



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

**BOULDER COUNTY
BOARD OF COUNTY COMMISSIONERS**

**May 2, 2017 – 1 p.m.
Commissioners Hearing Room, Third Floor
Boulder County Courthouse, 1325 Pearl Street**

PUBLIC HEARING

Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges

STAFF PLANNERS: Dale Case, Land Use Director and Amy Oeth, Planner II

I. INTRODUCTION & BACKGROUND

On June 9, 2015, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to firing ranges. The present regulations do not offer sufficient protections to health and safety to permit firing ranges and thus, the county land use staff proposes the attached regulatory amendments.

On October 19, 2016, staff presented proposed text amendments specific to firing ranges at a Planning Commission Public Hearing. The Planning Commission recommended approval of Docket DC-15-0003 with additional recommendations as noted in Section IV.C of this staff report.

An ongoing collaborative effort that has been taking place for several years, entitled the Northern Front Range Recreational Sport Shooting Management Partnership, is working on addressing issues around dispersed shooting in the mountains along the Front Range. The stated purpose of the collaborative effort is:

To develop a landscape-level, multi-jurisdictional strategy to provide safe, responsible and accessible recreational sport shooting opportunities while addressing conflicts near residential areas and with other recreation users across the northern Colorado Front Range.

The County's partners in this effort are U.S. Forest Service, Arapaho & Roosevelt National Forests and Pawnee National Grassland, Colorado Parks & Wildlife- Northeast Region, Clear Creek County, Gilpin County, and Larimer County.

The County recognizes the potential impacts to residents and recreational users in areas near proposed ranges. However, the County is also deeply concerned with the impacts of dispersed shooting on safety and the general ability of members of the public to enjoy the outdoors. Dedicated locations with proper safety and noise requirements will better protect values and allow the Forest Service to reduce the areas available for dispersed shooting.

In order to provide shooting opportunities as identified above, each of the involved partner counties agreed to present at least one option for a shooting or firing range. Boulder County has not yet decided on any particular site, although there are five on Forest Service land which are under preliminary consideration. The proposed regulatory amendment is to address the unique issues a shooting range use presents from a land use perspective. The proposed regulations would permit a shooting range by Special Review in Light Industrial, General Industrial, Forestry, and Agricultural Zoning Districts. The proposed regulatory amendments add a framework to review individual applications to address impacts. The current docket is not to review the specifics of any one site; any future application to the County related to a specific site would need to come through the process as adopted by the Board of Boulder County Commissioners.

A. Summary of Proposed Changes

Staff is proposing a new use in the Land Use code which will include updates to the following sections:

- Article 18 – Definitions
- Article 4-510 Recreational Uses – new use (Firing Range, Outdoor)
- Article 4-602 Special Provisions

Detailed proposed changes are provided in **Attachment A**.

B. Document Sections and Attachments:

Section/Attachment	Description	Pages
Section I	Introduction & Background	1-2
Section II	Public Notice and Involvement	2
Section III	References	3
Section IV	October 19, 2016 Planning Commission Public Hearing Summary	3-6
Section V	Conclusion	6-7
Attachment A	Proposed Text Amendments to Articles 18, 4-510, and 4-602 of the Boulder County Land Use Code concerning firing ranges	A1-A6
Attachment B	Staff comments on referral responses and public comments received prior to October 12, 2016 and included in the staff report for the Planning Commission October 19, 2016 Public Hearing	B1-B5
Attachment C	Public and Referral comments	C1-C106

II. PUBLIC COMMENTS

Notification of these proposed Land Use Code text amendments occurred through several forums, including attendance at Forest Service and Northern Front Range Recreational Sport Shooting open houses, referrals, and meetings with individuals and groups.

Staff Responses to Referrals and Public Comments:

Staff comments on referral responses and public comments received prior to Oct. 12, 2016 are included in **Attachment B**. A full package of the comments received is included in **Attachment C**.

III. REFERENCES

To develop the language used in this code amendment, staff reviewed the following resources and example codes:

- Blount County, TN Land Use Code
- Cowlitz County, WA Land Use Code
- C.R.S. § 25-12-103 – Maximum permissible noise levels
- Cumberland County, NC Land Use Code
- Forsyth County, GA Land Use Code
- Kitsap County, WA Land Use Code Title 10, Chapter 10.25 along with the earlier proposed Ordinance Amending the Kitsap County Code (KCC) to add a chapter for the Regulation of Shooting Facilities and Ranges which was presented Jan. 20, 2015
- Rocha, E. S., Merriam, D., (2013) Practice Shooting Ranges. American Planning Association – Zoning Practice, Issue Number 12, pages 1-7
- Weld County, CO Land Use Code

IV. OCTOBER 19, 2016 PLANNING COMMISSION HEARING SUMMARY

The docket was presented by staff for review by the Boulder County Planning Commission on Oct. 19, 2016. Land Use staff presented a summary of proposed text, followed by public comments heard from seven speakers (some of whom had pooled speaking time) and subsequent discussion by Planning Commission.

A. Public Comments

Most public comments generally supported the proposed regulations, while some requested additions and/or deletions.

Most of the public speakers expressed safety, fire or environmental concerns regarding dispersed shooting, and a couple of speakers provided personal stories about witnessing or hearing dispersed shooting near homes. One speaker recommended that the county designate areas in the mountains, accessible to roads, where dispersed shooting would be allowed. This speaker also suggested the county identify locations for at least two ranges to help accommodate demand.

Topics addressed in other comments included:

- Eliminating dispersed shooting entirely in exchange for a firing range;
- Excluding firing ranges from the Forestry district to avoid fire hazards;
- Requiring on-site supervision of ranges;
- Reduction in the number of baseline range of hours of operation;
- Elimination of south-facing orientation requirement;
- Tightening of language in 18-207A: Surface Danger Zone as the language “reasonably expect” seemed ambiguous;
- Setback distance concerns citing that the highest powered firearms don’t necessarily travel the farthest;
- Interest in inclusion of private conservation easements in the required setback list;
- Consideration of the locations of both public and private conservation easements among potential sites for a range;
- Concern about the impact of the setback and noise regulations on existing clubs; concerns about the appropriateness of the 65dB limit (i.e., one stating it is too high, and another speaker stating it is too low for rifles);
- Expression of the importance of typography in understanding projection of noise; and
- Interest in including a requirement for “engineered sound tests.”

A few additional public comments were received after the Planning Commission hearing. Staff reviewed these comments, engaged in some follow-up communications to clarify concerns, and incorporated some changes based on those communications. Topics included further clarification on expected range design standards and the surface danger zone definition.

B. Planning Commission Discussion

Following the staff presentation and public comments, Planning Commissioners had a series of questions for staff for which staff provided responses. The questions and responses are summarized below (*italicized* text explains text changes or further research that resulted due to the discussion):

Dispersed Shooting Issues- Enforcement Capacity and Toxic Waste from Lead Bullets

- *It doesn't seem like the U.S.F.S would have the capacity for enforcing ending dispersed shooting in selected areas.*

Staff response: Regarding enforcement, it will take a while to get word out that lands are now closed, but it will be easier to tell people on those lands that they are violating rules and cite them. We will be direct them to where they are allowed to go shoot as well. It is also incumbent on county to do a lot of education.

