

TUSAYAN TOWN COUNCIL REGULAR MEETING

PURSUANT TO A.R.S. § 38-431.02 & §38-431.03

Wednesday, October 11, 2017 at 6:00 p.m.

TUSAYAN TOWN HALL BUILDING

845 Mustang Drive, Tusayan Arizona

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the members of the Tusayan Town Council and to the public that the Tusayan Town Council will hold a meeting open to the public on Wednesday, October 11, 2017, at the Tusayan Town Hall Building. If authorized by a majority vote of the Tusayan Town Council, an executive session may be held immediately after the vote and will not be open to the public. The Council may vote to go into executive session pursuant to A.R.S. § 38-431.03.A.3 for legal advice concerning any matter on the agenda, including those items set forth in the consent and regular agenda sections. The Town Council may change, in its discussion, the order in which any agenda items are discussed during the course of the meeting.

Persons with a disability may request a reasonable accommodation by contacting the Town Manager at (928) 638-9909 as soon as possible.

As a reminder, if you are carrying a cell phone, electronic pager, computer, two-way radio, or other sound device, we ask that you silence it at this time to minimize disruption of today's meeting.

TOWN COUNCIL REGULAR MEETING SUMMARIZED MINUTES

1. CALL TO ORDER AND PLEDGE OF ALLEGIANCE

The meeting was called to order at 6:05 p.m. by Mayor Sanderson. He led in the pledge of allegiance.

2. MOMENT OF SILENCE

A moment of silence was observed.

3. ROLL CALL

**MAYOR CRAIG SANDERSON
VICE MAYOR BECKY WIRTH**

**COUNCILOR DAVID CHAVEZ
COUNCILOR AL MONTOYA
COUNCILOR JOHN SCHOPPMANN**

The Mayor and all Council Members were present.

Present from Staff were Town Manager Eric Duthie, Interim Town Clerk Susan Kerley, and Administrative Assistant Jun Jun Liang.

4. CALL TO THE PUBLIC FOR ITEMS NOT ON THE AGENDA

- *Greg Brush, Fire Chief, 266 Airport Circle, introduced a new firefighter, John Barnes, 25 Buck Drive. The Fire Department received 32 applications for the position, interviewed candidates, and offered the position to John Barnes who has been a firefighter for 17 years and is also an EMT – Basic. He began in 2001 as a firefighter with the Tohono O'odham Nation after serving with the Marine Corps Infantry. He has been in the Shadow Wolves for ICE and has spent four years in Antarctica, among other assignments. John was welcomed to the Tusayan Fire Department.*

5. CEREMONIAL AND/OR INFORMATIONAL MATTERS

NONE

6. CONSENT AGENDA

A. Accounts Payable Billings

A motion was made by Councilman Montoya and seconded by Vice Mayor Wirth to remove this item from the Consent Agenda. It carried unanimously, 5-0.

B. Minutes of the Town Council Meeting on 9/6/17 (Regular Meeting) and 9/25/17 (Executive Session)

Councilman Montoya made a motion to approve both sets of minutes, and it was seconded by Vice Mayor Wirth. It carried unanimously, 5-0.

Accounts Payable Billings

Councilman Montoya questioned a \$500 check issued to the Grand Canyon Music Festival. Manager Duthie explained that it was a grant awarded to the GCMF for their School of Rock. Policies and procedures are in place under Community Action Grants for the Town Manager to make awards. However, if the application were for a large amount, above \$5,000, he would bring it to Council. Councilman Montoya made a motion to approve the accounts payable billings, and it was seconded by Councilman Schoppmann. The motion carried unanimously, 5-0.

7. ACTION ITEMS

- A. Consideration, discussion, and possible approval of Tusayan Trails Master Plan**
Manager Duthie introduced this item. The priority was established by Town Council as part of the 2014 General Plan. This project was identified as one to move ahead on and accomplish. Trails Inspire was awarded the project. After Sirena DeFault's presentation, Council will be asked for approval of the Master Plan as concept. Council will have the opportunity to approve, and the project can move ahead.

He noted that in discussion with the Town's Attorney about trails that would be on privately-owned land, he learned that the risk pool insurance has already issued certificates of insurance in other areas, including Cave Creek. The Town would construct, maintain, and assume liability of the trails.

(Sirena DeFault's presentation is attached.)

Her recommendation was to work toward a trail contract ranging from \$427,980 to \$644,715, plus the NEPA assessments and surveys for \$10,000 to \$12,000. A discussion followed in which Council Member Montoya stressed the importance of having a detailed cost analysis.

Kendall Cikanek of the Forest Service added that the environmental assessments are good for a time. An 18.1 review, a shorter process, can be done. He is looking at the project from the Forest Service's point of view and not promising that they would be favorable to all proposed routes. What must be established is a compelling public need. The community as a partner would help show a compelling public need. Then, each proposed trail would have to be considered to see if there were any conflicts with other Forest Service plans or threatened wildlife species. Also, trails closer to town would have to be considered to see if there would be fire hazard issues. He noted that there could be a period of input from hunters to see if they would be favorable to trails.

Manager Duthie reiterated that Council was only being asked to approve in concept so that the project can move forward. The dollar amounts are estimates, and Council would not be approving the dollar amounts now.

Clarinda Vail, a Tusayan resident, spoke to Council, saying that Trails Inspire is doing very good work. Her concern is about people not having a chance to comment. While a lot of people participated in the two meetings held to receive public comments, she believes more comments need to be received and reviewed.

Mayor Sanderson made a motion to approve the Tusayan Community Trails Master Plan in concept, not approving cost estimates, in order to allow additional public comments and to proceed. An amendment to the contract with Trails Inspire is authorized to allow them to continue another round of public outreach. Vice Mayor Wirth seconded the motion, and it carried unanimously, 5-0.

8. DISCUSSION ITEMS

A. Discussion of fire extinguishing/exposure protection product demonstration and potential uses throughout the community

Manager Duthie explained that he and Greg Brush, Fire Chief, went to the Boston area (Gilford, New Hampshire) to view a live demo of products that could be helpful in housing, construction, and repairs, and this presentation is just to report on that experience.

(Greg Brush's presentation is attached.)

Greg Brush thanked the Town and the Town Manager for making this trip possible. Because of the problems of a limited water supply and speed of delivery, these products, Firelce Gel and Firelce Shield, have potential uses to improve our defense against fires. Firelce Gel can be added to existing extinguishers. Firelce Shield works five times faster than straight water on small-scale fires.

Manager Duthie expressed his appreciation for Greg Brush making time to take this trip. He talked with company representatives about the possibility of a distributorship with the Fire Department as a supplier. This would earn revenue and offset costs of purchasing the products for local use. The value for the housing we want to build at 10X could be critically important because of the limited water supply.

B. Discussion of internet improvement projects

Manager Duthie called attention to an application submitted over a year ago that got lost in the shuffle at the Forest Service. They are moving forward with it now. E-Rate is still being evaluated by the School. It is not a dead issue.

C. i. Discussion of Ten X affordable housing project

Manager Duthie shared a copy of the letter of September 21, 2017, to Senator Flake from the Secretary of Agriculture, in which he expresses his desire to have a better relationship between the Forest Service and the Town. We have a great relationship with the local Forest Service.

ii. Tusayan Land Development Site Plans

Manager Duthie shared a copy of draft plans received from Westland Development. They include Land Use and Site Development plans along with more technical information like soil reports. There will be a discussion with the developers after Councilman Schoppmann has time to review this information.

iii. Grand Canyon Housing Foundation

We are opening an account at the Chase branch in the Village as a 501-C-3. Vice Mayor Wirth is identified as the Secretary of the Foundation. She can sign and get the account opened. Then each Council Member can go to the local branch within the next

30 days to sign on the account. Halvorson and Stilo committed \$250,000 apiece. Manager Duthie will notify them that the money can be received before the end of the year.

Manager Duthie shared some photos taken today of the abatement going on at 10X. The three bids received for the project came in at \$118,000, \$57,000, and \$48,000 for abatement. The \$48,000 bid was accepted. They are hauling off materials and clearing all trash. They are not removing trees or bushes, just what the cultural study calls "debris."

D. Discussion of Community Wellness meeting issues

- i. Notes from September 6th, September 20th, and October 4th meetings.*
- ii. Pictures of events at the School and NPS, Walk to School Day.*
- iii. Poster information at the back of pictures; crisis lines, suicide awareness and resources; community information for folks having issues; flyer for Trunk or Treat; Health Fair.*

Community Wellness Meetings have regular attendees from a variety of agencies, businesses, organizations, and interested individuals. There is a lot of discussion on what we can do to help each other. This involves cooperation and combination of efforts. Meetings have no agendas and are coordinated through the Park Service.

9. REPORTS

A. Town Manager

i. Planning and Zoning Commission

There will be a P & Z meeting on Tuesday, October 17th. No meetings will be held in November or December. They will begin a review of potential revisions of the Zoning Code. This process may take a year so we don't do it piecemeal but work it through completely in a well thought out fashion, allowing lots of time for P & Z and Council to consider. When each section is finalized, an ordinance will be brought to Council. There will be many requirements to review and consider. The Zoning Code is complicated and confusing, and, sometimes, it is in conflict with itself. These meetings will be open to the public.

ii. Administrative actions and issues

Manager Duthie listed events upcoming:

September 28 – The shuttle bus route from the Park to Tusayan ended for the season.

October 12 – Interact Club's Spaghetti Dinner and Silent Auction – a fundraiser for the Houston Rotary Club's community project.

October 14 – The Town issued a permit today for a one-half marathon.

October 16 – APS 101 for community leaders. A couple of staff members will attend.

October 17 – Chamber of Commerce Networking Mixer from 5:30 to 6:30 p.m. at the River Room in Thunderbird Lodge.

October 27-31 – Squire Inn Haunted Hotel will be open to the public.

