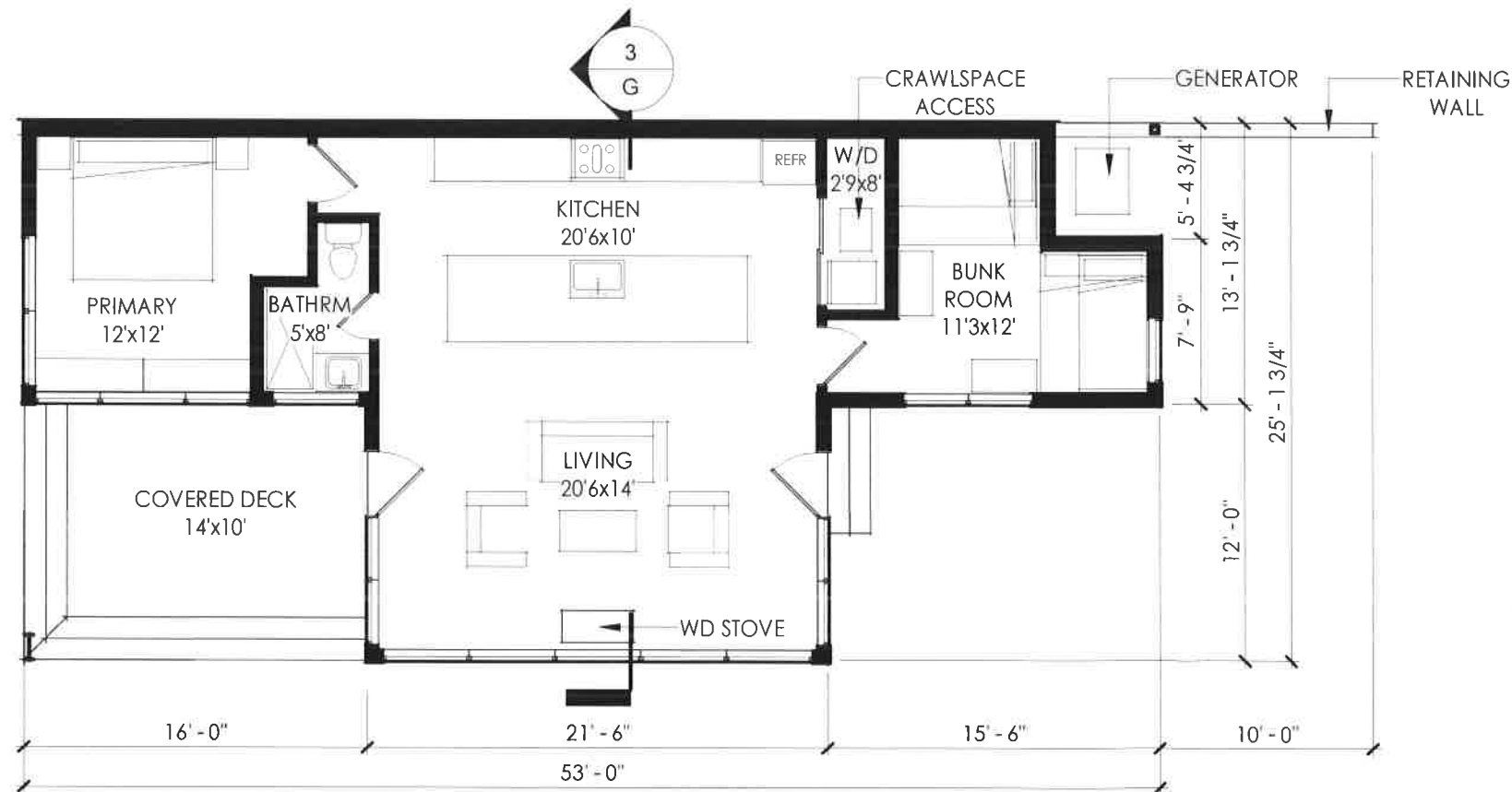
FOR IMPROVEMENT PERMIT | 03.11.2024



1 ROOF PLAN
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"



2 FLOOR PLAN
1/8" = 1'-0"



COVERED DECK
140 SF

4 AREA PLAN
1/16" = 1'-0"

NOTE: FLOOR AREA IS MEASURED TO INSIDE FACE OF EXTERIOR WALLS AND EDGE OF DECK. MAX ALLOWABLE PER SJC LAND USE CODE = 1,000 SF OF CONDITIONED AND COVERED DECK SPACE.



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MOUNTAIN STUDIO LLC
801 FLORIDA RD | SUITE 12
DURANGO, CO 81301
970 | 515 | 7882

PROJECT #:
2303
ASSESSOR'S
PARCEL #:
47750160050029

NEW CONSTRUCTION OF:
THE BONANNO CABIN
TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

SHEET TITLE:
PLANS AND SECTION

SHEET #:
G

SCALE: As indicated



MOUNTAIN STUDIO ARCHITECTS

AZ | CO | NM | UT
MOUNTAIN STUDIO LLC
801 FLORIDA RD | SUITE 12
DURANGO, CO 81301
970 | 515 | 7882

PROJECT #:

2303

ASSESSOR'S PARCEL #:

47750160050029

NEW CONSTRUCTION OF:

THE BONANNO CABIN

TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

SHEET TITLE:

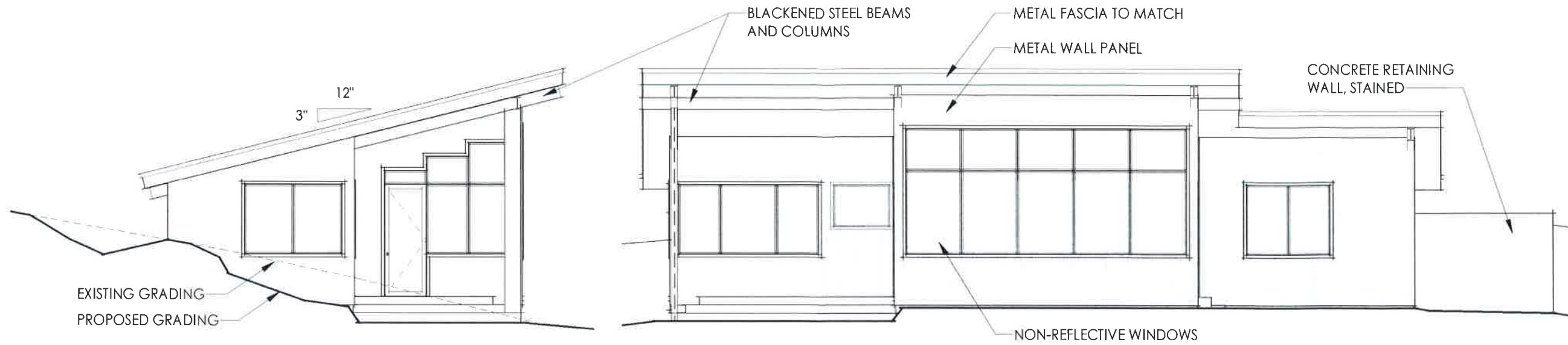
BUILDING ELEVATIONS

SHEET #:

H

SCALE: As indicated

FOR IMPROVEMENT PERMIT | 03.11.2024



1 WEST ELEVATION
1/8" = 1'-0"

2 SOUTH ELEVATION
1/8" = 1'-0"

METAL ROOF PANEL

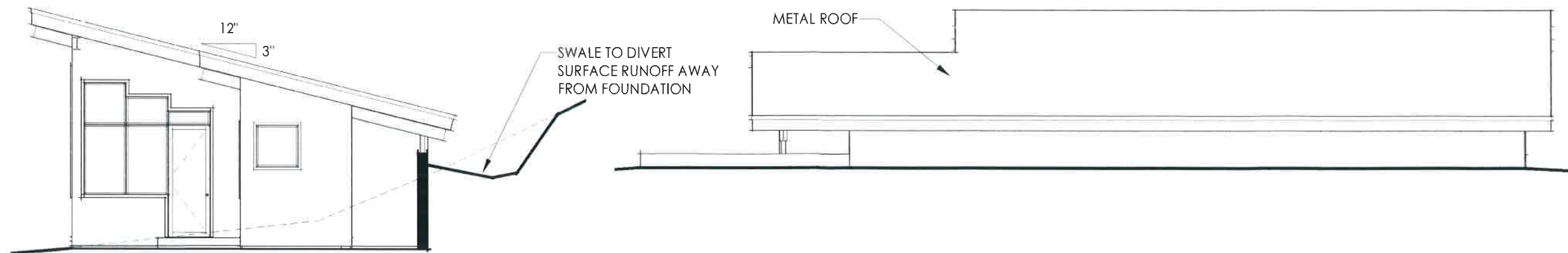


WESTERN STATES
1 3/4" STANDING SEAM
MATTE DARK BRONZE

METAL WALL PANEL



WESTERN STATES
7/8" CORRUGATED
"STREAKED RUST"