- *Toxic waste from dispersed shooting is concerning.*

Staff response: Flooding and other events are pushing people to shoot only in certain areas, so these areas are becoming concentrated lead sites. This is hard to manage. The range(s) would be designed to mitigate lead, and remove it in a safe manner. Closing dispersed areas would reduce lead impact.

Existing Firing Ranges

- *What effect do these regulations have on existing clubs?*

Staff response: Existing firing ranges can continue to operate as they are today. These ranges would likely become a non-conforming use, and they would have to go through review process if they wanted to expand or change the range substantially.

Fire Concerns

- *Some of the Planning Commissioners expressed concerns about fires.*

Staff response: Fires are of greater concern with dispersed shooting. Per the proposed regulations, ranges would be required to have fire extinguishers on site, the number of which would be addressed during the special review process. The regulations require submitting a Fire Safety and Response plan to the local fire department along with submitting a Safety Plan to the Land Use Department. Lanes and berms in a range limits the opportunity for bullets to stray and cause fires.

Indoor Shooting

- *Are indoor shooting ranges part of the solution?*

Staff response: They are part of the solution, and there are some along I-25 corridor outside of Boulder County. There is a business opportunity there, but indoor ranges are more expensive to build. Staff agreed to follow up on a question about indoor skeet shooting and facility size requirements.

After the hearing staff found two examples of skeet/trap shooting indoors. Since smaller sizes shot travel shorter distances and skeet shooting occurs at an angle, indoor skeet/trap shooting ranges do not need to be 800 yards. In Ulm, Germany the MSZU's skeet/trap range is 3,390 square yards. The TNT Guns and Range in Murray, Utah has an indoor skeet range measuring 10,000 square feet with six private 100 square feet booths.

Noise

- ***How did staff decide upon the 65dB limit?***

Staff response: We worked to come up with something that worked but also protected the neighbors in the area and reached out to other jurisdictions and experts in shooting range design. We believe the noise levels can be achieved through careful range design. There are steps that can be taken to address noise levels, and showing how they are going to meet those limitations would be demonstrated in the Special Use Review.

Setbacks

- ***Can staff comment on the setback requirement concerns raised in the comments?***

Staff response: When deciding on the regulations for setbacks, we were trying to walk balance of setting something that worked and would also protect the neighbors. We also made it performance based, so the setbacks are dependent on the type of weapon that will be used. One of the comments suggested looking at how we reference the type of firearm and to make sure is based on how far a bullet will travel from a weapon. The setback distance can be reduced based on how the range is designed.

In the updated version in Attachment A, staff did adjust the proposed code language to address that the highest powered firearms may not travel the farthest (4-510.A.5.a.i; 4-602.A.1.a)

- ***Can staff comment the concern raised for lack of a setbacks for Conservation Easements?***

Staff response: We do not have a separate conservation easements in the list of setbacks. In general, the setbacks that are listed have to do with uses that could endanger people. There are the other special use criteria that would be included as part of this review process that look at wildlife and wildlife migration. Additionally, Land Use staff across the department did discuss whether to include conservation easements in the list. Since the use of conservation easements ranges, staff decided include the language “and/or any other potential hazards as identified through special use review” (4-510.A.5.a(i)) to cover site-specific conflicts such as conservation easements.

Siting Ranges and the County’s Relationship with the U.S. Forest Service (U.S.F.S.)

- ***Where is there a chunk of Boulder County land in Forestry zoning where a firing range could fit?***

Staff response: There are some larger private properties that could work in the Forestry District. If we find a location on U.S. Forest Service land, they would be interested in doing a land swap. This would give the county jurisdiction and ability to review the plans.

- ***Can we exclude the Forestry District?***

Staff response: Planning Commission can make that recommendation to BOCC.

- ***Are there any sites identified in the plains?***

Staff response: There are existing local shooting clubs on the plains, and the collaborative has been looking in plains as well. One reason for finding a forest location is that people have the desire to shoot in the mountains, and we want this to happen in a controlled space.

- ***Is there any sort of agreement to restrict dispersed shooting on U.S.F.S. land in exchange for building a range in the county?***

Staff response: Through Northern Front Range Recreational Sport Shooting Management Partnership the counties have a cooperative agreement with the USFS in the planning process for reducing dispersed shooting. There is no formal

agreement in exchanging lands or managing sites, but if there was a land exchange in the future, there would be a memorandum. Gilpin County, Larimer County, Clear Creek County, and Boulder County are at different stages of locating and implementing ranges. Boulder County is in the very preliminary stage with five potential sites identified so far and all are on U.S.F.S. land.

- ***Does the U.S.F.S. have a plan for reducing dispersed shooting?***

Staff response: The USFS does already have a plan to end dispersed shooting which includes a map. The partnership is using a three-pronged approach: 1) USFS looking at closing areas for dispersed shooting, 2) Counties have agreed to build shooting ranges in each county, and 3) we are developing education strategy around responsible, respectful shooting. We do feel like the partnership has made a lot of progress; we have built trust, and there is still a lot of work to be done.

Supervision

- ***Did staff consider this need?***

Staff response: We considered this and spoke with partners. Some of the ranges that are out there now don't have supervision and seem to operate okay such as like Pawnee Grasslands. Planning Commission can recommend considering a supervision requirement to the Board of County Commissioners if desired.

*In the updated version in **Attachment A**, staff added supervision as an option for reducing setbacks (4-602.F.1. j.vii.i)*

C. Planning Commission Recommendation

Planning Commission recommends that the Board of County Commissioners “**APPROVE Docket DC-15-0003**: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges and encourage the County Commissioner to 1) also look at the idea of having supervision added and 2) consider the idea of prohibiting shooting ranges in the forestry district and certify the docket for action to the Board which certification includes the approved text of the docket and the official record of the docket before the Commission with the staff comments, public testimony and Commission discussion/action.”

V. CONCLUSION

A. Revised Proposed Text Amendments

Based upon feedback received from Planning Commission, comments during and following the public hearing, and additional research conducted by staff to clarify language, Land Use staff proposes the text amendments shown in **Attachment A** to Articles 18, 4-510, and 4-602 of the Boulder County Land Use Code concerning firing ranges. A strike-through and underline format is utilized to denote the minor language that has changed based on feedback from the Planning Commission hearing on October 19, 2016.

B. Text Amendment Criteria Analysis

Article 16-100.B. contains the criteria for amending the text of the Land use Code.