October 31 – Trunk or Treat from 5:30 – 7:30 p.m. in front of the Fire Department.

The election will be held on November 7, 2017. Interim Town Clerk, Susan Kerley, explained that contracting with the Coconino County Elections Department to conduct the Town's elections allows us a hands-off relationship with voters and ballots. All Town employees have been instructed to offer no advice nor touch any ballots that voters might bring into Town Hall. This will be a ballot-by-mail only election. Prior to the

election, voters may mail their completed ballots to the Coconino County Elections Department or hand- deliver them to their office on Cherry Street in Flagstaff. On Election Day only, voters may deliver their ballots to Tusayan Town Hall where representatives from the Coconino County Elections Department will be available to receive them from 9:00 a.m. to 7:00 p.m.

Staffing: Final interviews for the position of Town Clerk were conducted and resulted in an offer and acceptance being made. Bruce Northern will be moving from Indiana to fill this position, beginning November 13, 2017. Susan Kerley's contract expired on October 10th, but she has agreed to remain in the interim position for another month.

B. Council Members

Councilman Chavez asked the Town Manager to look into the situation in Alaska where a gold mining company was not allowed to apply for a gold mining operation during Obama's administration. Now, the Director of the EPA is allowing them to go forward with the application process.

C. Mayor

The Vice Mayor and Mayor and Town Manager were involved in the final interviews and had good people to choose from. Their decision was based on experience and types of experience. The Town Manager added that the new Town Clerk has experience in areas where he has none.

10. FUTURE AGENDA ITEMS

October 17th – P & Z

November 8th – Unofficial election results

Floodplains Ordinance

Broadband Options

Valle housing issues

December 18th – Schedule 2018 Council Retreat

11. MOTION TO ADJOURN

Councilman Montoya made a motion to adjourn which was seconded by Vice Mayor Wirth. It carried unanimously, 5-0, and the meeting ended at 9:04 p.m.

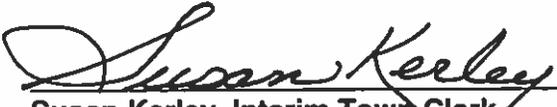


Craig Sanderson, Mayor

11-08-17

Date

ATTEST:



Susan Kerley, Interim Town Clerk

CERTIFICATION

State of Arizona)
) ss.
Coconino County)



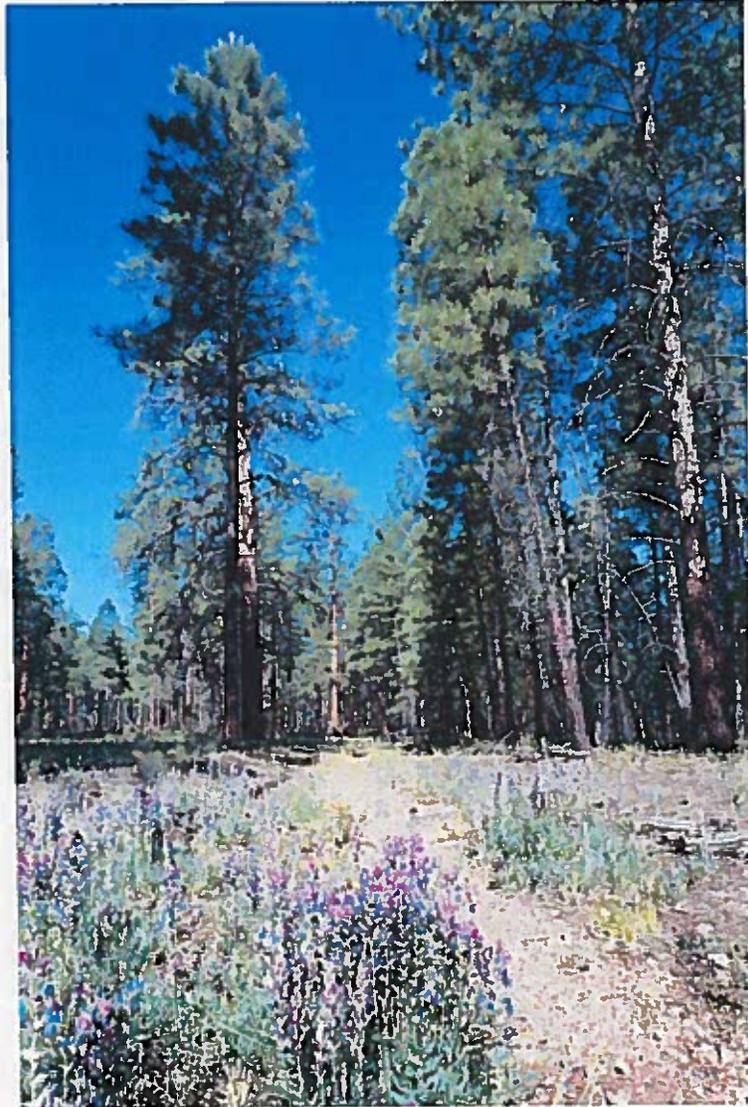
I, Susan Kerley, do hereby certify that I am the Interim Town Clerk of the Town of Tusayan, County of Coconino, State of Arizona, and that the above minutes are a true and correct summary of the meeting of the Council of the Town of Tusayan held on October 11, 2017. I further certify that the meeting was duly called and held, and that a quorum was present.

DATED this 13th day of October 2017


Interim Town Clerk

Item 7A

Tusayan Community Trails Master Plan



Tusayan Community Trails Master Plan

October 9, 2017

Acknowledgements

This plan has benefitted from the knowledge and insight from the officials and community of the Town of Tusayan and surrounding areas. We would like to especially acknowledge the following:

Tusayan Town Council:

Mayor Craig Sanderson
Vice Mayor Becky Wirth
Councilor Al Montoya
Councilor John Schoppmann
Councilor David Chavez

Eric Duthie, Tusayan Town Manager

Tim Stine, Tusayan Maintenance

Private Landowners of Tusayan

Kendall Cikanek, Liz Schuppert, Dan Gunn - Kaibab National Forest, Tusayan and Williams Ranger Districts

Jan Balsom, Deirdre Hanners, Mike Kearsley - Grand Canyon National Park

Adam Milnor, National Park Service Rivers, Trails, and Conservation Assistance Program

Alicyn Gitlin, Sierra Club

Roger Clark, Grand Canyon Trust

Mark Flint, Southwest Trail Solutions

Sharon Sifling, Coconino County Public Health Services District

Tusayan Trails Community Working Group:
Clarinda Vail, Romy Murphy, Ted Riley, Kevin Johns

Stakeholders and Members of the Public who participated in meetings, completed surveys, and helped guide the development of this Master Plan.

*The Tusayan Community Trails Master Plan was prepared by Trails Inspire, LLC.
Project contact: Sirena Dufault - sirena@trailsinspire.com (602) 571-6439*

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Tusayan Community Trails Master Plan

Background

On April 16, 2014, the Town of Tusayan adopted its Town Plan for 2024. This plan included a section on community trail development. The goal for trails and open spaces is stated as such: "Complete a trails system that augments the existing trails with new trails linking various areas together, and making it possible to navigate throughout the area by foot or bike in a safe manner".

Included in the 2024 plan is a map which was produced by Wildan Engineering, showing a system of trails. The trail system was arrived at without proper input from the private landowners, and includes mostly existing motorized dirt and two-track roads marked as trails. Upon examination of this plan, Town Manager Eric Duthie determined that it was best that the process start over from the beginning. At the Tusayan Town Council meeting on April 19, 2017, the Town Manager was approved to award the contract following a bid process. The contract was signed with Trails Inspire, LLC on June 1, 2017.

The development of the 2017 Master Plan was a collaborative effort by private landowners, Town officials, stakeholders, community input, state and federal land management agencies and a community advisory working group.

Regional Context

The Town of Tusayan, incorporated in 2010, is 144 acres. The town's land is held by private landowners and the Kaibab National Forest. Tusayan is the Gateway Community to the Grand Canyon and the Arizona National Scenic Trail, and the town borders Grand Canyon National Park to the north. The area has old-growth stands of Ponderosa pine and Pinyon-Juniper forest, meadows, and attractive outcroppings of Kaibab Limestone.

The Town of Tusayan is located along Highway 64, two miles from the South Entrance of Grand Canyon National Park. There are four current NPS shuttle bus stops in Tusayan and the Tusayan route runs from March 1 to September 30.

The Town has just under 600 residents by 2016 estimates. Many of the residents are seasonal workers who commute to work by foot. Visitors to Grand Canyon National Park's South Rim pass through Tusayan on their way in and out of the South Entrance on Highway 64 and often stay in the local hotels. Grand Canyon National Park as a whole received 6 million visitors, and NPS visitor use statistics recorded the traffic count at the South Entrance at 1,493,761 in 2016. Grand Canyon National Park predicts modest growth. In interviews with locals, concierge and tour services, it was reported that tourists are often looking for activities to do in town either before or after their Grand Canyon visit.

Master Plan Objectives

The Master Plan objectives were arrived at through a combination of the town's objectives from the 2024 plan and stakeholder and public feedback during the scoping process.

The Master Plan objectives are as follows:

- Develop a non-motorized multi-use trail system providing safe and sustainable recreational trail routes for visitors and residents
- Identify commuter trail routes for residents
- Highlight the natural beauty of the Tusayan area
- Include opportunities for signage interpreting the natural features of the area
- Provide connectivity with existing trails
- Develop the Grand Canyon History Trail - an interpretive trail telling the story of the human history of the Grand Canyon area.
- Provide the Town of Tusayan, Kaibab National Forest and landowners with a detailed summary of potential trail alignments and construction notes as well as preliminary cost estimates for construction and the National Environmental Policy Act (NEPA) process.