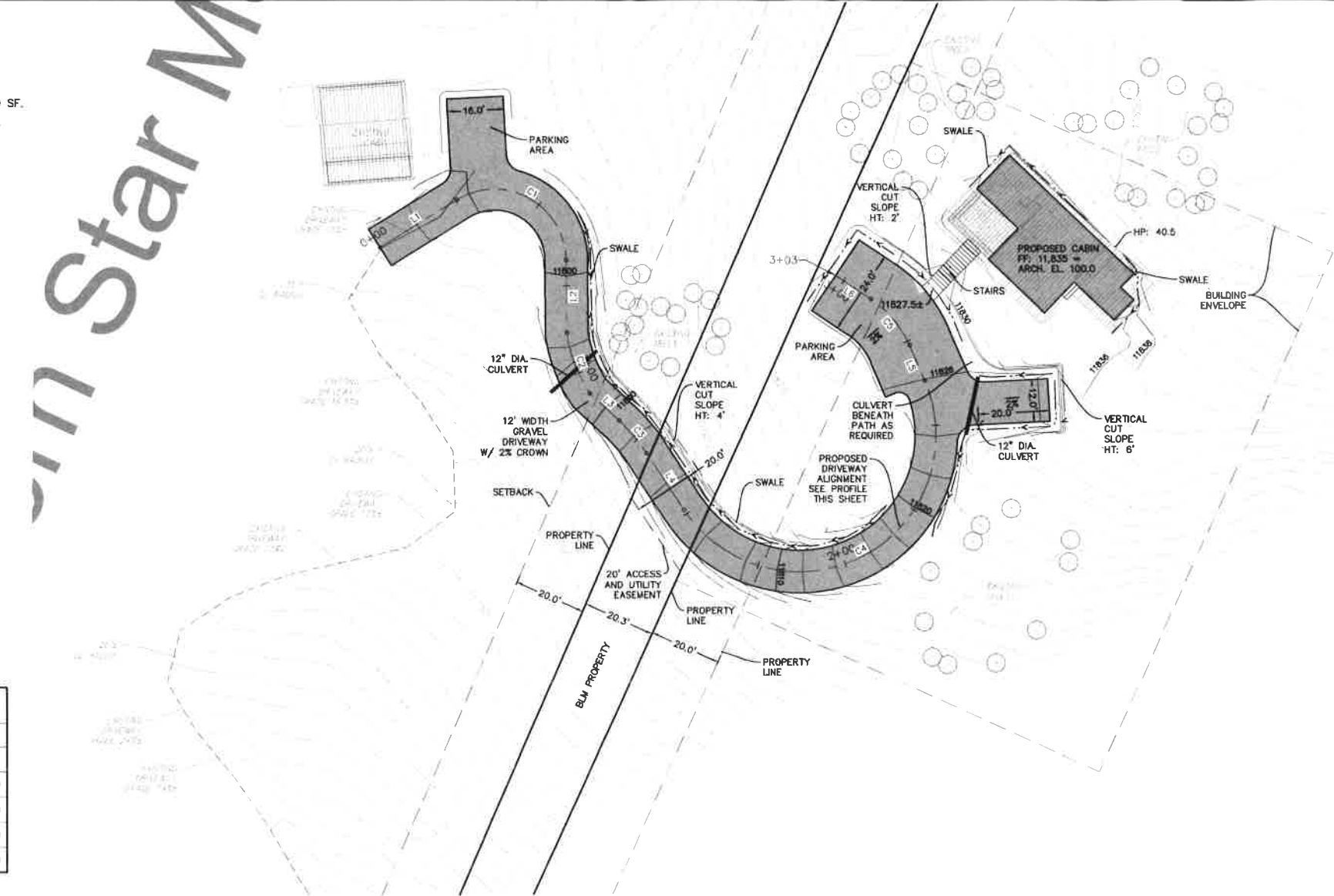


3 EAST ELEVATION
1/8" = 1'-0"

4 NORTH ELEVATION
1/8" = 1'-0"

GENERAL NOTES:

- EXISTING CONDITIONS SURVEY PROVIDED BY OTHERS.
- PROTECT EXISTING UTILITIES IN PLACE.
- CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS PRIOR TO CONSTRUCTION.
- ARCHITECTURAL, STRUCTURAL, LANDSCAPE, UTILITIES, AND OWT'S PLANS ARE BY OTHERS.
- AREA OF DISTURBANCE FOR SITE AND BUILDING IMPROVEMENTS IS ESTIMATED AT 10,750 SF.
- ALL DISTURBED AREAS NOT RECEIVING FINAL TREATMENT (GRAVEL, LANDSCAPE, BUILDING, ETC..) SHALL RECEIVE NATIVE SEED AND MULCH.

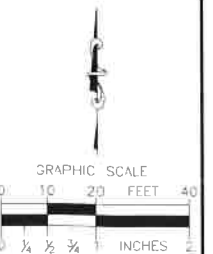


Line Table: Alignments

Line #	Length	Direction	Start Point	End Point
.1	25.42	N58° 15' 59.04"E	(50147.79,49943.98)	(50169.41,49957.35)
.2	20.39	S0° 20' 41.53"E	(50199.92,49940.45)	(50200.05,49920.07)
.3	11.19	S46° 57' 35.08"E	(50236.43,49903.07)	(50214.61,49895.43)
.4	18.92	S33° 08' 19.61"E	(50222.35,49886.22)	(50232.69,49870.38)
.5	10.71	N23° 15' 56.81"W	(50300.30,49906.63)	(50296.07,49916.47)
.6	11.90	N56° 05' 05.09"W	(50285.25,49929.52)	(50275.37,49936.16)

Curve Table: Alignments

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	20.00	42.37	S61° 01' 51.24"E	(50169.41,49957.35)	(50199.92,49940.45)
C2	40.00	18.32	S20° 35' 06.80"E	(50200.05,49920.07)	(50206.43,49903.07)
C3	50.00	12.06	S40° 02' 57.35"E	(50214.61,49895.43)	(50222.35,49886.22)
C4	38.50	114.32	N61° 47' 51.79"E	(50232.69,49870.38)	(50300.30,49906.63)
C5	30.00	17.18	N39° 40' 33.95"W	(50296.07,49916.47)	(50285.25,49929.52)



**FOR REVIEW ONLY
NOT FOR
CONSTRUCTION**

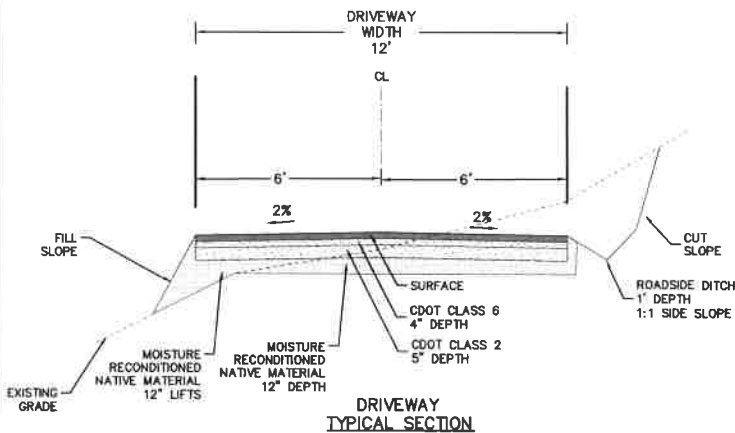
Revisions #	DATE	DESCRIPTION

**BONANNO CABIN
DRIVEWAY PLAN AND PROFILE
SAN JUAN COUNTY, CO**

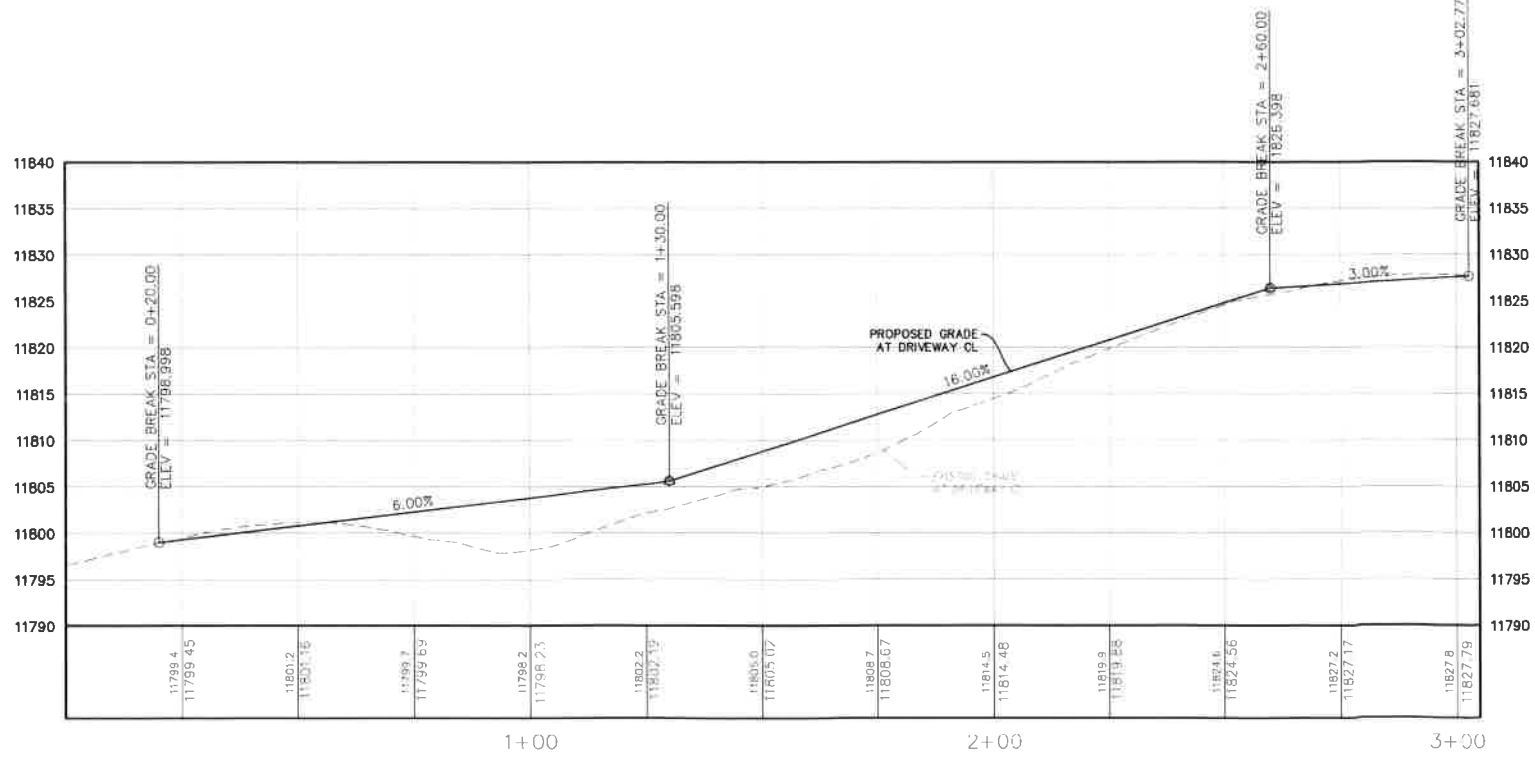


C100

Sheet 1 of 1
MCC Project: 2024-002
Date issued: 2/22/24



- NOTES:**
- SUBGRADE PREPARATION SHALL BE COMPLETED PER GEOTECH REPORT.
 - CLASS 2 AND CLASS 6 BASE COURSE SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR AT ±2% OPTIMUM MOISTURE CONTENT.
 - ACCESS DRIVES SHALL BE PRIVATELY OWNED AND MAINTAINED.
 - ALL DISTURBED AREAS OUTSIDE OF SHOULDER AND PAVEMENT SHALL RECEIVE NATIVE SEED AND ROLLED EROSION BLANKETS.



SAN JUAN COUNTY, COLORADO
DRIVEWAY AND ROAD ACCESS PERMIT

Improvement
Permit No. _____

Applicant: Thomas & Jacqueline BonAnno
250 East Park Avenue
Durango, CO 81301

Location of Proposed Driveway or Access on County Road No. 51 :
Eastern Star Road via County Road 51 (Minnehaha Creek)

Description of Proposed Driveway or Access, including materials to be used:
The proposed driveway will be an extension of an existing driveway currently used on the
adjacent property, will be approximately 10 feet wide, will consist of native gravel soil, and be
constructed with as minimal cut and fill as possible. The driveway will cross a 20-foot section of
BLM land, which the applicant has filed a right-of-way for. The application has been processed.
with BLM (serial # COC-80940) and is expected to be approved soon.

The driveway design by Mountain Civil Consulting is included with the applicant's Improvement Permit
Application documents.