Staff finds that these criteria are met in the context of this Docket. The existing text is in need of amendment because the present regulations do not offer enough protections to health and safety. A collaborative effort to address issues around dispersed shooting in the mountains along the Front Range has been ongoing for several years. The County is concerned with the impacts of dispersed shooting on the safety and the general ability of members of the public to enjoy the outdoors, and recognizes the potential impacts to residents and recreational users in any area near a proposed range. Dedicated locations with proper safety and noise requirements will better protect values and allow the Forest Service to reduce the areas

available for dispersed shooting. The amendments are also not contrary to the intent or purpose of the Code and are in accordance with the Boulder County Comprehensive Plan.

C. STAFF RECOMMENDATION

The Land Use staff finds that the proposal can meet all of the applicable criteria for a Land Use Code Text Amendment, as noted above. Therefore, Land Use staff recommends that the Board of Boulder County Commissioners **approve Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges and authorize the County Land Use Department to make appropriate clerical corrections to portions of the Code not specifically amended herein, as may be necessary to incorporate the Proposed Amendments into the Code.**

Attachment A

A red strike-through and underlined format is utilized to denote language that staff has adjusted since October 19, 2016 Planning Commission proposal. Strike-throughs denote text that has been removed and underlines denote additions.

PROPOSED TEXT

Article 18 Definitions - new definitions

18-195A: Shotfall Zones: The area of a shotgun firing range where spent shotgun shot and projectiles falls to the earth and where development, other than trap or skeet houses or the equivalent facilities for other types of shotgun events, and human occupancy, other than operators of the trap, skeet or equivalent facilities, is prohibited ~~during shooting.~~

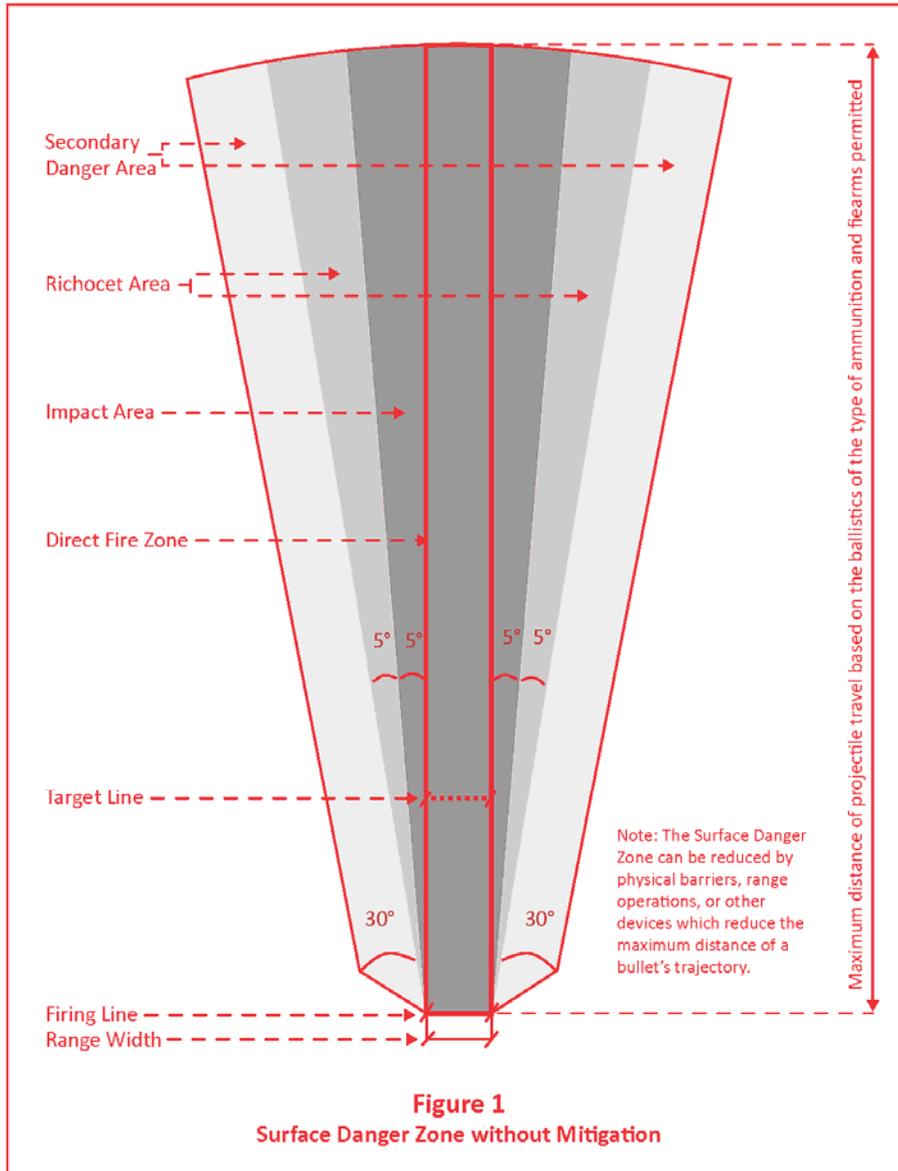
18-196A: Skeet Shooting: a shotgun shooting sport where firer is on the firing line and fires at targets launched from two houses in somewhat sideways paths that intersect in front of the shooter.

(Note: the current 18-196A: Sketch Plan, will become 18-196B)

18-209A: Trap Shooting: a shotgun shooting sport where a firer on the firing line shoots at targets launched from a single launching point and generally away from the shooter.

18-207A: Surface Danger Zone: The area, determined by an applicant's ~~P~~professional Engineer registered in the State of Colorado or other equally qualified individual, ~~that may reasonably expect in which~~ projectile impact may occur. ~~The zone spans the area that could receive projectile impact resulting from direct fire, including misdirected and accidental discharges, and ricochets from any firearm.~~ The boundaries of the zone (i.e., the length of the range and the width of the firing point or points) accommodate the ballistics of the highest powered firearms; and the range of ammunition that may be used in the permitted firing activities, but can be shortened by physical barriers, range operations, or other devices which reduce the maximum distance of a bullet's trajectory. The zone is generally in the line of fire and spans the area that could receive projectile impact resulting from direct fire, including misdirected and accidental discharges, and ricochets from any firearm. The zone consists of three parts: the impact area, the ricochet zone, and the secondary safety zone. The impact area is that of the direct fire zone into which all shots are fired during the normal course of shooting and extends 5° to either side of the left and right limits of direct fire zone and downrange to the maximum range of any ammunition to be used on the range. This area includes all directions and angles of fire used on a firing range while shooting at a specific target, either stationary or moving, from a specific firing point. The ricochet area is 5° to either side of the impact area and extends downrange to the maximum range of any ammunition to be used on the range. The secondary danger area is that area paralleling, and 100 yards outside of, the outermost limits of the ricochet area and extending downrange to the maximum range of any ammunition to be used on the range. ~~Spatial requirements may be reduced or expanded in consideration of natural topographic features or manmade improvements, including but not limited to backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which will provide sufficient safety measures to protect adjacent properties~~

(A diagram which will be included with the definition of Surface Danger Zone is on the next page)



Adapted from a diagram in the U.S. Department of Energy - Office of Health, Safety and Security's *Range Design Criteria*, June 4, 2012.