Phase I

- Meetings with area stakeholders and private landowners.
- Public meeting and public comment on the plan.
- Survey and assessment of existing trail segments, noting areas of minor or major maintenance and reroutes when necessary.
- Survey, layout and assessment of proposed new trail segments.
- Maps and GPS tracks of the trail system generated based on the survey.
- Trailhead plans, assessment notes and interpretive plans.
- Development of a Master Plan document that will outline construction cost and NEPA estimates.

Phase II

- Trail construction and development agreements with Kaibab National Forest and private landowners
- Cultural and natural resource analysis
- Site level adjustments based on resource analysis
- Analysis and outreach under the National Environmental Policy Act
- Trail construction bidding process
- Trail construction
- Volunteer recruitment including establishing segment stewardship system to ensure regular assessment and maintenance
- Marketing, signage and interpretation plan

Project Timeline

April 2014

- On April 16, 2014, the Tusayan Town Council approved Resolution No. 2014-04, thereby adopting the Tusayan General Plan 2024.
- Included in the General Plan was a trails plan with two maps from Wildan Engineering showing a network of trails that were shared-use with motorized travel and located on local and forest service roads.

April 2017

- A bid process for the Tusayan Trails project was announced with a deadline of April 18th.
- Trails Inspire, LLC submitted a bid to the Town of Tusayan on April 12.
- At the Town Council meeting on April 19th, Town Manager Eric Duthie was approved to award the contract following a bid process.

June 2017

- June 1st - a contract between the Town of Tusayan and Trails Inspire, LLC was signed for Phase I of the Tusayan Trails Plan.

Preliminary scoping visit to Tusayan June 20th - 25th:

- In-person and phone interviews with stakeholders - Private Landowners, Business Owners, Kaibab National Forest, Grand Canyon National Park, members of the Arizona Trail Association
- Interviews with local Chamber of Commerce, tour and concierge services
- Interviews with local trail enthusiasts
- Presentation to Grand Canyon Rotary Club
- Presentation to Grand Canyon Wellness Committee
- Tour of area from Fire Chief Greg Brush and former Mayor John Rueter

July 2017

Public Input Trail Questionnaire:

The questionnaire was available online two weeks before the public meeting. It was sent to a mailing list of approximately 140 people and organizations, and local business owners were encouraged to print out and distribute surveys to their employees. 38 completed responses were returned. Results of the questionnaire are attached as **Exhibit I**.

The questionnaire, filled out 76% by residents and 24% by visitors, found that people learned about the current trails in Tusayan via word of mouth or internet/social media. Trail use was reported in all four seasons, but less so in winter.

The preferred type of tread found in the survey as well as the exercise done at the public meeting is singletrack - wide enough for one trail user and constructed out of natural materials. Second most popular was a natural surface wide enough for two people. These preferences were taken into consideration when designing the Master Plan.

The top goals for a design for a Tusayan trail system were to build trails that provide convenient recreational opportunities and trails for recreation for residents.

The top three activities that were listed in the questionnaire were hiking, mountain biking, and photography/exercise stations.

Stakeholders and Public Meeting Invitations and Promotion

Stakeholders meeting invitations were sent to 84 individuals and organizations. Public meeting invitations were emailed to approximately 140 individuals and organizations and public meeting flyers distributed to local businesses and interested groups. Promotion was also done through social media, the Trails Inspire blog and the Grand Canyon News.

August 2017

Stakeholders Meeting - August 1st: A stakeholders meeting took place at Grand Canyon National Park and 17 people attended. A summary of the project's objectives was presented followed by a roundtable discussion. Meeting notes are attached as **Exhibit 2**.

Public Meeting - August 3rd: Held at Town of Tusayan Council Chambers from 6-8 pm. A presentation was given about the project and survey results. The public was invited to comment and fill out surveys as well as participate in a map exercise to determine where they would like to see trails in the Tusayan area. The presentation, which includes methods and survey results, can be found here: <http://bit.ly/2vMh6tA>. The full list of public comments are attached as **Exhibit 3**.

"I think it's a great idea! Tusayan needs more recreation opportunities"

"A trail system that can cater to a variety of activities, link housing to job sites, and give people access to the surrounding forest is ideal."

"I'd place a high value on developing trails that can be ridden on mountain bikes within this system as there really are not many opportunities to safely ride in this area. I am not in favor of single use trails or trails that discourage one form of recreation in favor of another."

September 2017

Trail Scouting and Survey

Survey of potential trail alignments, trailheads and signage with Mark Flint from Southwest Trail Solutions from September 5th - 9th. Sustainable trail design principles were rigorously followed, and exceeded in most cases. The TopoFusion program was used to map and provide

data on each of the trail segments. Descriptions of individual trail segments and construction notes are included on page 13.

Meetings took place with Kaibab National Forest District Ranger Kendall Cikanek, private landowners, Jan Balsom at Grand Canyon National Park, Roger Clark from Grand Canyon Trust and Alicyn Gitlin from the Sierra Club. The Town of Tusayan received a letter of support for their trails plan from the Coconino County Public Health Services District.

Tusayan Trails Master Plan

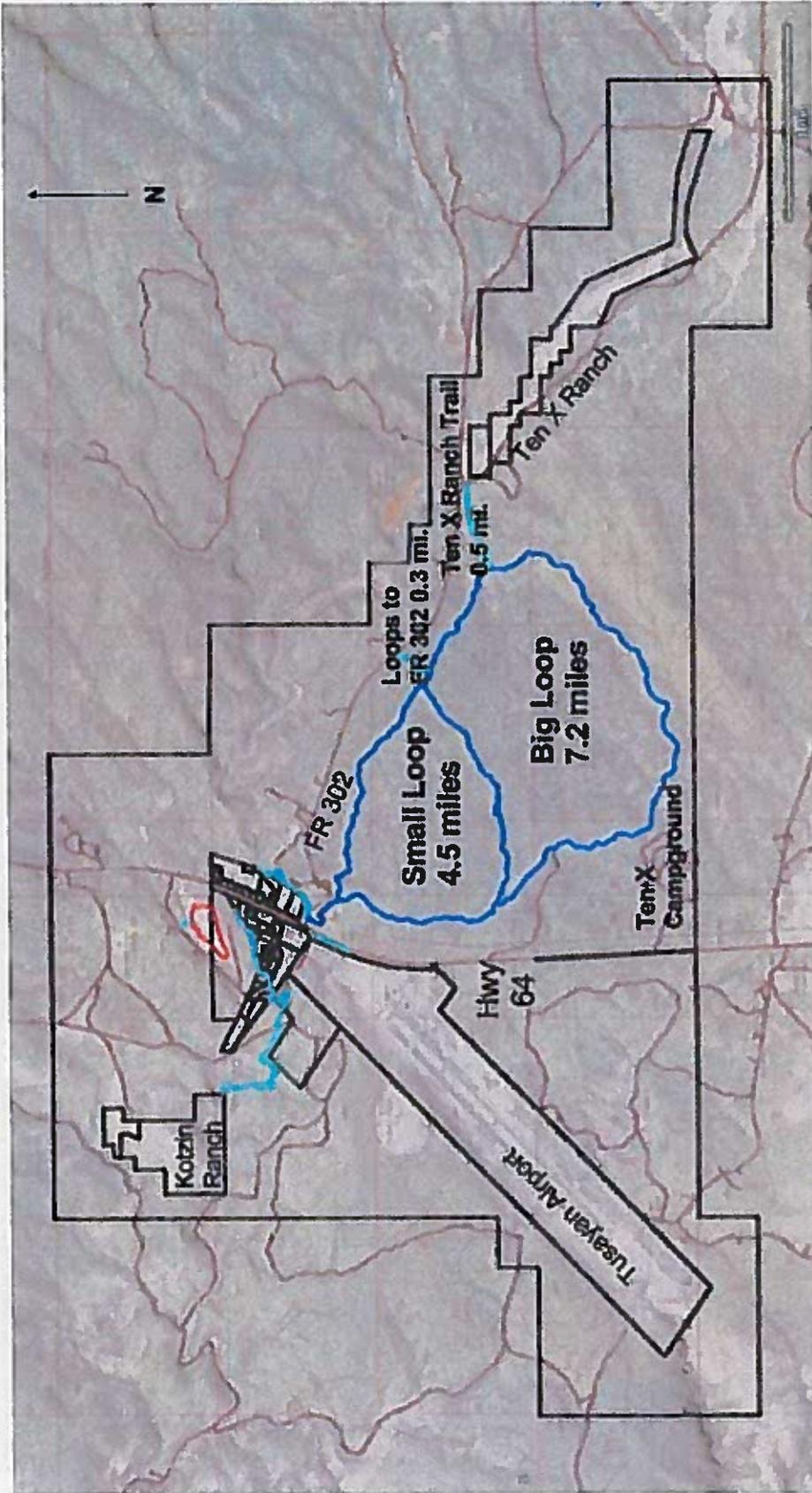
The Master Plan was written in September and October, using Forest Service and Grand Canyon National Park documents on land and resource management, trail design specifications and transportation management plans.

October 2017

The Master Plan was submitted to the town of Tusayan on October 9th, 2017. The Sierra Club, Grand Canyon National Park, Grand Canyon Trust, Grand Canyon Wildlands Council, International Mountain Biking Association of America and private landowners were given a preview of the maps and document for comment.