Comment and Recommendations of County Road Supervisor:

Terms and Conditions of Issuance of Permit (or reason for denial):

Permit Approved _____ or Denied _____. Date: _____
Land Use Administrator: _____

BOARD OF COUNTY COMMISSIONERS

San Juan County

P.O. Box 466

Silverton, Colorado 81433

970-387-5671

RELATIONSHIP OF PROPERTY TO COUNTY ROAD AND STATE HIGHWAY SYSTEMS

I, the undersigned, applicant engaged in the processing of Application for Improvement Permit No. _____, San Juan County, Colorado, do hereby acknowledge the following facts:

1. The real property' which is the subject of said application is on this date located approximately 1/4 mile from County Road No. 51, the nearest designated and publicly maintained county road.
2. Said County Road No. 51 is on this date maintained on an seasonal basis by San Juan County.
3. The real property which is the subject of said application is on this date located approximately 9.5 miles from Colorado State Highway No. 550, the nearest designated state or federal highway.
4. Said Colorado State Highway No. 550 is on this date maintained on a year-round basis by either San Juan County or the Colorado Division of Highways.
5. A Driveway Permit will be necessary for any private access or egress relating to said real property which intersects any designated Colorado State Highway or Federal Highway.

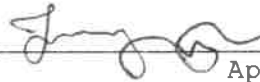
Signed and dated this 25 day of 25 2, 2024.

day

month

year

Tom Bonarone



Applicant

ATTEST:

Position:

Scenic Quality Report

1. INTRODUCTION AND SITE LOCATION

San Juan County regulations state the following:

All residential development shall be required to submit a Scenic Quality Report at the time of sketch plan submittal.

The following is a Scenic Quality Report for the proposed BonAnno Cabin, located on Tennessee Lode, MS #5985, near Minnehaha Creek, San Juan County, Colorado.

This property is accessed off County Road 51 via County Road 110. County Road 51 is seasonally maintained, while County Road 110 is maintained year-round from Silverton to Gladstone. The applicant plans to park at the County maintained public parking area at Gladstone and access the property with snowmobiles during the winter months when there is no vehicular access up County Road 51. A Vicinity Map showing the general project location is included in this application for reference.

2. PROJECT SITE AND PROPOSED CABIN LOCATION

County regulations require that this Scenic Quality Report adhere to the following:

The designated view sheds shall include natural and historic features as seen from and toward the site. Provide written descriptions of these view sheds and how they will be preserved. Existing site photos and graphic depictions of the proposed development shall be submitted so that staff, the Planning Commission and the Board of County Commissioners can assess the visual impacts of the project on the view shed and the effectiveness of proposed mitigation measures.

The property is located off an existing access road and driveway which originates from County Road 51 via County Road 110. The property consists of 9.70 acres of dense and dispersed evergreens, grassy hillside, and a ridgeline running east to west through the property. The proposed cabin location is just south of the ridgeline towards the middle of the property, set on a natural bench. The portion of the property south of the building site slopes down towards Minnehaha Creek, while the portion north of the building site slopes down towards North Fork Cement Creek.

The applicants chose the siting for the cabin due to the generally moderate topography, natural clearing with no trees, and proximity to the existing cabin and driveway to the west. The proposed cabin siting is the best balance of accessibility, privacy, and buildability available on the property.

The following photo shows the proposed cabin location, shown dashed (approximate).



3. VISIBILITY OF THE CABIN FROM COUNTY ROAD 51

The proposed cabin is largely obstructed to someone traveling in either direction on County Road 51 due to the mountainous terrain and elevation change between the road and site. Below is a view from County Road 51 at the existing access road (Eastern Star Road) junction. The proposed cabin would be slightly right of center in the photo.



BonAnno Cabin
Scenic Quality Report

Below are two views from County Road 51 east of the existing driveway and project site. The proposed cabin would be slightly right of center in both photos.



Below (on the following page) is a view from County Road 51 across Minnehaha Creek. The image shows the proposed cabin superimposed onto the site to show approximate scale and visibility from County Road 51.



4. VIEWS FROM THE PROPOSED CABIN

In the County Scenic Quality Report regulations, it is requested that information about the view from the cabin is provided. Photos are included below that show views from the proposed cabin looking south, west, north and east (approximately).



VIEW LOOKING SOUTH

BonAnno Cabin
Scenic Quality Report



VIEW LOOKING WEST



VIEW LOOKING NORTH



VIEW LOOKING EAST

5. LOCATION OF STRUCTURE MINIMIZES VISIBILITY FROM PUBLIC LANDS & EXISTING TRAILS

The County Scenic Quality regulations require the following information:

Evidence shall be provided to show that the location of the structure is designed to minimize the visual impacts and that it does not detract from the scenic quality of adjacent public lands, existing trails or historic resources.

The applicant owns both properties that flank the Tennessee Lode on the west and east sides (Eastern Star and Sampson Double), and the remainder of the property is bordered by BLM land and other privately owned parcels.

The existing public lands and trails surrounding the property include recreational use of County Road 51, which brings year-round visitors near or through the property. The existing cabin is currently visible from the Alpine Loop across North Fork Cement Creek; however, the new cabin will be hidden behind the ridge so will not be visible from the Alpine Loop.

The applicant values privacy, which is why the proposed cabin is set back into the natural bench as much as possible, which in turn lessens the visual impact. Anyone using County Road 51 will have limited visibility of the proposed cabin, which is primarily only visible from across Minnehaha Creek.

6. BUILDING DESIGN AND THE NATURAL TOPOGRAPHY AND VEGETATION

County regulations require that the Scenic Quality Report includes information regarding the following:

Evidence to demonstrate that the site improvements are designed and/or oriented in ways that allow them to blend in with and utilize the natural topography and vegetation. The report shall include, but not be limited to, site photos, perspective sketches, photo-simulations and/or three-dimensional models at an appropriate scale.

The proposed cabin is sited on a natural bench and grassy clearing, which is the most buildable portion of the property that requires the least amount of disturbance to the natural topography and vegetation. The cabin will be set back into the hill, as shown on the Site Section drawing (sheet "F), which will help blend the cabin into the surroundings as much as possible.

The image below shows the proposed cabin superimposed onto the site to show approximate scale. The cabin design is shown on the draft floor plans and elevations included with this application.



7. TOPSOIL, UTILITIES, LIGHTING AND DRIVEWAYS

This section describes design features associated with topsoil, location of utilities, exterior lighting, and any proposed driveways.

a) Topsoil

County regulations require that the project should include the following:

Plans to remove and save topsoil, prior to any grading or excavation, and how it will be replaced and reused for re-grading and re-vegetation purposes.

The topsoil removed at the cabin site during excavation will be reused as backfill and building pad for the cabin or used in the grading of the new driveway. Any additional removed topsoil will be used for vegetation and landscaping as desired by the applicant and/or required by the County.

b) Utilities

County regulations require that the project should include the following:

Location and installation of utilities in ways that will minimize impacts to the view shed and natural environment.

The project includes a proposed underground septic system with leach field, an underground water storage tank, underground propane tank, solar panels with battery storage, and a propane powered backup generator. All utilities are located on the site plan (sheet "F") included with this application.

Septic: The septic system location was selected based on site conditions and proximity to the chosen cabin site, which is south of the proposed cabin. The septic system maintains a 100-ft minimum clear radius from the proposed water source.

Water: The applicant will haul water to an underground water storage tank that will provide water for the cabin. Water will be piped underground from the storage tank to the cabin.

Power/heating: Solar panels will be the primary source of power for the cabin, with underground propane and propane backup generator as secondary. Appliances will be propane, and the primary heat source is proposed to be hydronic radiant heat and wood burning stove.

c) Exterior Lighting

County regulations require that the project should include the following:

Exterior lighting shall preserve the Dark Sky environment and view of the stars. Provisions requiring shielding of exterior lighting to prevent direct visibility of light bulbs from off-site,

directing of all exterior lighting toward either the ground or the surface of a building and prohibiting high intensity sodium vapor or similar lighting.

The exterior lighting for the cabin will be installed in all locations necessary to safely access the cabin and covered deck. All exterior lighting will be fully shielded, will be compatible with the rural mountain character of the area, and will be in conformance with the requirements of San Juan County Dark Sky requirements.

d) Driveways

County regulations require that the project should include the following:

Design and construction plans for roads and associated structures that bear a logical relationship to existing topography to minimize the need for cuts and fills.

The proposed cabin will be accessed by extending the existing driveway currently used to access the existing cabin located on the adjacent property, Eastern Star Lode. The applicant plans to make improvements to the existing driveway (from the gate to the cabin). The starting elevation is approximately 11,800 feet and ascends 27 feet to the parking area of 11,827 feet. The driveway will maintain a similar slope to the adjacent undisturbed land, minimizing cut and fill and controlling erosion. An engineered driveway plan and profile (sheet "C100") showing the existing and proposed topography has been included with this application for review.

8. BUILDING MATERIALS

County regulations require that the Scenic Quality Report includes information regarding the following:

Provide written descriptions and photos of the proposed building materials, colors and textures. Utilizing and integrating elements, colors and textures found naturally in the landscape and prohibition of reflective materials, such as highly reflective glass or metals.

The proposed cabin will include the following materials:

- Rustic/rusty corrugated metal siding
- Dark colored matte finish metal roof with matching trim
- Dark colored window sashes/frames to match metal siding
- Metal posts at deck
- Low-reflective glass on more expansive glazing

Thank you for your review and consideration of the proposed BonAnno Cabin located on the Tennessee Lode near Minnehaha Creek. If you have any questions or need additional information, please contact Chris Clemmons or Ashley Clemmons of Mountain Studio Architects at (970) 515-7882.

9. STORY POLE EVALUATION

Story poles were placed at the perimeter corners of the proposed cabin extending to the proposed height of the roof at those corners. The following exhibit presents photos looking toward the installed story poles from five distinct locations in the surrounding area. Each view sheet includes an aerial map with the story pole locations and the location where the photo was taken, along with the photo of the view looking toward the story poles paired with a zoomed-in version of the same photo.