Article 4-510 Recreation Uses – new use definition

A. Firing Range, Outdoor

1. Definition: A facility inclusive of its component shooting ranges, Surface Danger Zone or Shotfall Zones, parking areas, all structures for classrooms, administrative offices, ammunition storage areas and other associated improvements, for which the **primary** use is to provide a place for the discharge of various types of firearms. The definition excludes hunting and shooting activity occurring outside of identified and approved **shooting-firing** ranges, and occasional target practice by individuals on property owned or leased by the individuals.
2. Districts Permitted: By Special **Use** Review in F, A ,GI, LI,
3. Parking Requirements: ~~to be determined through review~~ **1.5 parking places for each firing position**
4. Loading requirements: none
5. Additional Provisions:
 - a. Shooting and target area setbacks

- (i) In the direction of fire and ~~potential~~ shotfall zone, at least the maximum distance of projectile travel from designated firing positions of the estimated to occur at the facility based on the ballistics of the type of ammunition and firearms largest caliber weapon permitted to be fired for use on the range. This distance can be reduced based on an engineered study and proper mitigation which reduces the Surface Danger Zone (see Article 18-207A for a diagram and definition of Surface Danger Zone), but except where noted below shall not be closer than 1,320 feet from residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, County townsites, designated recreational trails, open space areas where off-trail use is allowed, designated campgrounds whether public or private, and/or any other potential hazards as identified through ~~special~~ Special use Use review Review review. This The 1,320 foot setback may be reduced with a signed agreement with neighboring property owners within 1,320 feet. In all other directions, the boundary of any outdoor shooting area shall be no closer than 400 feet from residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, County townsites, recreational trails, open space areas where off-trail use is allowed, designated campgrounds whether public or private, and/or any other potential hazards as identified through special use review. During the review process, a proposed decreased or This distance may be increased in spatial requirements may be considered based on range design, operational plans, topographic features, and noise studies, and/or manmade improvements, including but not limited to backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which provide sufficient safety measures to protect adjacent properties. during the review process.
- (ii) Default zoning district setbacks are applicable to office, restrooms, classroom space, or other related range areas-facilities where weapons are not being fired.

Table 4-510-A-5-a-i Setback Summary

Setbacks	Minimum Distance
Direction of fire and/or shotfall zone	<ul style="list-style-type: none"> • maximum distance of projectile travel unless mitigated • no closer than 1,320 feet from the list defined in 4-510-A-5-a-i
All other directions	<ul style="list-style-type: none"> • no closer than 400 feet from the list defined in 4-510-A-5-a-i
Office, restrooms, classroom space, or other related range areas where weapons are not being fired.	<ul style="list-style-type: none"> • Default zoning district setbacks

4-602 Special Provisions - (new criteria/development standards)

AF. Special Review for Firing Range, outdoor-Outdoor use

1. In addition to satisfying the special use criteria of Section 4-601, tThe following standards shall apply to the development of proposed outdoor firing ranges upon application for a special use permit. The County may vary from these standards where the applicant has demonstrated, and a professional engineer registered in the State of Colorado or other equally qualified individual

~~County approved engineer~~ has verified, that the proposed facility includes alternative designs and features, either natural or manmade, that will otherwise mitigate the potential adverse impacts to the health, safety and welfare of owners or users of ~~neighboring adjacent neighboring~~ properties and the general public. The County may also impose stricter standards based on range design, environmental resources and other site specific factors.

a. Range Design

(i) Pistol and Rifle Firing Ranges. Pistol and rifle firing range design shall include sufficient land area under control of the applicant for the ~~S~~surface ~~d~~Danger ~~Z~~zone (~~direct fire zone, safety zones, and ricochet zones~~) to accommodate the ballistics of the highest powered firearms and ~~ammunition~~the range of ammunition that may be used in the permitted firing activities, to be used on the range. Such geographic areas shall be designed based on industry-accepted range design guidelines, standards, and best practices. Such spatial requirements may be reduced in consideration of natural topographic features or manmade improvements, including but not limited to, backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which will provide sufficient safety measures to protect persons or adjacent properties. The range design and operation will dictate the Surface Danger Zone. The Surface Danger Zone which will, in turn, affect setback distances. The range design and operation will impact the setbacks through defining the Surface Danger Zone.

(ii) Shotgun Ranges. Trap ranges shall have a shotfall zone on property under control of the applicant, as established by a line which extends 50 yards to the right and 50 yards to the left of, and perpendicular to, the centerline of the trap house. From each end of said line, boundary lines having interior angles of 130 degrees shall extend down range for at least 300 yards with the actual distance determined by the maximum distance of the full range of ammunition and firearms permitted for use on the range. Skeet ranges shall have shotfall zones on property under control of the applicant which are a complete semi-circle with its center point located at the center point of a defined station and a radius of the semi-circle being at least 300 yards with the actual distance determined by the maximum distance of the full range of ammunition and firearms permitted for use on the range. Shotfall zones for trap live--bird simulators, sporting clays, or other shotgun firing ranges shall be determined on a case-by-case basis.

b. Security. The entire perimeter of a Firing Range shall be fenced and signed to reduce the potential for trespass onto the property. In some areas topography or natural barriers may make fence placement unnecessary. In addition, warning signs identifying the range shall be posted around the perimeter of the parcel or parcels on which the ~~shooting firing~~ range is located such that each sign is visible and legible from the next sign (generally 200 yards but more frequently placed, depending on topography and vegetation). ~~Fencing where~~ Where wildlife is a concern, fencing should be designed and installed to be wildlife safe while maintaining all measures to secure a firing range and reduce potential for trespass on the property.

c. Parking. At a minimum, there shall be 1.5 parking places for each firing position.

d. Noise. All firing line locations shall be located and maintained such that the sound levels generated by the discharge of firearms on the range do not exceed a 65 dB peak impulse response at existing residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property. The applicant shall submit a noise study proving the proposed range will meet this standard at time of application. The burden of proof that the proposed range will meet this standard shall rest with the applicant. All noise studies shall be performed by a professional engineer registered in the State of Colorado or other equally qualified individual and shall take the topography of the surrounding area into account.