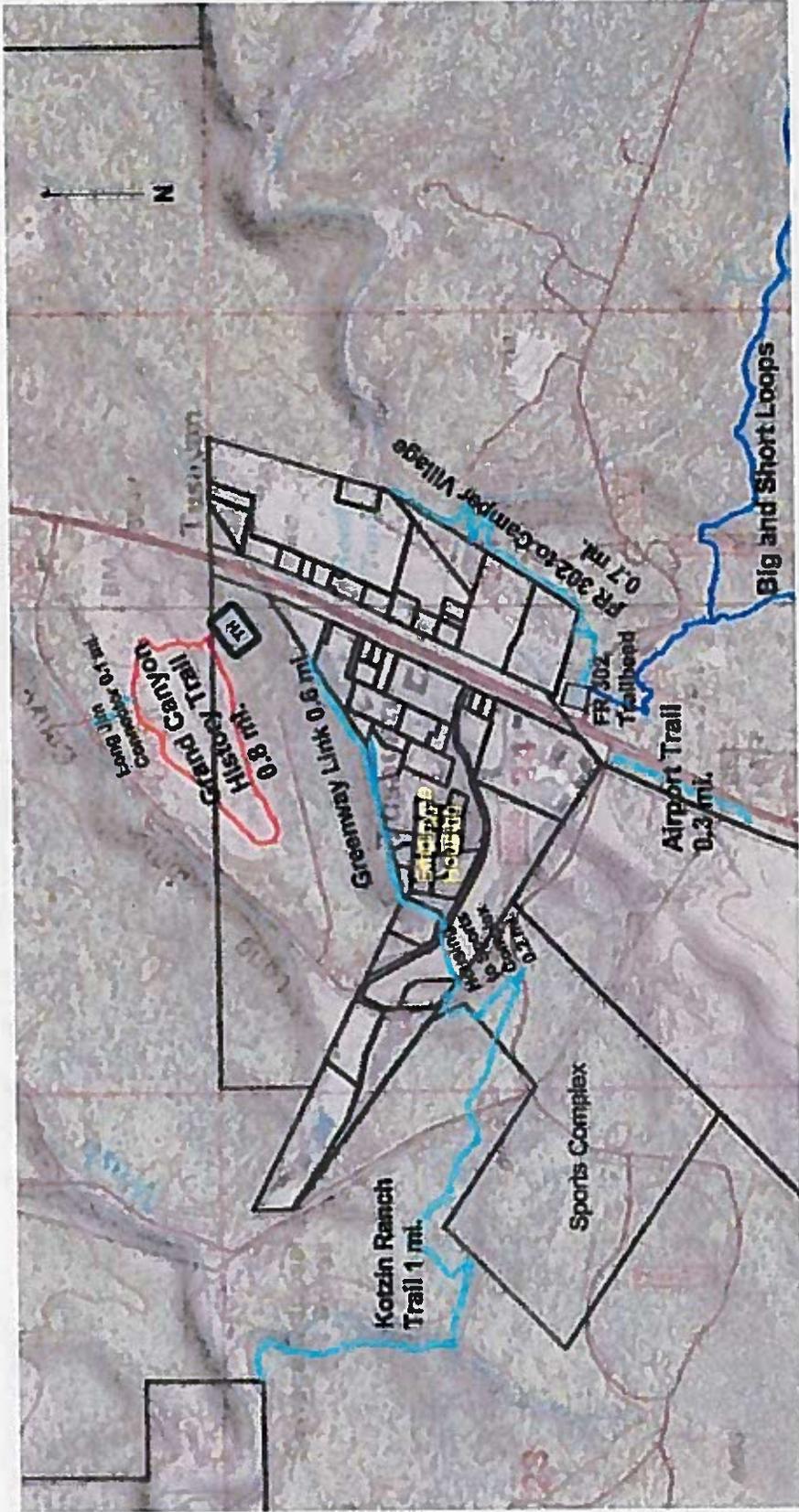
Sunset from the Tusayan Greenway Trailhead



Tusayan Trails Master Plan - Black delineates town boundary and private parcels

- Connector Trails
- Grand Canyon History Trail
- Forest Service Roads
- Big and Short Loop Trails

1 Mile =



Tusayan Trails Master Plan Legend - black lines delineate private parcels

Connector Trails	Loop Trails
Grand Canyon History Trail	Forest Service Roads
1 mile =	

Tusayan Trails Master Plan Overview Map

For detailed descriptions of trails on the Tusayan overview map, see pages 13-16.
Map shows only new proposed trails.

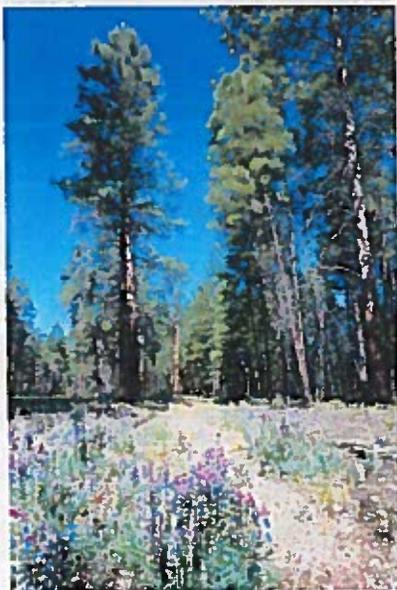
- Big Loop: 7.2 miles - Singletrack natural surface trail
- Short Loop: 4.5 miles - Singletrack natural surface trail
- Ten X Ranch Connector: 0.5 miles - 4' wide gravel trail
- Loops to FR 302: 0.3 miles - Singletrack natural surface trail

Tusayan Trails Master Plan Town Map

For detailed descriptions of trails on the Tusayan town map, see pages 15-18.
Map shows only new proposed trails.

- Grand Canyon History Trail: 0.8 miles - 5' wide gravel path (ADA accessible)
- FR 302 to Camper Village: 0.6 mi. - Singletrack natural surface
- Long Jim Connector: 0.1 mi. - 4' wide gravel path
- Greenway Link Trail: 0.6 mi. - 4' wide gravel path
- Housing to Sports Complex: 0.2 mi. - 4' wide gravel path
- Airport Trail: 0.3 mi. - 4' wide gravel path
- Kotzin Ranch: 1 mi. - Singletrack natural surface

Trail Tread Examples



Singletrack trail, natural surface



Crushed Gravel Trail (ADA accessible)

Forest Service Management Objectives and Principles

The following Forest Service desired conditions for recreation and scenery were taken into consideration from *Land and Resource Management Plan for the Kaibab National Forest*.

- A wide spectrum of high-quality recreation settings exists. Users have access to a variety of developed and dispersed opportunities.
- The Kaibab NF provides sustainable recreation consistent with public demand. Use levels are compatible with other resource values.
- Conservation education actively engages children and adults, resulting in increased forest stewardship, ecological awareness, partnerships, and volunteerism. Information and educational programs provide opportunities to connect youth, low-income, and minority populations with nature.
- Visitors have access to information that enriches their recreation experiences and contributes to an understanding of their role in public land stewardship. "Leave No Trace," "Tread Lightly," fire prevention, wildlife awareness (e.g. lead reduction, Be Bear Aware, Animal Inn, etc.), and archaeological resource protection principles are promoted and practiced by the visiting public.
- Recreation management activities complement and support local economies and tourism.
- User conflicts are infrequent.
- Any new motorized trailheads should be located in front-country areas, incorporate or convert existing roads, protect open space, and protect natural and cultural resources.

Sustainable Design Principles

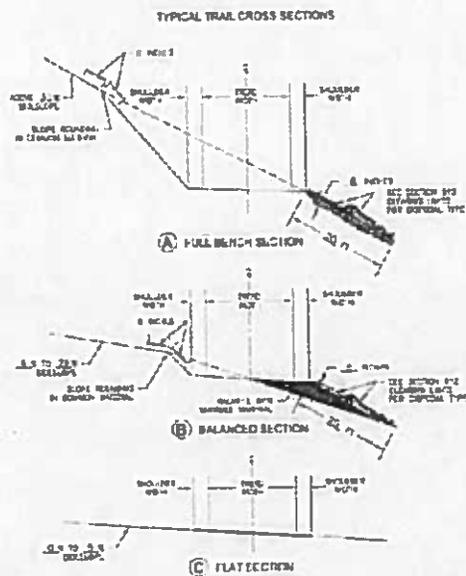
Sustainable trail design principles were rigorously followed, and exceeded in most cases. Assuming the use of sustainable construction techniques, these trails will be free of any significant erosion impacts from normal use and weather patterns. As a result, maintenance will be mostly a matter of monitoring/cleaning drainage structures, de-berming and cutting back vegetation. This work can be accomplished by volunteers, minimizing operations and maintenance costs.

General principles of sustainable trail design from *USDA Forest Service Trail Construction and Maintenance Handbook*:

- Sustainable grades less than 10%
- The half rule: the trail grade should be no more than half the sideslope grade
- Outsloped tread
- Frequent grade reversals
- Erosion resistance
- Path that traverses along the sideslope
- Provision for sheet flow of water runoff
- Positive user experiences
- Low maintenance

Forest Service Trail Design Specifications

Examples of Forest Service trail design specifications from the *US Forest Service Standard Trail Plans and Specifications Step by Step Guide* :



These are the documents that were used as resource materials in the planning process:

- Standard Specifications for Construction of Trails and Trail Bridges on Forest Service Projects*
- US Forest Service Standard Trail Plans and Specifications Step by Step Guide*
- USDA Forest Service Trail Construction and Maintenance Handbook*
- Land and Resource Management Plan for the Kaibab National Forest*
- South Rim Visitor Transportation Plan*
- Foundation Document Grand Canyon National Park*
- Desert Design: Building Trails in a Harsh and Demanding Environment*, Mark Flint and Arizona State Parks

Tusayan Trail Proposed Segment Descriptions and Construction Notes

Long Loop Trail

Distance: 7.21 Miles

Uses: Hiking, running, mountain bicycling, bird watching, equestrian, X-C skiing, snowshoeing

Difficulty: Gentle grades, average grade less than 5%. Maximum grade 11% (30'). Generally non-technical with a few short rocky sections.