MOUNTAIN STUDIO ARCHITECTS
 AZ | CO | NM | UT
 801 FLORIDA RD, SUITE 112
 DURANGO, CO 81301
 970-515-7882

NEW CONSTRUCTION OF:		THE BONANNO CABIN	
PROJECT #:		2303	
ASSESSOR'S		47750160050029	
PARCEL #:		TENNESSEE CLAIM, EASTERN STAR RD SILVERTON, CO	
IMPROVEMENT PERMIT UPDATE 08.07.2024			

SHEET TITLE:	STORY POLE VIEW FROM HIGHEST POINT ON EASTERN STAR CLAIM
SHEET #:	9a
SCALE:	



PROPERTY BOUNDARIES ARE APPROXIMATE. SEE SURVEY & SKETCH PLANS

PHOTO LOCATION

STORY POLE LOCATIONS



ZOOMED VIEW

VIEW LOOKING EAST



MAP VIEW



MOUNTAIN STUDIO ARCHITECTS

AZ | CO | NM | UT
801 FLORIDA RD., SUITE 12
DURANGO, CO 81301
970-515-7882

PROJECT #:
2303
ASSESSOR'S
PARCEL #:
47750160050029

IMPROVEMENT PERMIT UPDATE | 08.07.2024

TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO

NEW CONSTRUCTION OF:

THE BONANNO CABIN

SHEET TITLE:

STORY POLE VIEW
FROM TOP OF
GOLD KING AT THE
END OF CR 51

SHEET #:

9b

SCALE:



MAP VIEW

PROPERTY BOUNDARIES
ARE APPROXIMATE.
SEE SURVEY & SKETCH PLANS

PHOTO LOCATION

STORY POLE
LOCATIONS
(NOT VISIBLE)

ZOOMED VIEW



VIEW LOOKING SOUTHWEST



MOUNTAIN STUDIO ARCHITECTS

AZ | CO | NM | UT
801 FLORIDA RD, SUITE 12
DURANGO, CO 81301
970-515-7882

PROJECT #: 2303
ASSESSOR'S PARCEL #: 47750160050029

NEW CONSTRUCTION OF:
THE BONANNO CABIN
TENNESSEE CLAIM, EASTERN STAR RD
SILVERTON, CO
IMPROVEMENT PERMIT UPDATE | 08.07.2024

SHEET TITLE: VIEW FROM THE BRONITSKY'S DRIVEWAY (MARSHALL NEY CLAIM) CR 51A
SHEET #: 9C
SCALE:



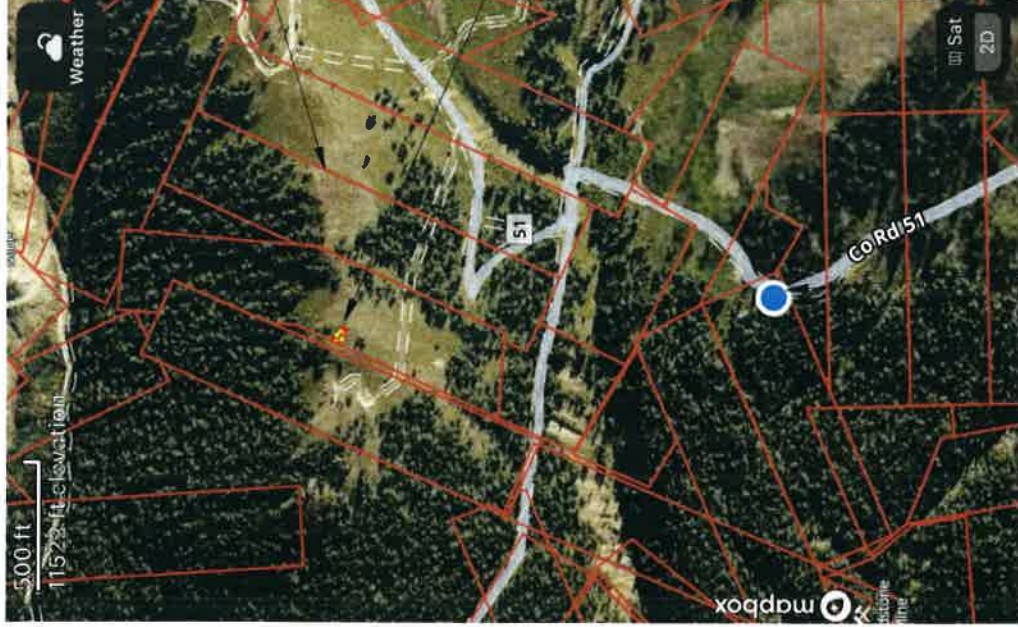
ZOOMED VIEW



VIEW LOOKING NORTH

PROPERTY BOUNDARIES ARE APPROXIMATE. SEE SURVEY & SKETCH PLANS

UTILITY POLE LOCATIONS



MAP VIEW

PHOTO LOCATION

500 ft
11522-ft elevation

Weather

Sat 2D



PHOTO LOCATION

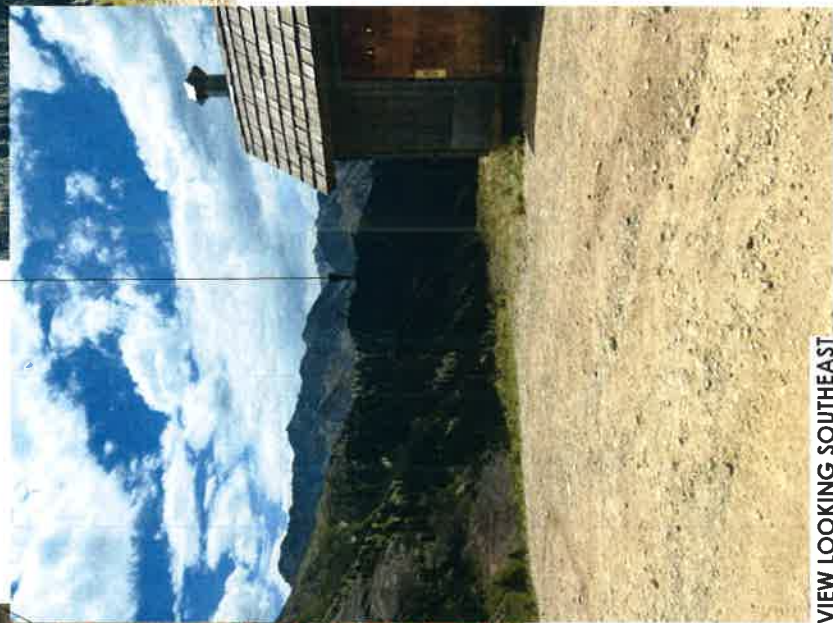
PROPERTY BOUNDARIES ARE APPROXIMATE. SEE SURVEY & SKETCH PLANS

STORY POLE LOCATIONS (NOT VISIBLE)

MAP VIEW



ZOOMED VIEW



VIEW LOOKING SOUTHEAST



MOUNTAIN STUDIO ARCHITECTS
 AZ | CO | NM | UT
 801 FLORIDA RD, SUITE 12
 DURANGO, CO 81301
 970-515-7862

PROJECT #:	2303
ASSESSOR'S PARCEL #:	47750160050029
NEW CONSTRUCTION OF:	THE BONANNO CABIN
	TENNESSEE CLAIM, EASTERN STAR RD SILVERTON, CO
	IMPROVEMENT PERMIT UPDATE 08.07.2024

SHEET TITLE:	STORY POLE VIEW FROM THE VAULT TOILETS ON CR 11
SHEET #:	9d
SCALE:	



MOUNTAIN STUDIO ARCHITECTS
 AZ | CO | NM | UT
 801 FLORIDA RD, SUITE 12
 DURANGO, CO 81301
 970-515-7882

NEW CONSTRUCTION OF:		IMPROVEMENT PERMIT UPDATE 08.07.2024	
PROJECT #:		47750160050029	
ASSESSOR'S		SILVERTON, CO	
PARCEL #:		TENNESSEE CLAIM, EASTERN STAR RD	
2303			

SHEET TITLE:	
STORY POLE VIEW FROM VELOCITY BASIN AT THE END OF CR 52	
SHEET #:	9e
SCALE:	



ZOOMED VIEW



VIEW LOOKING NORTH

STORY POLE LOCATIONS



MAP VIEW

PHOTO LOCATION



BonAnno Cabin - Alpine Tundra Habitat Assessment



Prepared for
Thomas and Jacqueline BonAnno
250 East Park Avenue
Durango, CO 81301
(970) 946-0003

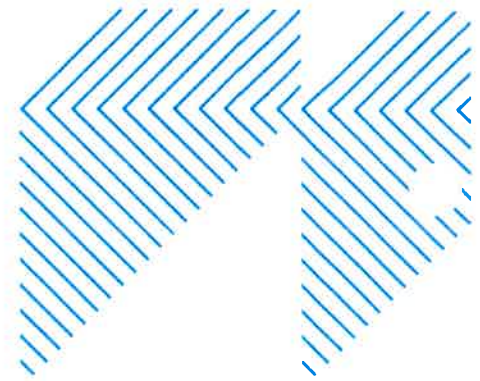
Prepared by
Barr Engineering Co.

July 2024

776 East Second Avenue
Durango, CO 81301
970.382.7256

barr.com





BonAnno Cabin - Alpine Tundra Habitat Assessment

July 2024

Final Report

Contents

1	Introduction.....	1
2	Survey Methods.....	1
2.1	Pre-Field Review.....	1
2.2	Survey Methods.....	1
3	Habitat and Plant Community Assessment.....	2
3.1	Vegetation Community Types.....	2
4	Survey Results.....	2
4.1	Existing habitat.....	2
4.2	Determination.....	4
5	Literature Cited.....	5

Tables

Table 1	Plant Species Occurring within the Proposed BonAnno Cabin Project Area.....	4
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Photographs

Photograph 1: Proposed Bon Anno Cabin Site.....	2
Photograph 2: Proposed BonAnno Cabin Site with Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland Habitat Present.....	3
Photograph 3: Dominant Plant Community within the Proposed BonAnno Cabin Footprint.....	3

Maps

Map 1	BonAnno Cabin Site Topography
Map 2	NatureServe Vegetation Community Reference Map



Attachments

Attachment A Qualification of Botanist

Attachment B NatureServe Explorer Vegetation Classification Description

1 Introduction

Barr was contacted by Mountain Studio Architects LLC of Durango, Colorado on May 16, 2024, to provide an expert determination of the habitat and vegetation community at the proposed BonAnno Cabin site (project) in the town of Silverton, San Juan County, Colorado. More specifically, the project is located in Township 42 North, Range 7 West, Section 16 of the New Mexico Principal Meridian on County Road 51 and is shown on the Handies Peak U.S. Geological Survey 7.5-minute quadrangle (see attached Map 1). The project is located at approximately 3,600 (11,850) feet in elevation.

The San Juan County Land Use Code requires that construction be conducted outside of the alpine tundra community for the project to be approved. San Juan County requires an alpine tundra habitat surgery to finalize and approve the Conditional Approval letter required for project construction. Barr Engineering Co (Barr) conducted the alpine habitat survey and is pleased to provide this report of findings.

2 Survey Methods

2.1 Pre-Field Review

A desktop review of the project was completed prior to the field survey and included a review of the community type and classification for the area surrounding the project location to serve as a baseline reference. NatureServe Explorer was referenced for the ecological land classifications in the project vicinity and was used to identify, describe, and map ecological features during the field evaluation. The NatureServe Explorer system uses associations of biotic and environmental factors, including climate, geology, topography, soils, hydrology, and vegetation. NatureServe Explorer GIS layers were cross referenced with the project location and mapped for potential community type (see attached Map 2). These data should not be regarded as a substitute for on-site surveys required for environmental assessments due to the absence of known occurrence data in any particular geographic area; therefore, an onsite survey of the proposed BonAnno cabin building footprint and adjacent land was conducted to verify and classify the existing vegetation, habitat, and community types.

2.2 Survey Methods

Barr Senior Biologist/Botanist, Julia Hanson, conducted the field alpine tundra habitat assessment for the project on July 5, 2024, during the peak of the summer growing season (botanist qualifications are provided in Attachment A). Prior to the site visit, it was confirmed that the snowpack had dissipated, and conditions were suitable for survey. The survey was conducted within the proposed construction footprint and adjacent habitat. Survey methodology included identification and species documentation of observed vegetation, documentation of habitat characteristics, and photo documentation. Site-specific survey details are described below. Section 3 provides the desktop reference community types mapped in the project area, and Section 4 discusses survey results and existing habitat type as documented during the field assessment.