- e. Range Orientation. All firing lines should be aimed at target lines to the northeast, north or northwest unless there ~~is~~ sufficient screening, natural or manmade, is demonstrated to eliminate the effects of glare from the sun.
- f. All backstops shall have sufficient depth, based on industry-accepted range design guidelines, of sand or other similar soft earthen material that is free of rocks, stones and other hard objects that may result in ammunition ricochets. All manmade berms shall ~~be vegetated~~ designed to reduce the potential for erosion. ~~A manmade, mechanical backstop may be substituted upon approval.~~ All backstops and berms shall be maintained to perform their intended functions. Parallel ranges separated by bulletproof barriers or berms shall be a minimum 8 feet high. Backstops shall be a minimum 20 feet high.
- g. Firing ~~R~~ranges shall be developed such that there are no traveled roadways, trails, streams, ponds, lakes, ~~or other watercourses~~ or wetlands located within the Surface Danger Zone or within any Shotfall Zone.
- h. The developer ~~or~~ operator of the ~~firing~~ Firing range facility shall provide to the Land Use Department, at the time of application for the building permit final inspection, a certification prepared by a professional engineer registered in the State of Colorado or other equally qualified individual Colorado registered engineer confirming that the ~~firing~~ Firing range facility has an ~~environmental~~ Environmental stewardship Stewardship plan. The ~~environmental~~ Environmental stewardship Stewardship plan may include semi-annual soil and water sampling, regular liming of the soil to prevent lead migration, reclamation and recycling of expelled ammunition and lead, and must comply with the Best Management Practices, specifically relating to lead management, as specified by the Environmental Protection Agency's (EPA's) most current edition of Best Management Practices for Lead at Outdoor Shooting Ranges.
- i. Operational Requirements
 - (i) Hours of operation will be limited to the hours between 7:00 a.m. to 7:00 p.m. with the exception of shooting for educational or law enforcement activities which will be allowed until 9 p.m. ~~up to~~ one day per week, unless more restrictive hours are necessary to address impacts to neighboring areas. Trainings areas are allowed to remain in operation up to two hours past sunset for up to five days per month.
 - (ii) Alcohol or drugs must not be permitted on site.
 - (iii) No tracer rounds or incendiary rounds permitted.
 - (iv) A Fire Safety and Response Plan must be filed and approved by the local fire protection district and Sheriff as part of the development agreement.
~~(v)(i) Safety Plan must be filed and approved with Land Use Department and the Sheriff and range rules posted.~~
 - ~~(vi)(v)~~ (v) At each ~~firing~~ Firing range, there shall be operational large fire extinguisher(s), always immediately available for emergency use, stored at all shooting and target ~~areas~~ area. Number of extinguishers to be determined during the ~~special~~ Special use ~~Use review~~ Review process.
 - ~~(vi)~~ (vi) On site emergency communication system required.
 - ~~(vii)~~ (vii) A Safety Plan must be filed with and approved withby the Land Use Department and the Sheriff and range rules must be posted on site.
 - ~~(i)~~ (i) Supervision. In order to considerTo receive a reduction in 12`22 `: (1) a firing range shall have at least one trained safety officer present when open to the public and (2) a range member who has passed the minimum training requirements of the range shall be present when the facility is closed to the public.,
 - ~~(viii)(viii)~~ (viii) Through the Special Review process the Board of County Commissioners (BOCC) may require periodic reviews to assure effective monitoring and operation of

the range to protect the health and safety of those in the area and to ensure compliance with the ~~Special Use Review~~ approval. If at any time the BOCC finds the operation does not meet the design or operational expectations, they may modify existing conditions or impose additional conditions to address concerns including, without limitation, requiring on-site range staff, cameras, or corrective design measures.

j. Enforcement.

(i) ~~Shooting-Firing~~ range noise ~~ordinance~~-violations will be enforced if the following criteria are met:

1. A civil action or criminal penalty shall ~~only not~~ be ~~sought-commenced~~ against an approved range or its owners or operators ~~following a written complaint from a resident of Boulder County. based on the grounds for commencing civil action or penalty include of~~ noise in excess of permitted levels emanating from ~~such a~~ range that results from the operation or use of the range ~~only upon a written complaint from a resident of Boulder County.~~
2. Written complaints must contain the name and address of the complainant, how long the complainant has resided at the address indicated, and the times and dates upon which the alleged excessive noise occurred. Enforceable complaints must meet the criteria of C.R.S. § 25-12-109, as amended.

(ii) Notwithstanding ~~4-602(F)1.j(i)~~ above, any other ~~of the~~ provisions of this section may be enforced under Article 17 of the Code, or by any legal or equitable means recognized by the Colorado State Statutes and the Colorado Court Rules, as amended.

k. Any future expansion that results in additional firing positions, ~~such as but not limited to including without limitation~~ a lengthened daily period of operations or ~~increasing-increased~~ the length of the direct fire zone or the area of the shotfall zone ~~in order~~ to accommodate the use of firearms not identified in the then-existing ~~special-Special Use~~ permit application ~~would will constitutes~~ a substantial modification under 4-603 of ~~this the~~ Code. ~~Changes that would are not be considered a substantial modification and would be considered are routine maintenance include simple, small-scale activities (i.e., repairing structures such that a building permit is not required under the county eCode) associated with regular (daily, weekly, monthly, etc.) and general upkeep of an existing building, firing line, target line, parking lots, etc. Routine maintenance activities are associated with maintaining a facility, not expansion or new construction.~~

Attachment B

STAFF COMMENTS ON REFERRAL RESPONSES AND PUBLIC COMMENTS (received prior the October 19, 2016 Planning Commission Public Hearing):

An initial draft of the proposed text amendments was sent out for referrals and public comment on August 8, 2016. Below is a summary of the comments received, along with discussion of and rationale for revisions made by staff in response to the comments. The attachment contains a complete package of comments from referrals and members of the public.

Public comments regarding potential locations of firing ranges in Boulder County have been passed on to Garry Sanfacon, the Boulder County representative for the Northern Front Range Recreational Sport Shooting Management Partnership. These comments are included in the attachment since they were received during the referral process for the code amendment.

Referral comments resulting in revisions to the proposed text amendments:

A strike-through format is utilized to denote language that was deleted from the original proposal and an underline format is utilized to indicate where staff made changes or additions for the draft presented to Planning Commission on October 19, 2016.

- Staff made formatting updates and small text edits based on comments received during the referral process.
- Staff received a request to “recognize that site-specific factors may require the County to impose additional restrictions on a firing range.”
 - o Staff added “expanded” to the sentence “*Spatial requirements may be reduced or expanded in consideration of...*” under the definition of Surface Danger Zone in Article 18.
 - o This sentence was added to 4-602.F: *The County may also impose stricter standards based on range design, environmental resources and other site specific criteria.*
- 4-510.A.1: Per a referral comment from Boulder County Parks and Open Space, staff removed archery under Firing Range, Outdoor definition. Archery will remain under the outdoor recreation category in the Land Use Code.
- 4-510.A.5.a.i: One commenter pointed out that the proposed language only included the setback from the edge of the shotfall zone. The commenter suggested language which staff adjusted based on other comments and staff analysis. The language below was added to this section.
 - o *... In all other directions, the boundary of any outdoor shooting area shall be no closer than 400 feet from residential (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, County townsites, recreational trails, known or identified social trails as identified in the site review process, open space areas where off-trail use is allowed, designated campgrounds whether public or private, and/or any other potential hazards as identified through special use review. This distance may be increased based on range design and noise studies during the review process.*
- 4-510.A.5.a(i): One comment raised concern with how this sentence was originally phrased. It is possible that a potentially affected resident may not be an adjoining property owner, depending on the location of the property lines. The language was changed as follows: *This setback may be reduced with a signed agreement with property owners within 1,320 feet* ~~*with the adjoining property owner.*~~
- 4-510.A.5.a(ii): Boulder County Parks and Open Space suggested adding “*open space areas where off-trail use is allowed*” to the list of required setbacks and staff accepted the addition.