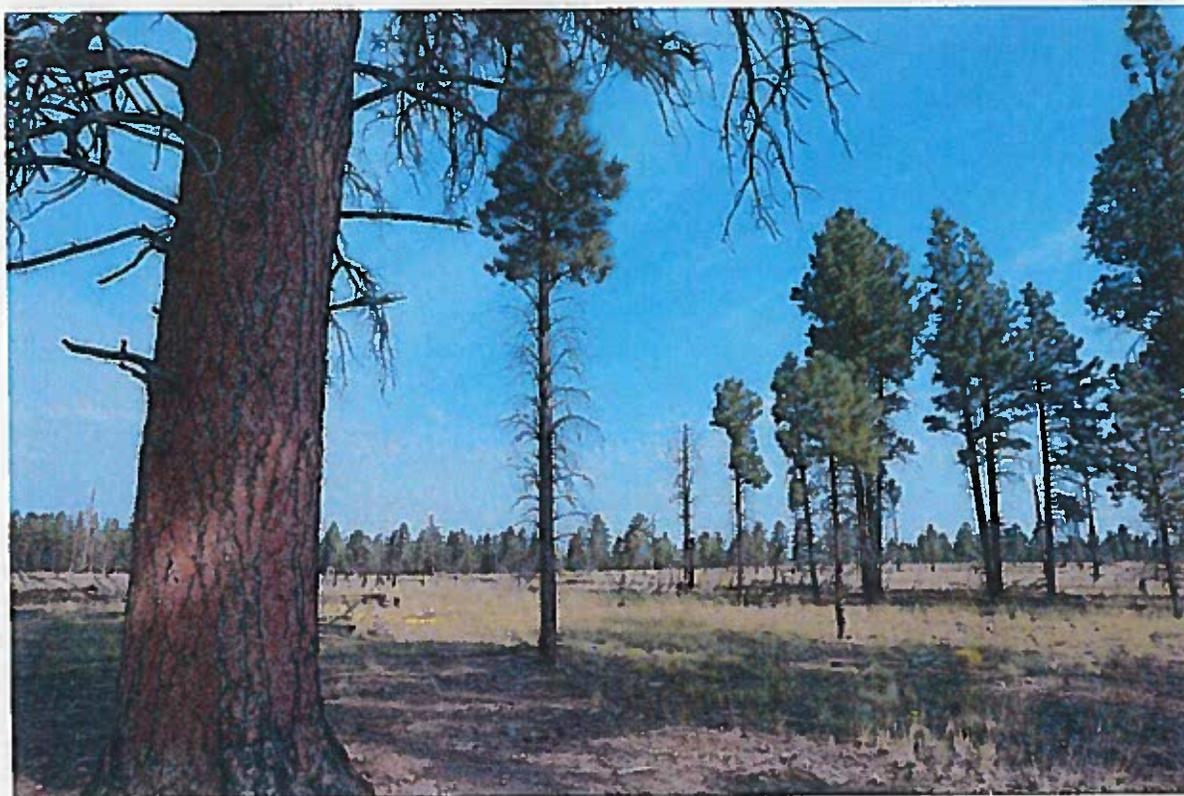
Description

The Long Loop Trail is a "lollipop" loop, with an out-and-back 1/3-mile "stem" from a potential trailhead site at the northeast corner of the junction of FR 302 and SR 64. This trail provides an opportunity for multi-modal recreation where both visitors and locals can enjoy old growth Ponderosa Pine forest, meadows, rock formations, wildflowers and wildlife. The trail winds through Ponderosa pine and pinyon-juniper forest and at the easternmost end arcs through a large alpine meadow, which affords views of Red Butte to the southeast.

The western edge of the Long Loop Trail will provide a 2.5-mile link from the Ten-X Campground to Tusayan, and passes through some dense vegetation, including manzanita brush, juniper and piñon pine, about a half-mile north of the campground. There is a second 0.32 mile proposed connector linking the trail from the Short Loop Trail intersection north to FR 302 where it intersects with FR 8048 (campsite access). The eastern end of the loop has a 0.47 mile connector trail to the Ten X property where FR 302 and FR303 intersect.

Construction and Maintenance

This trail is proposed as a natural surface path with a constructed tread 3 feet in width. Active tread will most likely be 14-18 inches wide. The trail will have no significant construction challenges, and bench cutting will be minimal. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use. The connector trail to the Ten X property will be a crushed gravel path with a constructed tread 4 feet in width, with the active tread most likely the full width. It will provide Ten X residents with a short trail for recreation as well as a connector to the large and small loops.



Meadow and Ponderosa Pines on the Long Loop Trail

Short Loop Trail

Distance: 4.53 Miles (includes 2.96 miles of the Long Loop Trail)

Uses: Hiking, running, mountain bicycling, bird watching, equestrian, X-C skiing, snowshoeing

Difficulty: This trail has a sustained gentle climb of approximately 0.7 miles, with several level sections interspersed to provide a measure of relief. Average grade for the trail is 4%. The trail is generally non-technical with a few short rocky sections.

Description

This trail provides an opportunity for multi-modal recreation where both visitors and locals can enjoy the Ponderosa Pine forest, meadows, wildflowers and wildlife. When this trail was surveyed in September, elk were heard bugling and this would be a great experience for visitors and locals alike. This trail bisects the Long Loop Trail, providing a shorter version with similar characteristics. It can be accessed via a 0.32 mile proposed connector trail from the Long Loop Trail junction on the north side to FR 302 where it intersects with FR 8048 (campsite access). The trail passes through some dense vegetation, including manzanita brush, juniper and piñon pine, on either side of the summit.

Construction and Maintenance

Construction and maintenance specs for this trail are the same as for the Long Loop Trail.

Grand Canyon History Trail

Distance: 0.81 Miles

Uses: Interpretation, hiking, running, mountain bicycling, bird watching, dog walking, equestrian, X-C skiing, snowshoeing

Difficulty: Gentle grades, average grade less than 5%. Non-technical.

Description

The Grand Canyon History Trail is an interpretive loop that starts and ends at the Tusayan Greenway Trailhead. The purpose of the trail is to tell the story of human history of the Grand Canyon and Tusayan from Native American times to the present. The trail winds through Ponderosa pine and pinyon-juniper forest and open areas of sagebrush. Other aesthetic features include areas of exposed limestone and the trail is routed to minimize sightlines into town and the dispersed camping on Long Jim Loop Road.

A 437-foot connector trail using one of the old roads to Long Jim Loop Road was included to minimize social trailing down to the campsites. The connector trail has an average grade of 7% and will be a 4 foot wide gravel path with an active tread the full width.

This area is highly impacted by social trails, dispersed campsites, and trash. A well-marked interpretive trail that is used by visitors and residents plus revegetation of old roads/cleared areas will help mitigate the current damage done to the resource, and discourage future resource damage.

Construction and Maintenance

This trail is proposed as a gravel path with a constructed tread 5 feet in width, in accordance with ADA standards. Active tread will most likely be the full width. The trail will have no significant construction challenges, and bench cutting will be minimal. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.

The construction plan includes revegetation on approximately 2,000 feet of old roads/cleared areas on the interior of the loop. The revegetation can be done in conjunction with a cleanup event to pick up the trash.

A study will be done as part of Phase 2 to determine an interpretive signage plan.

FR 302 to Camper Village

Distance: 0.6 Miles

Uses: Hiking, running, mountain bicycling, bird watching, equestrian, X-C skiing, snowshoeing

Difficulty: This trail has a maximum grade of less than 9%. The trail is non-technical.

Description

This trail connects the proposed trailhead at FR 302 with the Camper Village. The trail, which incorporates a short segment of abandoned roadbed, winds through ponderosa pine and pinyon-juniper forest and crosses a rock-lined drainage. This is a short but very aesthetically pleasing trail for tourists. There are large pines and the drainage has attractive areas of exposed Kaibab Limestone (see photo).

Construction and Maintenance

This trail is proposed as a natural surface path with a constructed tread 3 feet in width. Active tread will most likely be 14-18 inches wide. The trail will have no significant construction challenges, and bench cutting will be minimal. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.



Attractive Kaibab Limestone on the FR 302 to Camper Village trail

Ten X Ranch Trail

Distance: 0.47 Miles

Uses: Hiking, running, mountain bicycling, bird watching, equestrian, X-C skiing, snowshoeing, interpretation

Difficulty: This trail has a grade of less than 5%. The trail is non-technical.

Description:

This trail connects the Ten X Ranch Property to the Big and Small Loop near the junction of FR 302 and FR 303. A portion of the trail is next to an abandoned logging railbed. The trail winds through Ponderosa pines and pinyon-juniper forest. This trail will provide the residents of the Ten X Ranch with a place for dog walking, multi-modal recreation and nature study.

Construction and Maintenance

This trail is proposed as a gravel path with a constructed tread 4 feet in width. Active tread will most likely be the full width. The trail will have no significant construction challenges. There is an opportunity for interpretive signage telling the history of the railroad bed. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a ½"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.

Greenway Connector Trail

Distance: 0.57 Miles

Uses: Hiking, running, mountain bicycling, bird watching, walking to work, snowshoeing

Difficulty: This trail has a grade of less than 1%. The trail is non-technical.

Description

This trail connects the main residential area to the Tusayan Greenway Trail in the parking lot behind the IMAX Theater. The current path is a 4-ft. wide tread covered in wood chips and accesses the back of the Canyon Plaza Hotel parking lot. It is used by workers of the businesses in Tusayan for getting to and from their residences and goes past residences of the Canyon Plaza landowners. Vegetation is Ponderosa Pine forest.

Construction and Maintenance

This trail is proposed as a gravel path with a constructed tread 4 feet in width. Active tread will most likely be the full width. The trail will have no significant construction challenges.

Kotzin Ranch Trail

Distance: 1.02 Miles

Uses: Hiking, running, mountain bicycling, bird watching, equestrian, walking to work, X-C skiing, snowshoeing

Difficulty: This trail has a grade of less than 5%. The trail is non-technical.

Description:

This trail connects the southeast end of the Kotzin Ranch to the Sports Complex. The trail winds through Ponderosa pines up a small drainage and skirts the northern corner of the school property before arriving at the Sports Complex parking.