3 Habitat and Plant Community Assessment

3.1 Vegetation Community Types

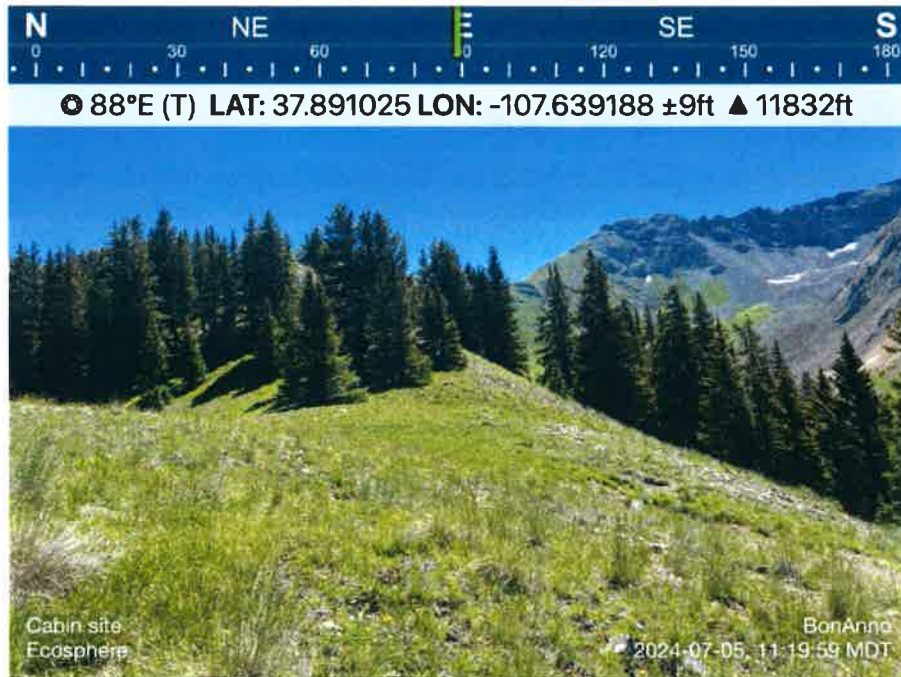
Based on the desktop review of NatureServe Explorer GIS database layers (Map 2), potential community types mapped within and adjacent to the BonAnno cabin site include three classifications: Rocky Mountain Alpine Fell-Field, Rocky Mountain Alpine Montane Wet Meadow, and Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland. All three ecological systems descriptions from NatureServe Explorer were reviewed and compared with the existing conditions of the site during the field visit.

4 Survey Results

4.1 Existing habitat

A comparison of the three potential NatureServe Explorer ecological systems descriptions mapped for potential to occur at the site (Map 2) and the existing habitat characteristics and plant species documented on site determined that the Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland habitat is present in the project area. Existing habitat characteristics observed during the site visit included a matrix forest representing the highest forest in the area with Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) dominating. Precipitation is predominantly in the form of snow; snowpack is deep and late-lying and summers are cool. Frost at this elevation is possible all summer. This community reflects a woodland and forest physiognomy and is found at the upper treeline areas with open meadows (See NatureServe description in Attachment B). The project area included open meadow and surrounding tree canopy with low-angle vegetated slopes (Photographs 1-3).





Photograph 2: Proposed BonAnno Cabin Site with Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland Habitat Present



Photograph 3: Dominant Plant Community within the Proposed BonAnno Cabin Footprint

Plant species documented during the July 2024 site assessment included subalpine species known to occur within the southern Rocky Mountains spruce-fir forest communities and are included in Table 1.

Table 1 Plant Species Occurring within the Proposed BonAnno Cabin Project Area

Common Name	Scientific Name
subalpine fir	<i>Abies lasiocarpa</i>
yarrow	<i>Achillea millefolium</i>
onion	<i>Allium geayeri</i>
candelabra	<i>Androsace septentrionalis</i>
pussytoes	<i>Antennaria rosea</i>
kinnikinnick	<i>Arctostaphylos uva-ursi</i>
arnica	<i>Arnica cordifolia</i>
soft arnica	<i>Arnica mollis</i>
bistort	<i>Bistorta bistortoides</i>
rockcress	<i>Boechera stricta</i>
chickweed	<i>Cerastium Beeringianum</i>
mountain parsley	<i>Cymopterus lemmonii</i>
Thurber's fescue	<i>Festuca thurberi</i>
Pygmy bitterroot	<i>Lewesia pygmaea</i>
alpine timothy	<i>Phleum communtatum</i>
Engelmann spruce	<i>Picea engelmannii</i>
Jacob's ladder	<i>Polemonium pulcherrimum</i>
cinquefoil	<i>Potentilla hippiana</i>
king's crown	<i>Rhodiola integrifolia</i>
trailing currant	<i>Ribes laxiflorum</i>
sibaldia	<i>Sibaldia procumbens</i>

4.2 Determination

The July 2024 habitat survey for the project determined that the site does not support alpine tundra community type characteristics including: vegetation physiognomy of sparse cushion plants to dense turf, dwarf shrublands or krummholz form trees, or lack of tree species due to elevation. The site also did not support an alpine tundra ecosystem, reflecting a lack of snow due to high exposed peaks and strong winds and/or rocky substrate with permafrost and potentially supporting peat layers.

The botanist determined that the site represents Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland and would meet the requirements of the Zoning and Land Use Regulation San Juan County, Colorado, Amended March 8, 2017, below:

1-107 USES BY RIGHT AND USES SUBJECT TO REVIEW

The uses permitted in each Zoning District correspond to the unique characteristics of that district. Some uses by right which are permitted in a Zoning District may be restricted because of the existence of an Overlay District. Some uses by right may require an Improvement or Use

Permit, pursuant to Section 2 - 102 of this Code. The review and appeal process procedures are outlined in Chapter 4 of this Code.

.1 MOUNTAIN ZONING DISTRICT USES

Within the Mountain Zone, there shall be no uses by right and all uses and activities shall be and are uses subject to review. Residential development of any sort within the alpine tundra ecosystem is strictly prohibited. All other development, including temporary and permanent structures, within the alpine tundra ecosystem is strongly discouraged and may be permitted only under limited circumstances when no reasonable or feasible alternative to such development is available. Ancillary uses associated with approved development at lower elevations (such as ski lift towers and other structures), necessary communication towers, and mining structures, which cannot realistically be located underground are among the limited types of development which may be approved for location in the alpine tundra ecosystem. Special activities and uses as defined in Chapter 5 of this Code are subject to the review process and additional regulations described therein.

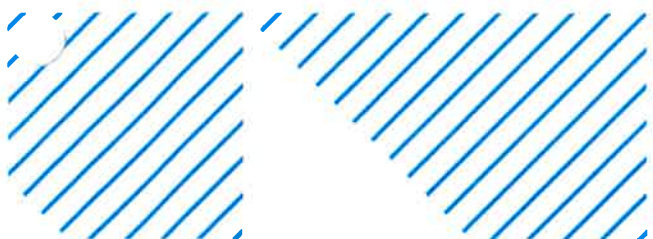
5 Literature Cited

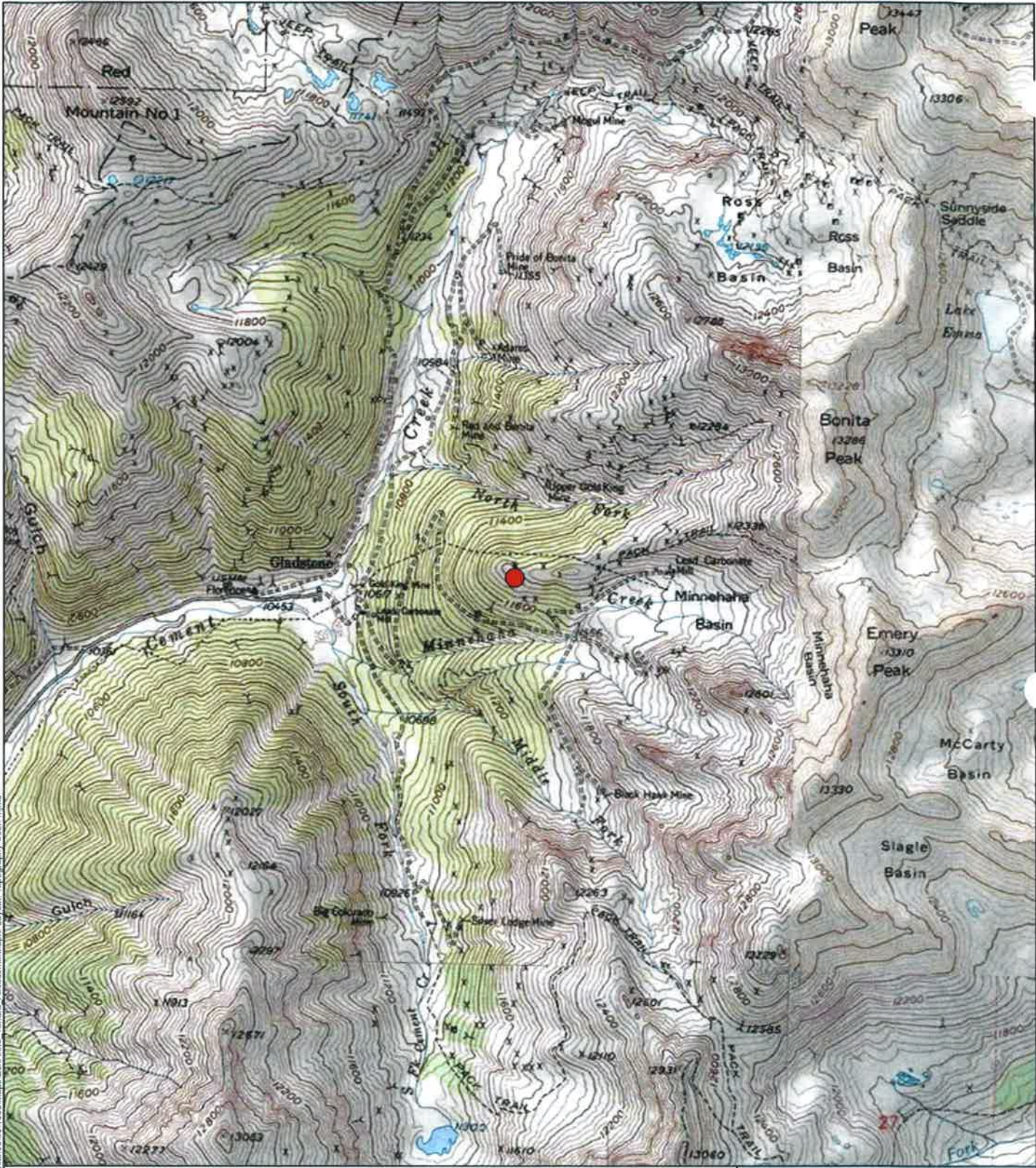
NatureServe. 2024. NatureServe Network Biodiversity Location Data. NatureServe, Arlington, Virginia. Accessed on 1 July 2024 at www.natureserve.org

San Juan County Colorado. 2017. Zoning and Land Use Regulation. Amended March 8, 2017, pages 13-14. Accessed on 1 July 2024 at https://sanjuancounty.colorado.gov/sites/sanjuancounty/files/2020-04/3-8-17_land_use_code-searchable_compressed.pdf