- 4-602.F.1.b: Staff accepted a suggestion to add the underlined language to the following sentence: *“Fencing where wildlife is a concern should be designed and installed to be wildlife safe while maintaining all measures to secure a firing range and reduce potential for trespass on the property.”*
- 4-602.F.1.d(i): Staff agreed with the suggested underlined insertion: *“...All noise studies shall be performed by a professional engineer registered in the State of Colorado or other equally qualified individual.”* As with other land use processes, it is the applicant’s responsibility to prove that the engineer is qualified.
- 4-602.F.1.h: There was a comment asking how this provision would be enforced. The provision reads as follows: *“The developer/operator of the firing range facility shall provide to the Land Use Department at the time of application for the building permit final inspection a certification prepared by a Colorado registered engineer that the firing range facility has an environmental stewardship plan. The environmental stewardship plan may include semi-annual soil and water sampling, regular liming of the soil to prevent lead migration, reclamation and recycling of expelled ammunition and lead, and must comply with the Best Management Practices, specifically relating to lead management, as specified by the Environmental Protection Agency’s (EPA’s) most current edition of Best Management Practices for Lead at Outdoor Shooting Ranges.”*
 - o Staff added language to 4-602.F.1.i(viii) as shown in underlined in the bullet point (and to ensure compliance with the special review approval).
 - o Additional language is not needed as this would be treated consistently with how the Land Use Department enforces noxious weed management plans, revegetation plans, and construction best practices.
- 4-602.F.1.i: One commenter suggested including language requiring fire extinguishers. Staff slightly modified the suggestion and proposes the following language: *“At each firing range, there shall be operational large fire extinguisher(s), always immediately available for emergency use, stored at all shooting and target area. Number of extinguishers to be determined during the site review process.”* Staff added the second sentence to address the concern that the number of firing extinguishers would need to increase with the size of the shooting range.
- 4-602.F.1.i(viii): Based on comments during the referral period, staff made the following underlined changes: *“Through the Special Review process the Board of County Commissioners (BOCC) may require periodic reviews to assure effective monitoring and operation of the range to protect the health and safety of those in the area and to ensure compliance with the special review approval. If at any time the BOCC finds the operation does not meet the design or operational expectations, they may modify existing conditions or impose additional conditions to address concerns including, without limitation, requiring on site range staff, cameras, or corrective design measures.”*
- One comment suggested adding “environmental stewardship plan” to the end of the first sentence. Staff chose the language above since the site plan in the special review approval would include an environmental stewardship plan.
- 4-602.F.1.j.(i)(A): Staff removed the language summarizing C.R.S. § 25-12-109 per a public comment which pointed out if the statute changed, the code would also have to be updated. Staff edited the text as shown: *“Written complaints must contain the name and address of the complainant, how long the complainant has resided at the address indicated, and the times and dates upon which the alleged excessive noise occurred. Enforceable complaints must meet the criteria of Complainants must have established residence within Boulder County on or before January 1, 1985. See C.R.S. § 25-12-109, as amended.”*
- 4-602.F.1.c: Boulder County Transportation provided the number of parking spaces required.

Referral comments not resulting in revisions to the proposed text amendments:

Underlined language denotes additions requested through the referral period that staff chose not to move forward with for the reasons summarized below. Italicized language is the language proposed by staff to the Planning Commission on October 19, 2016.

- One commenter suggested adding a limit to type and size of firearms used. Staff confirmed that this is covered under the definition of the Surface Danger Zone in Article 18 in the following sentence: “...*The boundaries of the zone (i.e., the length of the range and the width of the firing point or points) accommodate the ballistics of the highest powered firearms, and the range of ammunition that may be used in the permitted firing activities....*”
- 4-510.A.1: One commenter suggested subjecting all shooting to the requirements of this ordinance, including occasional shooting. Another commenter asked for more restrictions on shooting on private property. Staff further defined private property but did not extend the requirements as commenters suggested, as this may impose an undue burden on individual property owners. The provision now reads: “*The definition excludes hunting and shooting activity occurring outside of identified and approved shooting ranges, and target practice by individuals on property owned or leased by the individuals where the owner or lessee receive no compensation for the use.*”
- 4-510.A.1: Under definition of “Firing Range, Outdoor,” a commenter suggested adding the following: *A shooting "area" is distinguished from a shooting "range" by virtue of the latter having an on-site range manager available during hours of operation. With respect to these regulations, unless otherwise noted, a shooting area is equivalent to a shooting range.* Staff chose not to use this recommendation since shooting range and shooting area are treated equally within the code.
- 4-510.A.5.a.ii: Staff received a few comments about increasing the setback distances from fire and shotfall zones. After comparing the distances with other codes and adding the provision allowing the distances to be reduced or increased by range design and topographic factors, staff decided to keep the proposed distances.
- 4-510.A.5.a: One commenter suggested adding this additional provision - *The boundary of any shooting area shall be situated no closer than 1,760 feet (1/3 mile) from (a) any adjacent public or private property subject to conservation easement(s), whether any such easement is publicly or privately held; and/or (b) any county-mapped or otherwise substantive wildlife migration corridor situated on either public or private property.* These items are addressed through development review, so additional language is not needed. Setbacks are covered under Article 4-510.A.1 and are reviewed during the Special Use Review.
- 4-602.F.1.a(i): After consideration by staff, the following suggested language in underline was not added to this provision: “*Such geographic areas shall be based on industry-accepted range design guidelines, standards, and best practices, including but not limited to those established by the U.S. Department of Defense, Department of Energy, and other federal agencies.* Staff decided that it was possible these resources might not be available over time and other private resources exist as well. It is up to the applicant to demonstrate that their range design meets industry-accepted standards.
- 4-602.F.1.a(ii): One commenter expressed concern about the distance included in this provision: “*Shotgun Ranges. Trap ranges shall have a shotfall zone on property under control of the applicant, as established by a line which extends 50 yards to the right and 50 yards to the left of, and perpendicular to, the centerline of the trap house. From each end of said line, boundary lines having interior angles of 130 degrees shall extend down range for 300 yards...*” Based on the codes of other jurisdictions, staff is comfortable with 300 yards as a minimum distance, since this will also be reviewed as part of the special use review process.
- 4-602.F.1.d(i): Some of the referral responses said that 65dB was too high for a peak impulse response to firearm discharge and requested 50dB with a lower threshold at night. Staff compared

this level to that in other codes, tested decibel readings at various distances, and visited firing ranges. Noise concerns will be evaluated during the Special Use Review.