Construction and Maintenance

This trail is proposed as a natural surface path with a constructed tread 3 feet in width. Active tread will most likely be 14-18 inches wide. The trail will have no significant construction challenges. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.

Sports Complex to Housing Trail

Distance: .22 Miles

Uses: Hiking, running, bird watching, walking to work

Difficulty: This trail has an overall grade of less than 5% with short stretches of up to 11%.

Description:

This trail connects the housing area to the Sports Complex. The trail goes through a meadow from RP Drive to the base of the housing, then ascends the slope via steps to access the apartment complex. The trail continues and crosses Long Jim Loop road into the proposed soccer field area of the Sports Complex and then connects to the parking area of the Sports Complex. Vegetation is Ponderosa pines, oak and pinyon-juniper.

Construction and Maintenance

This trail is proposed as a gravel path with a constructed tread 4 feet in width. Active tread will most likely be the full width. The trail will have no significant construction challenges. Native rock for drainage management structures/crib walls/steps is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.

Airport Trail

Distance: 0.24 Miles

Uses: Hiking, running, mountain bicycling, walking to work

Difficulty: This trail has a grade of less than 5%. The trail is non-technical.

Description

This trail connects the end of the sidewalk at the southern roundabout with the Tusayan Airport. There is an existing gravel path that is 18-24" wide that is used by tourists, pilots and locals. The trail goes through Ponderosa pines.

Construction and Maintenance

This trail is proposed as a gravel path with a constructed tread 4 feet in width. Active tread will most likely be the full width. The trail will have no significant construction challenges. Native rock for drainage management structures/crib walls is plentiful. Covering the tread with a 1/2"- rock base (similar to the Nature Trail at the 10-X campground) would make it suitable for three season use.

Other Amenities

Telescope Viewing Area and Platform - Grand Canyon National Park was awarded International Dark Sky Park designation in 2016 and the skies around Tusayan are perfect for stargazing and astronomy. The Town will work with astronomers and the Kaibab National Forest to determine the best location for this activity.

Outdoor Fitness Park - The Town will work with the Kaibab National Forest to determine the optimal location and number of stations for an outdoor fitness park. During the public scoping in 2017, exercise stations were tied with photography as the third most popular activity that people would use if available in the Tusayan Trails System. The Gold Package from Outdoor Fitness (www.outdoorfitness.com) includes 16 fitness stations at a cost of \$16,131.

Trail Construction Estimates

A list of proposed trails and description of trail features was given to Matt Roberts at American Conservation Experience. Single track natural tread trail construction is generally between \$2.50 and \$3.80 per linear ft of finished trail. Crushed gravel and ADA accessible trail is anywhere from \$20 - \$30 per linear ft. Their preliminary estimate for the trail construction costs is as follows:

10.4 miles of singletrack = \$137,280 - 208,665
 1.94 miles of gravel paved 4' wide = \$205,160 - 307,740
 0.81 miles of 5' wide gravel path = \$85,540 - 128,310

Total estimate = \$427,980 - 644,715

National Environmental Policy Act (NEPA) estimate

The Town of Tusayan is proposing the construction of a non-motorized multi-use trail system located on private lands and Kaibab National Forest (KNF) lands surrounding the community of Tusayan. As identified in the 2017 Tusayan Community Trails Master Plan, approximately 10.5 miles of singletrack natural surface trails and 2.74 miles of 4-foot wide crushed gravel trails are proposed. As the proposed project is located on National Forest lands and approval requires issuance of Forest Service authorizations, the project is considered a Federal undertaking requiring compliance with the National Environmental Policy Act (NEPA). SWCA prepared a general cost for completing the NEPA process, as described below. This cost is based upon general information and will require refinement through communication and input from the KNF District Ranger and resource staff.

The initial step in the NEPA process includes cultural and biological resource surveys and analyses of the proposed trail alignment. The surveys will include site level adjustments to avoid sensitive biological areas and designated cultural properties. The approximate cost to complete the biological and cultural resource surveys and analyses for the approximately 14 miles of trail alignment could range from \$10,000 to \$12,000.

It is SWCA's understanding that the appropriate level of NEPA documentation for the proposed trail construction is a Categorical Exclusion under the Forest Service NEPA provisions 36 CFR 220.6(e)(1) *Construction and reconstruction of trails*. This categorical exclusion is appropriate if there are no extraordinary circumstances that would warrant further analysis and documentation in an Environmental Assessment or Environmental Impact Statement. The categorical exclusion would be documented in a Forest Service Decision Memo. It is not anticipated that the project would require public scoping or comment. The approximate costs to complete a NEPA Categorical Exclusion Decision Memo could range from \$8,000 to \$12,000. While unlikely, if it is determined by the KNF that a NEPA Environmental Assessment (EA) is required, the approximate costs to complete an EA could range from \$15,000 to \$20,000.

Should significant impact on cultural or biological resources be discovered during the survey, the trail alignment would be rerouted to avoid necessity of mitigation.

Recommendations

The Town will work with the community, the private landowners and the Kaibab National Forest to prioritize the planning of the individual trail segments during Phase 2 of the project. The final decision rests with the Kaibab National Forest, and the plan must fit within their planning and management objectives. Preliminary assessment short of actual surveys indicate a very low likelihood of significant cultural and environmental impacts.

Exhibits and Appendices

Exhibit I: Public Scoping Questionnaire Results

Public Scoping Questionnaire results can be found at <http://bit.ly/2vMh6tA>

Exhibit II: Public Comments

A community scoping questionnaire and public comment period was open for two weeks, ending August 1st. Comments were also submitted at the Public Meeting on August 3rd.

-I love the current greenway to and from the Park. There is already plenty of infrastructure with all the forest roads...it's just a simple matter of connecting dots! Let's get folks out there! Our State is AMAZING!

-Yes! Do a good job of distributing maps (making them readily available online); the current paths have no presence online. Make the path clearly marked.

-I think it's a great idea, I would specifically encourage trails that make connectors to the Arizona Trail, and trails for kids, beginners and families as there are literally millions of visitors going through the town each year.

-I think a community trail system around Tusayan would be a wonderful addition to the community. I'd place a high value on developing trails that can be ridden on mountain bikes within this system as there really are not many opportunities to safely ride in this area. I am not in favor of single use trails or trails that discourage one form of recreation in favor of another. I believe we can all share. Additionally, I think one of the biggest challenges for this project will be creating safe crossings on AZ-64. Currently traffic often blows through crossings and it often feels like a live game of Frogger crossing the street.

-Ample parking and a connection to the AZT. I would also love to stop for a session on a skills park or pump track when in the area.

-Excited about the trails. Having good trailheads and parking.

-A liveable community for residents should be a first priority... commuting, recreation, connectivity throughout the community.

-Trails are important to all communities, and the addition of trails in and around Tusayan could have wonderful benefits for locals as well as helping to harness the economic power of Grand Canyon nearby. Trail recreation near Tusayan could be big business.

-I think it's a great idea! Tusayan needs more recreation opportunities

-Trail systems are a low cost, high value amenity that improve quality of life and generate community pride. Tusayan is surrounded by beautiful public lands that could be providing more benefits and services for local residents. Could be an excellent compliment to what's available in Grand Canyon National Park for visitors from around the US and abroad, making their experience more full and rich. It would also encourage longer stays from a more diverse pool of visitors (those with kids, etc). As an Arizona resident, I support this project.

-I love the idea of a community trail system. Ease of use is a major factor in the system's success. Making information on their location, mileage, connections, ideal uses, etc. easy to access would be a key component in ease of use. Knowing where the trails are, where they lead, how long and the use/difficulty would also allow for appropriate trail use reducing safety concerns or response. Making a trail system accessible from multiple locations and providing connectivity between main corridors would make the system convenient.

-I would love to be able to road bike and Roller skate on the trails. It would be nice to have some mtb options as well. I am most interested in exercise stations and a surface I can roller skate on

-As a visitor to Tusayan I never dreamed there were any trails near Tusayan so I am very glad to hear there is planning for a trail near or around Tusayan. To me Tusayan has been only a place for burgers and gas. I am excited to know Tusayan is planning to develop a trail that would give me as a visitor a unique experience and a reason to stay in the town. It sounds like a win/win for everyone. It would be great to walk or ride a trail with signage about the area. If connecting to the AZT is possible that would be super. Access and parking will be important to those of us with horse trailers or RV's. I hope the trail is built and built as a trail for all level of users. I know it would enhance my visit to Tusayan!

-Tusayan has so much walking traffic. I support a system that makes it safer for locals and tourists.

-Could be good for the community but feel many other things should be done that are more important.

-Make the community more aware of where the trails are. Website/maps/signs/etc. great idea . making trails where employees can get from point a to b without having to cut across private property low lighting so they can be used at night.

-A community trail system would be a wonderful addition to Tusayan, giving our visitors an expanded understanding of the Plateau. Improved signage along the trail (esp intersections), would help visitors that are not familiar with hiking or reading maps, confidently enter the forest, hike and leave with great recommendations for their friends and families to come Experience Tusayan when visiting the Grand Canyon.

-A trail system that can cater to a variety of activities, link housing to job sites, and give people access to the surrounding forest is ideal.

-Connect them to NPS shuttle bus stops & Tusayan convenience

- I think this is a good idea so people can use the trails without any worries about safety.
- Solar lighting, periodically and cookie dispensers for free cookies

- It is a good idea for locals that live here to have something to do as well as the tourists

- Excellent idea. The more trails that are open to all users (especially beginners) is very important.

- Maps at the trailhead

- The balance of wilderness and responsible recreation is a concern that must be observed. The volume of visitors to GCNP poses possible terrible impact, if we over develop, if we move in an inappropriate direction, we will be nothing but another Central Park and have lost the primal joy around us.