Maps





Barr Footer: ArcGISPro_71122024_3:37 PM File: I:\Projects\061551\001\Map\BonAnno_Tundra_Assessment.aprx Layout: Topography User: m1965



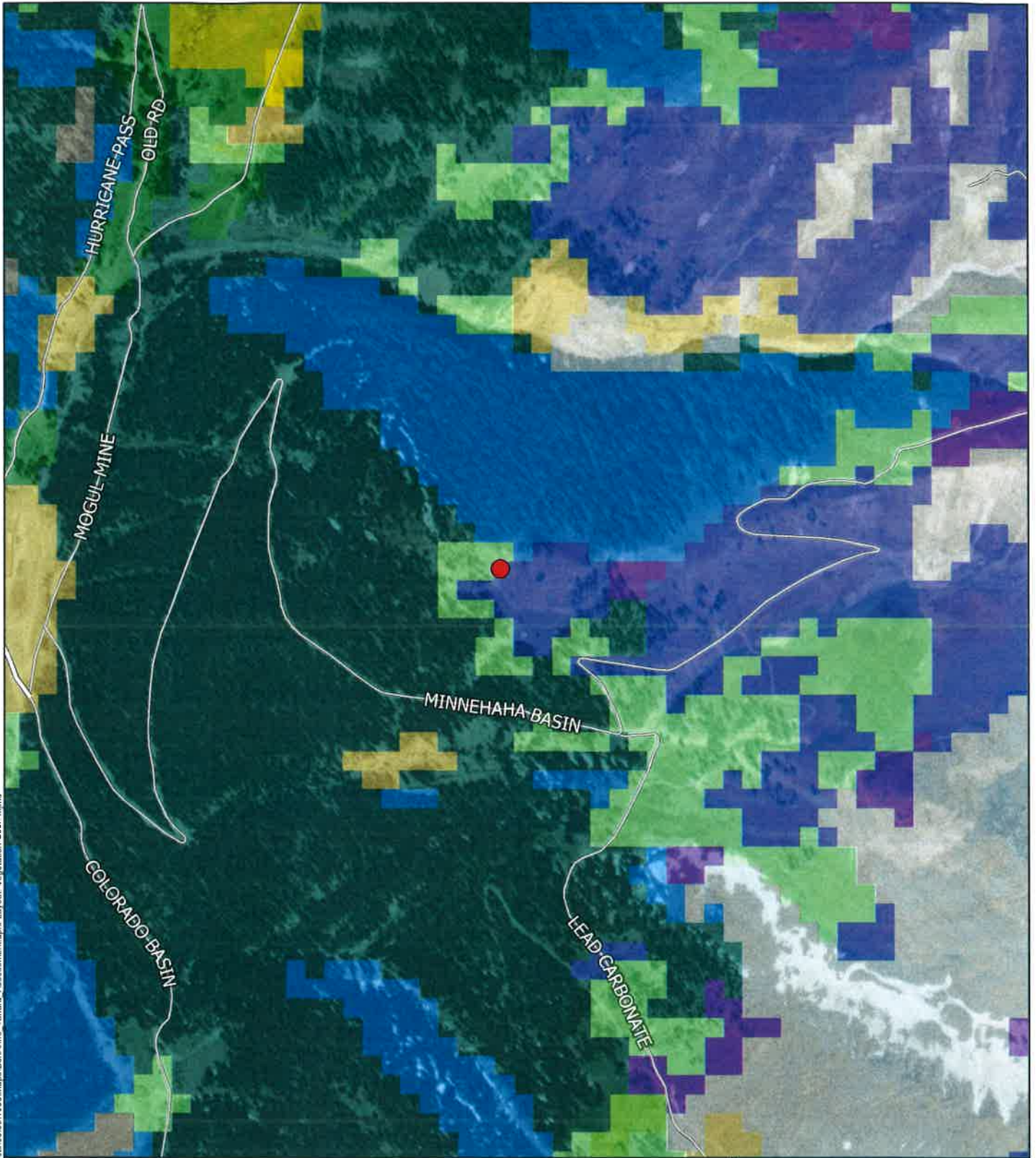
Project Location

BonAnno Cabin Alpine Tundra Assessment
Tom and Jacqueline BonAnno

Topography

MAP 1





Barr Footer: ArcGISPro: 7/12/2024 3:38 PM File: I:\Projects\069551003\Mapa\BonAnno_Tundra_Assessment.aprx Layout: Vegetation User.mxd

- Project Location
- Major Road
- Local Road
- SWReGAP Classification**
- Rocky Mountain Alpine Bedrock and Scree
- Rocky Mountain Alpine Fell-Field
- Rocky Mountain Cliff and Canyon
- Rocky Mountain Aspen Forest and Woodland

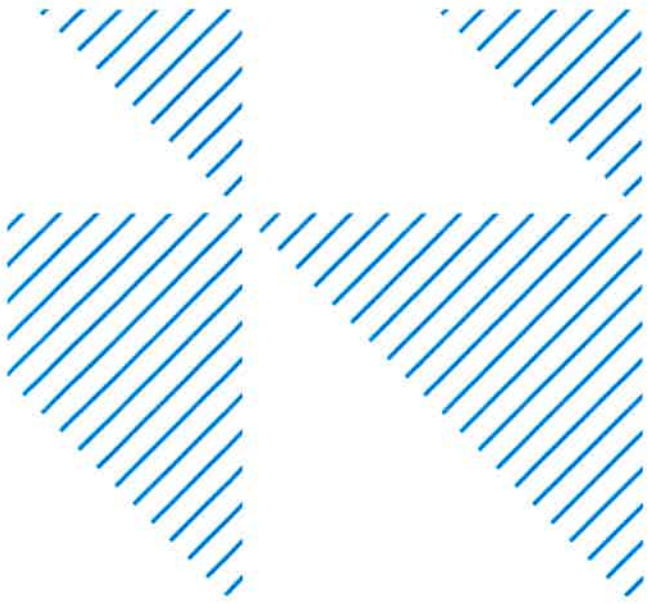
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Dry Tundra
- Rocky Mountain Subalpine Mesic Meadow
- Southern Rocky Mountain Montane-Subalpine Grassland
- Rocky Mountain Subalpine-Montane Riparian Shrubland
- Rocky Mountain Alpine-Montane Wet Meadow
- Recently Logged Areas



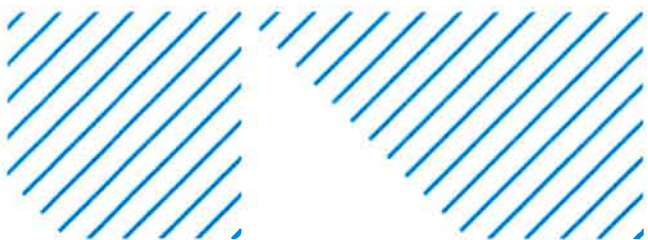
BonAnno Cabin Alpine Tundra Assessment
Tom and Jacqueline BonAnno

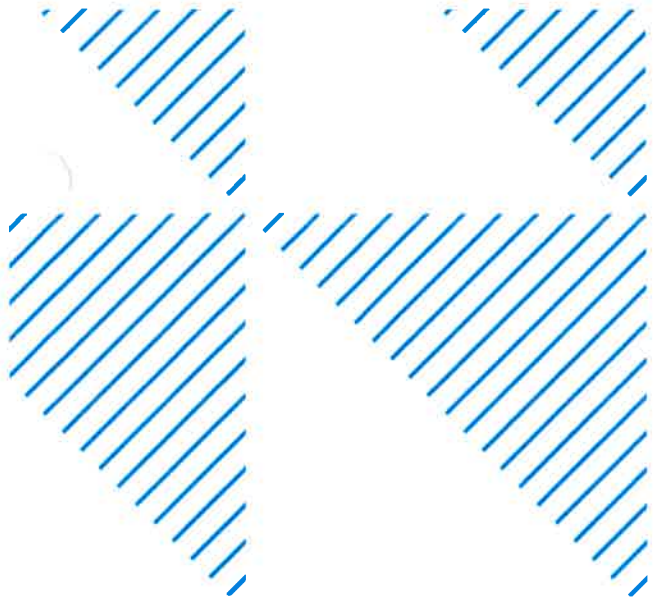
NatureServe Vegetation
Community Reference Map
MAP 2





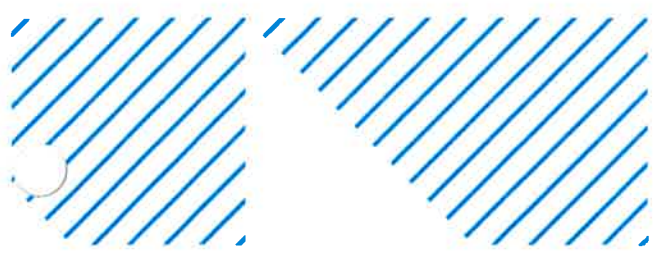
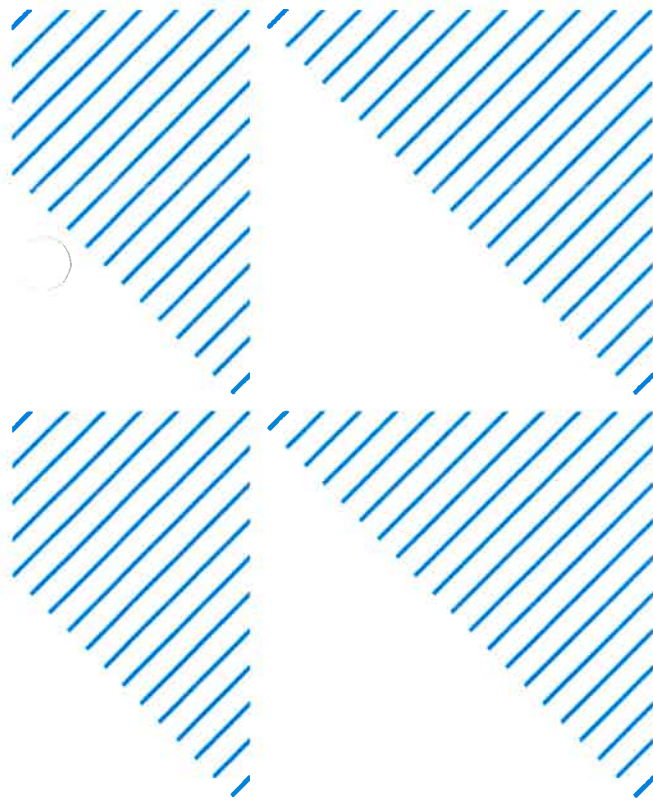
Attachments





Attachment A

Qualification of Botanist



JULIA HANSON



Senior Biologist/Botanist



EXPERIENCE



Julia has more than 20 years of experience in the biological/botanical and environmental compliance fields. She has worked as a biologist, botanist, and wetland scientist, supporting environmental projects on behalf of regulatory agencies, consulting firms, power utilities, and conservation groups across the western United States, including in Arizona, Colorado, California, New Mexico, and Utah.