- 4-602.F.1.d(i): One commenter suggested adding the underlined portion to this section of the code in regard to noise studies: Prior to construction, the burden of proof that the proposed range will meet this standard shall rest with the applicant. The additional language is not necessary as this is already part of the review process and checking the as-built.
- 4-602.F.1.d(i): One comment suggested adding the following sentence to the end of this provision: “Acoustical tests must be performed on any proposed site prior to development.” Staff decided that the previous sentence regarding noise studies covered this.
- 4-602.F.1.d: One commenter suggested adding the following provision to this section: “Post construction and during hours of operation, a firing range, whether outdoor or indoor, shall have at least one active dB sound level monitor placed appropriately at or near firing positions, whose sound levels are recorded and immediately available to all shooters on-site as well as available publicly. All firing ranges shall post prominently visible and legible signage explaining decibel threshold levels and time durations beyond which harm, whether temporary or permanent, to unprotected human hearing occurs.” Staff chose not to move forward with changes in response to this suggestion for the following reasons: sound levels at the muzzle of a gun measure at about 159-169 dB(A)¹; most firing ranges require hearing protection; staff could not find an example of this type of set-up; and decibel readers at the location may lead a user to think that hearing protection is optional.
- 4-602.F.1.d: One commenter suggested this additional provision: Any outdoor firing range whose shooting area is situated within one mile of any school, lodging or other occupiable or occupied structures not on the subject property (including any religious facility or retreat), residence (permanent or seasonal), public park or open space, property under conservation easement, campsites (either private or public, whether dispersed or officially maintained), or recreational trails (either private or public), shall operate on no more than three of the days between Monday and Friday (inclusive), and shall operate only every other weekend otherwise, subject to the exemption that no earlier than one year after start of operation, a firing range for which in the previous year there have been no verifiable noise complaints or violations of the property line peak impulse response limit of Section F-4-a herein shall be permitted to operate during any day of the week. Staff chose not to include this as there are already locational provisions in 4-510.A.5, the requirements would be too difficult to enforce, and 4-602.F.1.i(viii) allows the County to modify conditions if there are issues.
- 4-602.F.1.g: Staff chose not to include the following suggested underlined addition as appropriate setbacks will be reviewed during the special use review. “Firing ranges shall be developed such that there are no traveled roadways, trails, streams, ponds, lakes, or other watercourses or wetlands located within the Surface Danger Zone or within any Shotfall Zone or within 1320 feet in any other direction.”
- 4-602.F.1.h: There was a suggestion to add the underlined sentence to the end of this provision: The developer/operator of the firing range facility shall provide to the Land Use Department at the time of application for the building permit final inspection a certification prepared by a Colorado registered engineer that the firing range facility has an environmental stewardship plan...Prior to development of the firing range, the developer/operator shall remediate any existing environmental hazards or pollution, including lead and other wastes or conditions, posing risks to human health or the environment. Staff chose not to include this because it is too broad, and staff would review these items and set conditions if needed during special use review.
- 4-602.F.1.i(viii): One comment suggested having on-site supervisors present during all hours of operation. Staff chose not to include this as an initial requirement as it is too burdensome.
- 4-602.F.1.j(i): There were a few comments on this section. Staff chose not to include a third provision which was suggested as follows: The County shall maintain records of all noise and/or other complaints concerning any shooting range or area, regardless of whether the County has

an enforcement right under C.R.S. § 25-12-109, as amended. Such records shall be available to the public as long as the shooting range or area remains in operation, or remains temporarily closed, and shall be kept for no less than 10 years after permanent closure. Staff chose not to include this language; the Boulder County Sheriff's Department logs noise complaints, and Land Use staff records land use complaints that are enforceable under C.R.S. § 25-12-109.

ⁱ Murphy, W.J. & Tubbs, R.L. (March 2003). NIOSH Health Hazards Evaluation Report: Fort Collins Police Services. *Centers for Disease Control, National Institute for Safety and Health, HETA #2002-0131-2898* (pp. iii). Retrieved from <https://www.cdc.gov/niosh/hhe/reports/pdfs/2002-0131-2898.pdf>, Nov. 2016 after a public comment siting the study at the October 19, 2016 Planning Commission Public Hearing.

DC-15-0003

Referrals and Public Comments

Submitted prior to the
Planning Commission Hearing
on October 19, 2016

From: [Bernard Cyr](#)
To: [Case, Dale](#)
Cc: [Dianna Osborn](#)
Subject: Questions and comments regarding Docket DC-15-0003
Date: Wednesday, August 24, 2016 2:54:47 PM

To: Dale Case

From: Bernard Cyr, bcyrious@gmail.com, 14587 N 83rd St, Longmont, CO 80503

Re: Questions and comments regarding *Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges*

Dale,

Regarding the "Definition A" of "Article 4-510- I. Firing Range, Outdoor" of *Docket DC-15-0003*:

1. What frequency and duration of shooting constitutes "occasional target practice by individuals on property owned or leased by the individuals"?
2. Does once per week for 1 to 1 1/2 hours qualify as "occasional target practice"?
3. Must an individual who owns or leases the property be present during the shooting?

I strongly believe that once per week for 1 hour or more should define the land usage as a "Firing Range, Outdoor" according to the above cited article and that such land usage should be subject to all the article provisions and requirements for a "Firing Range".

In addition, I believe that all land usage for outdoor shooting, including "occasional target practice", should be subject to the requirements of "Article 4-510- I. Firing Range, Outdoor E. Additional Provisions: 1. Shooting and target area setbacks". Please explain why all shooting should not at least be subject to these safety provisions?

Thank you for your attention to these questions and comments,

Bernard Cyr

bcyrious@gmail.com

14587 N 83rd St, Longmont, CO 80503

From: [Riley, Anita A.](#)
To: [Case, Dale](#)
Cc: [Thomas, Mike](#)
Subject: RE: Referral packet for Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges
Date: Tuesday, August 30, 2016 8:59:11 AM
Attachments: [DC-15-0003 Text Amendments Regarding Firing Ranges.doc](#)

Dale,

Attached is the Transportation Department referral response for the above referenced docket.
Thanks.

Anita Riley, Senior Planner
Boulder County Transportation Department
PO Box 471, Boulder, CO 80306
(303) 441-4581
aariley@bouldercounty.org

From: Milner, Anna
Sent: Monday, August 08, 2016 3:25 PM
To: Carson Hatcher, Mindy; Flax, Ron; Goodell, Gary; HealthWaterQuality-EnvironmentalBP LU; Hippely, Hannah; James, Brian; Riley, Anita A.; Sanchez, Kimberly; Schroeder, Chad; Swirhun, Lesley; Thomas, Mike; West, Ron; Willits, Amelia; #CAreferral; Wagner, Mike; ranger298@coloradoranger.org; paulc@nederlandco.org; editorsof@aol.com; Sanfacon, Garry; Buckles, Kristina; Lombardi, Alicia
Cc: Case, Dale
Subject: Referral packet for Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges

Please find attached the electronic Referral packet for ***Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges.***

Responses should be returned by **August 31, 2016.** (Boulder County internal departments and agencies: Please attach the referral comments in Accela.) Please direct any questions to [Dale Case](#).