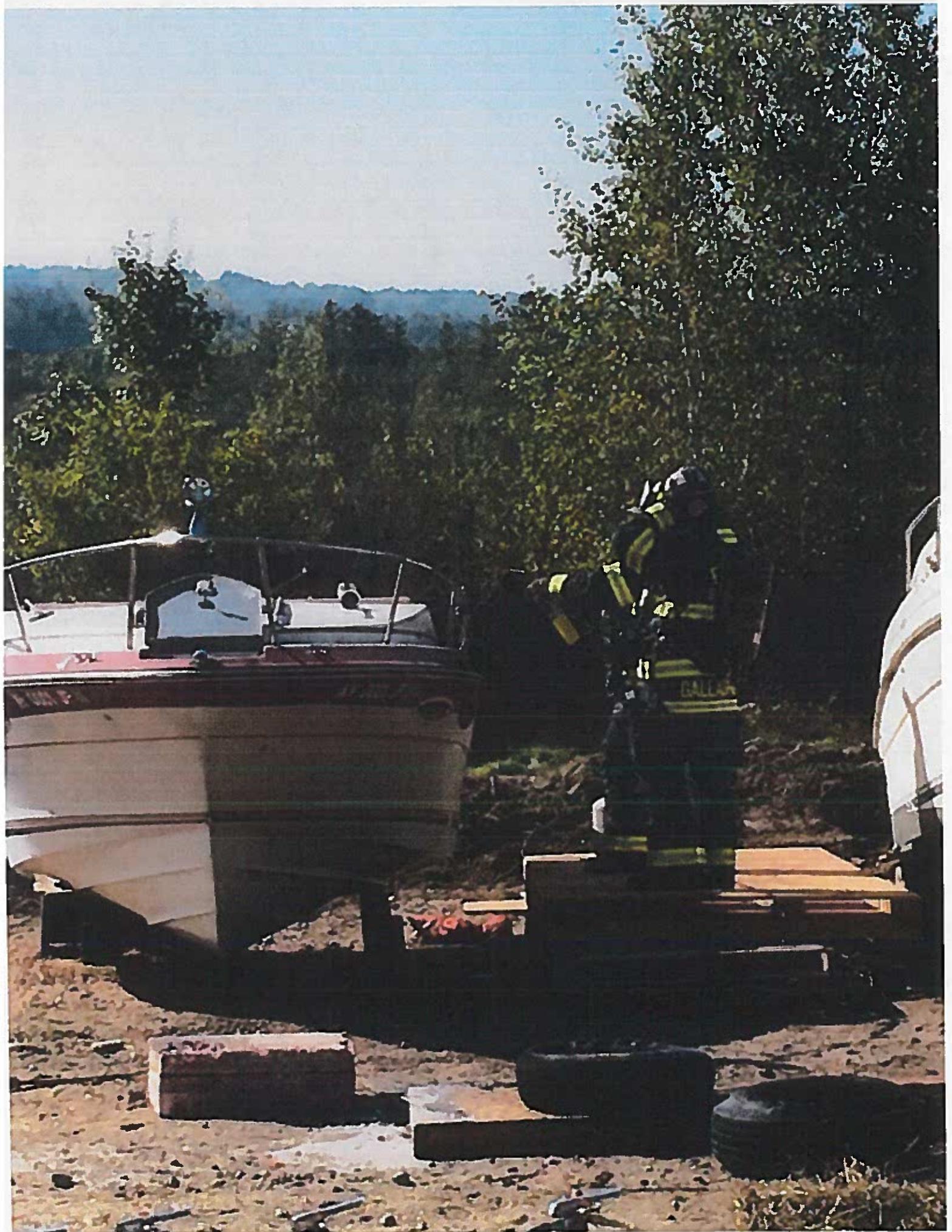
- I think this is a great idea. I think the community needs to promote multimodal transportation and recreation opportunities for visitors and residents whenever possible. Good to tie into shuttle bus stops.

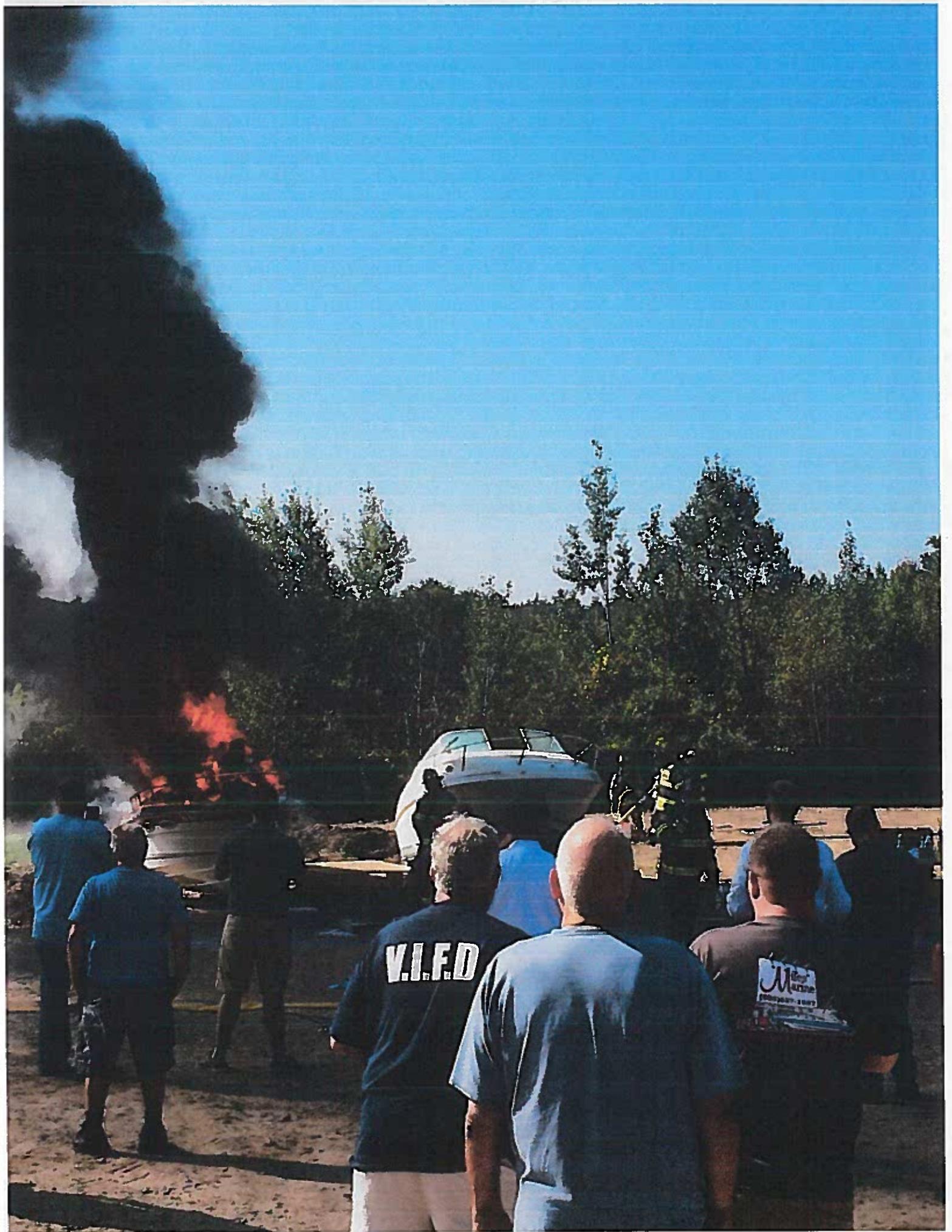
- Replace forest service roads with trails. More trails equal less animals due to too many humans, plus more trash that animals eat (too many animals have trash in them). Asphalt leaches poison into soil from rain washing it in. Most concrete sucks in oxygen and releases CO2 constantly. I agree we need to funnel people instead of having a spiderweb of trails. If forest service roads were shut down to visitor vehicles but open to hikers it would keep down the dust and improve the air quality. I work in wildlife rehabilitation, too many injured animals are filled with trash though they came to us being illegally shot, hit by a car, electrocuted, etc. Areas where residents and visitors create a spiderweb of social trails should have one singletrack to replace them. We have fragile cryptobiotic soil including mosses and lichen that take too long to come back and heal the soil. If dogs are allowed provide stations to throw away their poop, it pollutes our environment including water, creating diseases.