Julia contributes to data-gathering and documentation for large mitigation and consultation efforts and helps clients secure environmental permits. In the role of project manager or lead biologist/botanist, she's completed hundreds of projects involving environmental assessment, data gathering, wetland mitigation, and permitting and compliance support.

In addition to consulting, Julia's career includes tenures with the Colorado Natural Heritage Program, the Nature Conservancy, and the U.S. Forest Service (USFS).

Biological/botanical assessment, survey, and monitoring

- Served as biologist and botanist for survey and data collection of rangeland health data to determine the carrying capacity for two shared grazing allotments, and for collection of data to support wind-erosion modeling, in coordination with the New Mexico State Lands Office.
- Performed biological surveys and habitat assessment, threatened and endangered species (T&E) surveys, wetland delineation, and reporting in coordination with private and federal agencies as part of biological and aquatic-resources assessments and critical-inventory analyses for proposed solar and wind farms, utility alignments, research, mitigation projects, and private,

Education

BS, Biology and Botany, Western Washington University, 1999

JULIA HANSON

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county, and state development projects such as trail systems, ski areas, and residential and business development.

- For private, state, and federal agencies, conducted raptor roost and nesting surveys and migratory bird surveys as part of habitat evaluation to determine the presence or absence status of state and federal T&E species for proposed developments and solar, utility, and transportation projects.
- Conducted USFWS protocol surveys for Yellow-billed cuckoos and Southwestern Willow flycatcher in Colorado, New Mexico and Utah.
- Conducted surveys for Pinyon jay per Pinyon Jay Working Group Survey Protocol for Landscape Application in Utah.
- Served as field biologist for a variety of transportation-infrastructure projects in Colorado, New Mexico, Utah, and California. Work included evaluating habitat for the potential presence of special-status and federally listed species and analyzing the physical environment for other natural resources such as soils and surface water. Also conducted surveys according to species-specific protocols for federally listed species, and plant and animal surveys; prepared technical reports; performed environmental and biological assessments involving potential impacts avoidance, minimization, and mitigation stipulations; and correlated map sets.
- Served as biologist and wetland scientist for a major federal highway-connection project. Prepared aquatic-resources delineation reports and performed biological assessments for the multi-phase construction efforts for alternate alignment and widening of U.S. 550 and U.S. 160 at Farmington Hill and southward, as well as the connection to Three Springs in Durango, Colorado.
- Served as biologist and wetland scientist for the proposed Mancos-to-Cortez trail in Colorado and for several trails and transportation corridor projects for the city of Aztec, New Mexico. Involved with the NEPA public comment process for Clean Water Act Federal Register revisions, as well as with FWS federal revisions on management, listing, and critical habitat.
- Served as lead botanist for training and data collection for Continuous Forest Inventory (CFI) plots in the Laguna Pueblo Forest in New Mexico. Work included data-plot-collection training with forestry staff from the Bureau of Indian Affairs' Laguna Pueblo Lands office.
- For the Natural Heritage Program's Pagosa Skyrocket FWS project, worked on initial county surveys to establish habitat mapping, population distribution, and federal listing. Also prepared NEPA documentation for critical habitat establishment and protection, attended public meetings, and coordinated with local agencies for protection under the Endangered Species Act.
- Served as botanist for a botanical- and wetland-survey project for the Colorado National Heritage Program. Conducted extensive threatened-, endangered-, and sensitive-plant surveys throughout the San Juan Public Lands and Wilderness areas. Surveyed, mapped, and assessed plant communities, state- and federally listed wildlife, and migratory birds. Conducted biological field surveys for La Plata, Dolores, and Montezuma counties; biological assessment and rare plant surveys; and Phase I assessments for the San Juan Public Lands biological management plan.
- Worked as botanist and wildland firefighter to support monitoring and wild-land fire restoration and management at the Dye Creek Preserve Nature Conservancy. Performed residual dry-matter monitoring, determining composition, frequency, and cover for restoration plan outcomes, and contributed to native-grass management and monitoring, as well as land management and restoration ecology for streamside restoration projects.

JULIA HANSON

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- Led monitoring and mapping of federally listed plant species for numerous USFS projects. Measured plant height and number, counted clusters, and identified and documented co-inhabitant species of trees, forbs, and grasses in forest health plots. Also researched and documented rainfall, fuel load, geology, fire history, age of stands, and disturbed and undisturbed areas.

Wetland delineation and mitigation

- Served as biologist and wetland scientist for a fiber-optic and electric alignment project for La Plata Electric Association in Colorado. Conducted surveys, collected data, and prepared reports in coordination and compliance with the USFS and Bureau of Reclamation for aquatic resources, USFS special-status species, and FWS T&E species.
- Delineated aquatic resources in association with the planning, permitting, and mitigation of proposed developments; also provided stakeholder coordination for projects involving existing aquatic resources.
- Designed and collected annual field monitoring data from established monitoring points and transects and prepared reports in compliance with U.S. Army Corps of Engineers (USACE) mitigation standards and permitting requirements.
- Served as biologist for surveys and wetland delineations for multiple segments of construction of the Animas River Trail in Durango. Work included NEPA analysis for more than a dozen multi-modal segments, including wetland delineations, biological assessments, hazardous materials assessments (Colorado Department of Transportation initial site assessments), and Clean Water Act permitting.
- Provided aquatic-resources mitigation-banking planning, monitoring, and permitting support for a wetland-mitigation-bank project on the Animas River in Durango, Colorado. Work included annual monitoring, wetland-creation site planning, surveying, annual reporting, and coordination with USACE for success criteria status, as well as permitting and compliance support.
- Conducted aquatic-resources and fen mapping and special-status endangered-species surveys for the USFS Purgatory ski area (now the Purgatory Resort). Work included report preparation and agency coordination for wetland impact-mitigation planning.
- Served as biologist and wetland scientist for the National Forest Foundation's Camp Hale restoration project. As part of a team, spent more than three months delineating wetlands and other aquatic resources with a Trimble Geo XT GNSS unit in a 710-acre survey area, in support of a request by the foundation for a USACE preliminary jurisdictional determination. Also performed a desktop analysis of federal-agency data sets and delineated aquatic resources via remote-sensing methods.
- Served as biologist and wetland scientist as part of helping the USFS and National Forest Foundation establish an in-lieu fee program for the western slope of Colorado. The program provided a mitigation option to compensate for or replace the functions and values of aquatic resources impacted by activities authorized by USACE or in violation of Section 404 of the Clean Water Act.

Other experience

- Served as environmental scientist for Phase 1 environmental site assessment projects in Colorado. Assessed sites as well as environmental databases and historical documents, identified potential or existing environmental-contamination liabilities, and analyzed underlying land and physical improvements.

JULIA HANSON

- Served as biologist and stormwater manager for development of a resort in Silverton, Colorado. Prepared a stormwater management plan and secured a stormwater management permit from the Colorado Department of Public Health and Environment. In addition, managed monthly site inspections, reporting, documentation, and best management practice (BMP) remedial measures.
- Prepared a stormwater management plan and secured a stormwater management permits for oil and gas well pads and pipeline alignments. In addition, managed monthly site inspections, reporting, documentation, and best management practice (BMP) remedial measures, and overseeing and consulting for seeding efforts in Colorado, Utah, New Mexico.

Affiliations

- Colorado Native Plant Society Southwest
Vice president and member, 2002–present

Training and certifications

- Wildland Fire Fighter Certification, California Forest Service (2000)
- Colorado Western Yellow-billed Cuckoo Survey Training and Certification – Fish and Wildlife Biologist, UWFWS (2015)
- Southwestern Willow Flycatcher Survey Training and Certification, U.S. Fish and Wildlife Service (FWS, 2013)
- U.S. Army Corps of Engineers Wetland Delineator and Management Certification, Richard Chinn Environmental Training, Inc. (2008)
- Mine Safety and Health Administration (MSHA) mining certification
- Radiation Safety Awareness Training and Certificate, H3 Environmental, LLC (2022- 2024)
- NEPA Workshop, U.S. Department of the Interior Bureau of Land Management (2009)
- Final ASTM E1527-21 Training, Wasatch Environmental Webinar (2023)
- Medical Mountain Symposium and Certification (2021, 2023, 2024)
- ArcGIS Pro Training, ArcGIS Online (2021)
- Phase 1 Environmental ESA ASTM 1527-21 Training (2021)
- High Alpine Fen Restoration Workshop, Mountain Studies Institute (2011)
- Stormwater Management During Construction Erosion Control Supervisor Training, Altitude Training Associates (2011)
- Erosion Control Supervisor Training, Colorado Department of Transportation (2011)

JULIA HANSON

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- Continuous Forest Inventory (CFI) Training, U.S. Bureau of Indian Affairs (2011)
- Functional Assessment of Colorado Wetlands Method Version 2.0 Training, Colorado Department of Transportation (2012)

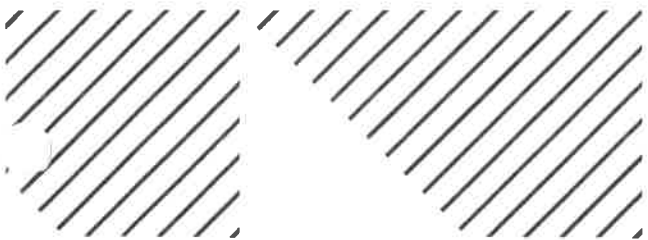
Publications and presentations

- Culver, D., Eastin, S., Hanson, J., Lyon, P., and March, M. *Survey of Critical Wetlands and Riparian Areas in Dolores County*. Prepared for Colorado Department of Natural Resources. Colorado Natural Heritage Program, Colorado State University College of Natural Resources. 2005.
- Culver, D., Hanson, J., Huggins, J., Lucht, J., Lyon, P., March, M. *Assessment of Critical Biological Resources in La Plata County, Colorado*. Colorado Natural Heritage Program, Colorado State University College of Natural Resources. 2013.



Attachment B

NatureServe Explorer Vegetation Classification Description





▲
Login or create an account to access enhanced mapping tools.