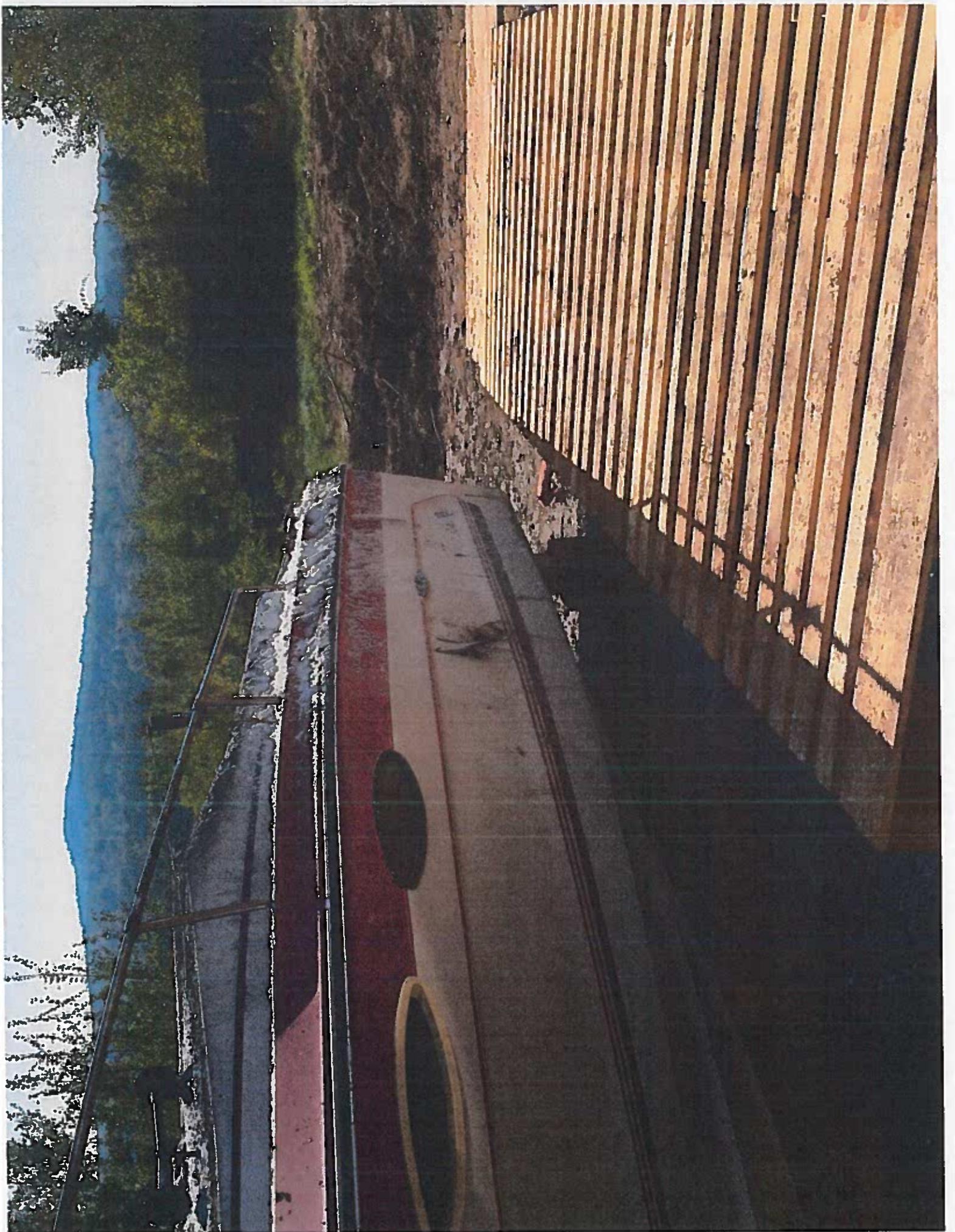
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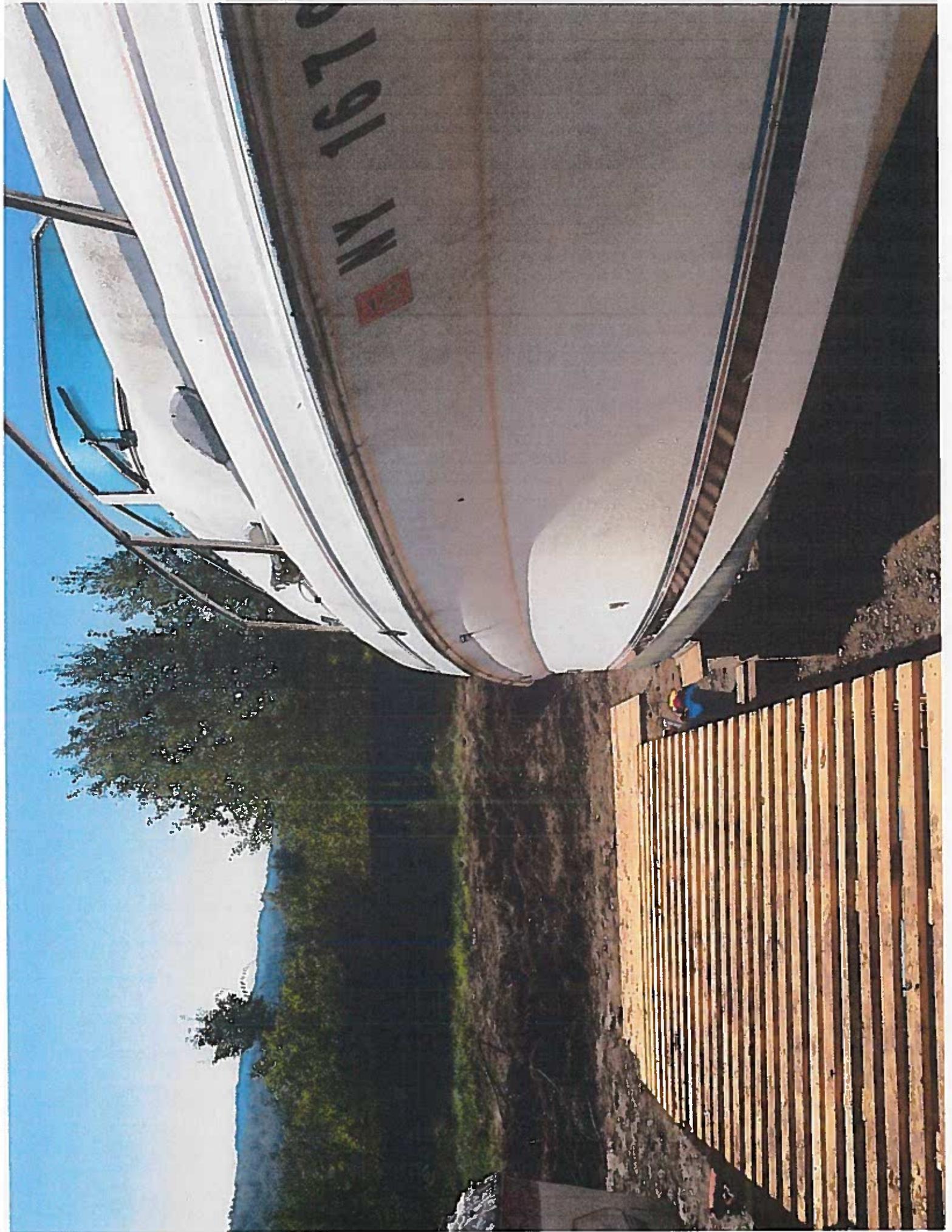












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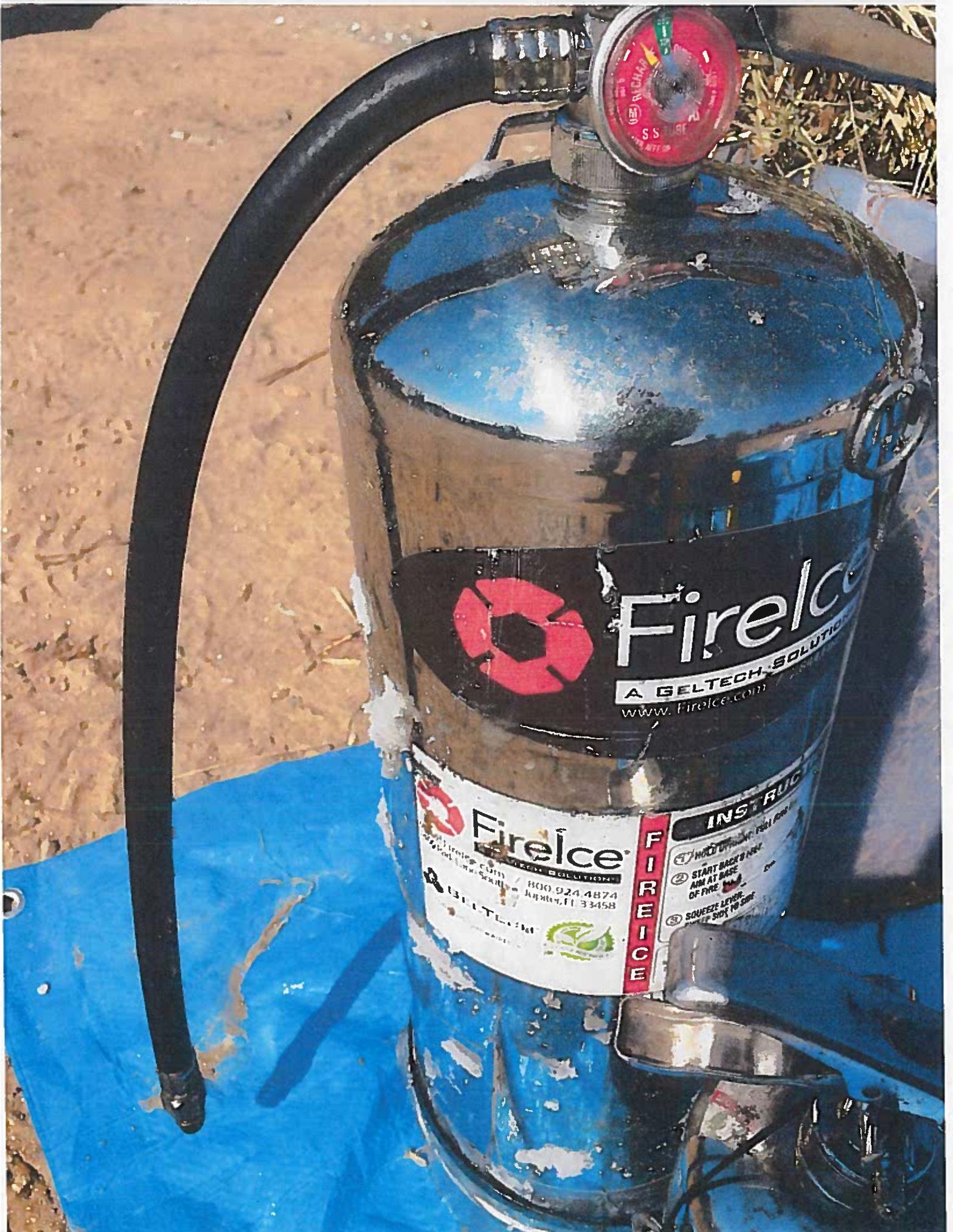
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