International Terrestrial Ecological System

Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

NatureServe Element Code: CES306.828

Summary:

Engelmann spruce and subalpine fir forests comprise a substantial part of the subalpine forests of the Cascades and Rocky Mountains from southern British Columbia east into Alberta, and south into New Mexico and the Intermountain region. They also occur on mountain "islands" of north-central Montana. They are the matrix forests of the subalpine zone, with elevations ranging from 1275 m in its northern distribution to 3355 m in the south (4100-11,000 feet). They often represent the highest elevation forests in an area. Sites within this system are cold year-round, and precipitation is predominantly in the form of snow, which may persist until late summer. Snowpacks are deep and late-lying, and summers are cool. Frost is possible almost all summer and may be common in restricted topographic basins and benches. Despite their wide distribution, the tree canopy characteristics are remarkably similar, with *Picea engelmannii* and *Abies lasiocarpa* dominating either mixed or alone. *Pseudotsuga menziesii* may persist in occurrences of this system for long periods without regeneration. *Pinus contorta* is common in many occurrences, and patches of pure *Pinus contorta* are not uncommon, as well as mixed conifer/*Populus tremuloides* stands. In some areas, such as Wyoming, *Picea engelmannii*-dominated forests are on limestone or dolomite, while nearby codominated spruce-fir forests are on granitic or volcanic rocks. Upper elevation examples may have more woodland physiognomy, and *Pinus albicaulis* can be a seral component. What have been called "ribbon forests" or "tree islands" by some authors are included here; they can be found at upper treeline in many areas of the Rockies, including the central and northern ranges in Colorado and the Medicine Bow and Bighorn ranges of Wyoming. These are more typically islands or ribbons of trees, sometimes with a krummholz form, with open-meadow areas in a mosaic. These patterns are controlled by snow deposition and wind-blown ice. Xeric species may include *Juniperus communis*, *Linnaea borealis*, *Mahonia repens*, or *Vaccinium scoparium*. In the Bighorn Mountains, *Artemisia tridentata* is a common shrub. More northern occurrences often have taller, more mesic shrub and herbaceous species, such as *Empetrum nigrum*, *Rhododendron albiflorum*, and *Vaccinium membranaceum*. Disturbance includes occasional blowdown, insect outbreaks and stand-replacing fire. Mean return interval for stand-replacing fire is 222 years as estimated in southeastern British Columbia.

National Mapping

BPS Code (Biophysical Setting): 8555

EVT Code (Existing Vegetation Type): 7055

Type Description

Dynamic Processes

Dynamics: Key Processes and Interactions:

Picea engelmannii can be very long-lived, reaching 500 years of age. *Abies lasiocarpa* decreases in importance relative to *Picea engelmannii* with increasing distance from the region of Montana and Idaho where maritime air masses influence the climate. Fire is an important disturbance factor, but fire regimes have a long return interval and so are often stand-replacing. *Picea engelmannii* can rapidly recolonize and dominate burned sites, or can succeed other species such as *Pinus contorta* or *Populus tremuloides*. Due to great longevity, *Pseudotsuga menziesii* may persist in occurrences of this system for long periods without regeneration. Old-growth characteristics in *Picea engelmannii* forests will include treefall and windthrow gaps in the canopy, with large downed logs, rotting woody material, tree seedling establishment on logs or on mineral soils unearthed in root balls, and snags. Landfire VDDT models: #RSPFL.

Other Species of Interest

At-Risk Species Reported for this Ecological System:

Scientific Name: *Chaenactis thompsonii*

Common Name: Thompson's Pincushion

NatureServe Global Status: G3

USES Status:

Scientific Name: *Pinus albicaulis*

Common Name: Whitebark Pine

NatureServe Global Status: G3G4

USES Status: Threatened

Scientific Name: *Valeriana columbiana*

Common Name: Wenatchee Valerian

NatureServe Global Status: G2G3

USES Status:

Animal Species Reported for this Ecological System:

Scientific Name: *Clethrionomys gapperi*
Common Name: Southern Red-backed Vole
NatureServe Global Status: G5
USESAs Status:
Characteristic:
Exotic: No

Scientific Name: *Erethizon dorsatum*
Common Name: North American Porcupine
NatureServe Global Status: G5
USESAs Status:
Characteristic:
Exotic: No

Scientific Name: *Lepus americanus*
Common Name: Snowshoe Hare
NatureServe Global Status: G5
USESAs Status:
Characteristic:
Exotic: No

Scientific Name: *Mustela richardsonii*
Common Name: American Ermine

Distribution**National and State/Provincial Distribution:**

Canada: AB, BC
United States: AZ, CO, ID, MT, NM, NV, OR, UT, WA, WY

Global Distribution:

This system is found in the Cascades and Rocky Mountains from southern interior British Columbia east into Alberta, south into New Mexico and the Intermountain region. This type tends to be very limited in the northern Oregon Cascades.

Classification

Classification System: International Terrestrial Ecological System Classification

International Vegetation Classification Hierarchy

Biome: TT2. Temperate-Boreal Forest & Woodland
Subbiome: TT2.a. Temperate Forest & Woodland
Formation: TT2.a6. Temperate Conifer Forest & Woodland
Division: TT2.a6.Nd. Western Cordilleran Subalpine-High Montane Forest & Woodland
Macrogroup: M020. Rocky Mountain Subalpine-Upper Montane Forest & Woodland

Component Associations:

CEGL000305. *Abies lasiocarpa* / *Carex rossii* Forest
 CEGL000312. *Abies lasiocarpa* / *Jamesia americana* Forest
 CEGL000313. *Abies lasiocarpa* / *Lathyrus lanszwertii* Forest
 CEGL000318. *Abies lasiocarpa* / *Mahonia repens* Forest
 CEGL000323. *Abies lasiocarpa* / *Osmorhiza berteroi* Forest
 CEGL000333. *Abies lasiocarpa* / *Packera sanguisorboides* Forest
 CEGL000324. *Abies lasiocarpa* / *Paxistima myrsinites* Woodland
 CEGL000325. *Abies lasiocarpa* / *Pedicularis racemosa* Forest
 CEGL000326. *Abies lasiocarpa* / *Physocarpus malvaceus* Forest
 CEGL000298. *Abies lasiocarpa* - *Picea engelmannii* / *Arnica cordifolia* Forest
 CEGL000299. *Abies lasiocarpa* - *Picea engelmannii* / *Arnica latifolia* Forest

- CEGL000301. *Abies lasiocarpa* - *Picea engelmannii* / *Calamagrostis rubescens* Forest
- CEGL000304. *Abies lasiocarpa* - *Picea engelmannii* / *Carex geyeri* Forest
- CEGL000303. *Abies lasiocarpa* - *Picea engelmannii* / *Carex siccata* Forest
- CEGL000311. *Abies lasiocarpa* - *Picea engelmannii* / *Galium triflorum* Forest
- CEGL000919. *Abies lasiocarpa* - *Picea engelmannii* / *Juniperus communis* Woodland
- CEGL000985. *Abies lasiocarpa* - *Picea engelmannii* Krummholz
- CEGL000315. *Abies lasiocarpa* - *Picea engelmannii* / *Linnaea borealis* Forest
- CEGL000319. *Abies lasiocarpa* - *Picea engelmannii* / *Menziesia ferruginea* Forest
- CEGL000321. *Abies lasiocarpa* - *Picea engelmannii* / Moss Forest
- CEGL000373. *Abies lasiocarpa* - *Picea engelmannii* / *Polemonium pulcherrimum* Forest
- CEGL000337. *Abies lasiocarpa* - *Picea engelmannii* / *Symphoricarpos albus* Forest
- CEGL000329. *Abies lasiocarpa* - *Picea engelmannii* Tree Island Forest
- CEGL000340. *Abies lasiocarpa* - *Picea engelmannii* / *Vaccinium cespitosum* Forest
- CEGL000341. *Abies lasiocarpa* - *Picea engelmannii* / *Vaccinium membranaceum* Rocky Mountain Forest
- CEGL000343. *Abies lasiocarpa* - *Picea engelmannii* / *Vaccinium myrtillus* Forest
- CEGL000344. *Abies lasiocarpa* - *Picea engelmannii* / *Vaccinium scoparium* Forest
- CEGL000924. *Abies lasiocarpa* / *Saxifraga bronchialis* Scree Woodland
- CEGL000925. *Abies lasiocarpa* Scree Woodland
- CEGL000335. *Abies lasiocarpa* / *Spiraea betulifolia* Forest
- CEGL000346. *Abies lasiocarpa* / *Xerophyllum tenax* Forest
- CEGL005856. *Chamerion angustifolium* Rocky Mountain Meadow
- CEGL000355. *Picea engelmannii* / *Arnica cordifolia* Forest
- CEGL000360. *Picea engelmannii* / *Clintonia uniflora* Forest
- CEGL000364. *Picea engelmannii* / *Erigeron eximius* Forest
- CEGL002174. *Picea engelmannii* / *Galium triflorum* Forest
- CEGL000366. *Picea engelmannii* / *Geum rossii* Forest
- CEGL000368. *Picea engelmannii* / *Hypnum revolutum* Forest
- CEGL005925. *Picea engelmannii* / *Juniperus communis* Forest
- CEGL000362. *Picea engelmannii* / *Leymus triticoides* Forest
- CEGL002689. *Picea engelmannii* / *Linnaea borealis* Forest
- CEGL000377. *Picea engelmannii* / *Trifolium dasyphyllum* Forest
- CEGL000379. *Picea engelmannii* / *Vaccinium myrtillus* Forest
- CEGL000381. *Picea engelmannii* / *Vaccinium scoparium* Forest
- CEGL000406. *Picea* (*x albertiana*, *engelmannii*) / *Clintonia uniflora* Forest

Similar Types:

- CES306.805. Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest
- CES306.820. Rocky Mountain Lodgepole Pine Forest
- CES306.830. Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland
-

Classification Confidence: 2 - Moderate

Classification Comments:

It has been proposed to split out the tree island or ribbon forests of high timberline in the drier mountain ranges of north-central Colorado, southern Wyoming and north-central Wyoming (the Bighorns) into a new Southern Rocky Mountain Parkland system. With further discussion, this may be implemented, but for now these areas are still included in this existing system.

Classifiers

Land Cover Class: Forest and Woodland
Spatial Pattern: Matrix
Vegetated (> 10% vascular cover): Yes
Upland: Yes
Wetland: No

Related Concepts

Related State/Provincial Vegetation Types:

State/Province: British Columbia
Concept Name: *Abies lasiocarpa* / *Rhododendron albiflorum* / *Dicranum fuscescens*
Relationship to Standard: Finer
References: BCCDC (2018)^[5]

State/Province: British Columbia
Concept Name: *Abies lasiocarpa* / *Vaccinium membranaceum* - *Lonicera utahensis*
Relationship to Standard: Finer
References: BCCDC (2018)^[5]

State/Province: British Columbia
Concept Name: *Abies lasiocarpa* / *Vaccinium membranaceum* - *Paxistima myrsinites*
Relationship to Standard: Finer
References: BCCDC (2018)^[5]

State/Province: British Columbia
Concept Name: *Abies lasiocarpa* / *Vaccinium membranaceum* / *Brachytecium* spp.
Relationship to Standard: Finer
References: BCCDC (2018)^[5]

State/Province: British Columbia
Concept Name: *Abies lasiocarpa* / *Vaccinium membranaceum* / *Dicranum fuscescens*
Relationship to Standard: Finer
References: BCCDC (2018)^[5]

Related Concepts from Other Classifications:

Reference: Ecosystems Working Group (1998)^[13]
Related Concept Name: DL Douglas-fir Lodgepole Pine
Relationship: Broader

Reference: Ecosystems Working Group (1998)^[13]
Related Concept Name: EF Engelmann Spruce - Sub-alpine Fir Dry Forested
Relationship: Broader

Reference: Eyre (1980)^[14]
Related Concept Name: Engelmann Spruce - Subalpine Fir: 206
Relationship: Broader

Documentation

Authors and Contributors

Primary Concept Source: M.S. Reid
Element Description Version Date: 1/25/2007
Element Description Author(s): R. Crawford, M.S. Reid, C. Chappell and G. Kittel

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