Best Regards,
Anna

Anna Milner

Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)



Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

August 30, 2016

TO: Dale Case, Director, Land Use Department

FROM: Anita Riley, Senior Planner

SUBJECT: Docket #DC-15-0003: Proposed Boulder County Land Use Code
Amendments to Article 4 and Article 18 regarding firing ranges

The Transportation Department has reviewed the above referenced docket and finds no conflicts. Staff does suggest that a minimum parking requirement of 1.5 spaces per firing position be considered. It appears to be consistent with a number of jurisdictions that recognize this use and is consistent with neighboring Jefferson County.

This concludes our comments at this time.

From: [Wobus, Nicole](#)
To: [Oeth, Amy](#)
Subject: FW: Ask a Planner - Web inquiry from David Swoboda - Docket DC-15-0003
Date: Thursday, September 01, 2016 8:52:48 AM

-----Original Message-----

From: Ask A Planner [<mailto:no-reply@wufoo.com>]
Sent: Tuesday, August 30, 2016 12:37 AM
To: #LandUsePlanner
Subject: Ask a Planner - Web inquiry from David Swoboda - Docket DC-15-0003

If your comments are regarding a specific docket, please enter the docket number: Docket DC-15-0003
Name: David Swoboda
Email Address: dfswoboda@aol.com
Phone Number: (303) 938-9978
Please enter your question or comment: Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges

Section 4-602.F.4

I question the following:

All noise studies shall be performed by a professional engineer registered in the State of Colorado or other qualified individual.

"other qualified individual" is unacceptably vague and should be deleted. Without identifying what "qualified" means this eliminates any qualification whatsoever.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-15-0003: Proposed Boulder County Land Use Code Amendments to Article 4 and Article 18 regarding firing ranges

Request: Land Use Code Text amendments drafting a use definition for firing or shooting range and related definition and process changes. (Staff planners: Amy Oeth and Dale Case)

Dear Stakeholder/Interested Party,

On June 9, 2015, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to firing ranges. This is the initial referral draft of the proposed regulations. We value your comments and ideas for improvement.

Why: The present regulations do not offer enough protections to health and safety and thus, the County has drafted the attached regulatory amendments.

A collaborative effort to address issues around dispersed shooting in the mountains along the Front Range has been ongoing for several years. The stated purpose of the collaborative effort is:

To develop a landscape-level, multi-jurisdictional strategy to provide safe, responsible and accessible recreational sport shooting opportunities while addressing conflicts near residential areas and with other recreation users across the northern Colorado Front Range.

The County's partners in this effort are U.S Forest Service, Arapaho & Roosevelt National Forests and Pawnee National Grassland, Colorado Parks & Wildlife, Northeast Region, Boulder County, Clear Creek County, Gilpin County, and Larimer County.

The County recognizes the potential impacts to residents and recreational users in any area near a proposed range. However, the County is also deeply concerned with the impacts of dispersed shooting on the safety and the general ability of members of the public to enjoy the outdoors. Dedicated locations with proper safety and noise requirements would better protect values and allow the Forest Service to reduce the areas available for dispersed shooting.

In order to provide shooting opportunities as identified above, each of the involved partner counties agree to present at least one option for a shooting or firing range.

Boulder County has not yet decided on any particular site, although there are five on Forest Service Land which are under preliminary consideration. This regulatory amendment is to address the unique issues a shooting range use presents from a land use perspective. The current draft regulations would permit a shooting range by right in Transitional, Business, Commercial, Light Industrial, and General Industrial Zoning Districts. And it could be allowed through Special Review in Forestry, Agricultural and Mountain Institutional Zoning Districts.

This initial referral draft is to garner feedback and make necessary changes to the draft before it starts the public hearing process.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <http://www.bouldercounty.org/property/build/pages/lucodeupdatedc150003.aspx>

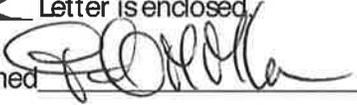
The docket review process for the proposed amendments will include a public hearing before the Boulder County Planning Commission, tentatively scheduled for September 21, 2016, and a public hearing before the Boulder County Board of County Commissioners, to be scheduled within a month or two after Planning Commission. Public comments will be taken at both hearings. Confirmation of hearing dates and times will be published online at the link above and in local newspapers.

The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930. dcase@bouldercounty.org or aoeth@bouldercounty.org.

Please return responses to the above address by August 31, 2016. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed  PRINTED Name DOUGLAS MCKENNA

Agency or Address 1140 LINDEN AVE BOULDER CO 80304

From: [Douglas McKenna](#)
To: [Case, Dale](#)
Subject: Substantive Comments on Docket DC-15-0003 (draft "Firing Range Regulations")
Date: Wednesday, August 31, 2016 9:50:05 AM

Dale Case
Boulder County Land Use Dept.
2045 13th Street
Boulder, Colorado 80302

August 31, 2016

by Hand Delivery and eMail

Re: Proposed Outdoor Shooting Area/Range Regulations

Dear Mr. Case,

I have reviewed the draft regulations for shooting ranges/areas, and would like to provide the following corrections, suggestions, and comments. I have submitted these in writing to your office, and sent this by email, so that you may benefit from any cutting and pasting using the latter email text.

To synopsise, the primary issues that concern me are that: (1) there is nothing concerning setbacks in directions other than the direction of shooting; (2) there is no special setback protection for adjacent properties that have been protected by conservation easement, nor (3) for substantive wildlife migration corridors already mapped by the county. Also, (4) why are private trail systems or private campsites not protected as much as public ones? (Yes, such private trails/campsites exist). (5) All outdoor firing ranges within one mile earshot of others should be permitted to operate only half the time to give noise respite to others, unless the firing range can demonstrate that there have been no violations of the boundary noise limits in the past year. Operating full-time should be a privilege earned by being quiet, not a right to harm others on a year-round daily basis.

The language I've created below addresses some of these concerns.

There should also be requirements for unattended outdoor shooting areas, as opposed to attended outdoor shooting ranges.

In the following, I've created inline edits, typos, or additions. The original text of your draft is in a first pair of []s, and my changed text is inside the second pair. General comments about an adjoining text change are in {{ .. }}s. Search for "]"[" in the email version of these notes to find the edits and additional text.

Article 4-510

I. Firing Range, Outdoor

A. Definition:

A facility, including its component shooting ranges, Surface Danger Zone [][]or shotfall zones, [][]parking areas, all structures for classrooms, administrative offices, ammunition [][]or other]storage areas and other associated improvements, for which the primary use is to provide a place for the discharge of various types of firearms or [][]for]the practice of archery. [The][This] definition excludes hunting and shooting activity occurring outside of identified and approved shooting ranges, and occasional target practice by individuals on property owned or leased by the [those]individuals. [][]A shooting "area" is distinguished from a shooting "range" by virtue of the latter having an on-site range manager available during hours of operation. With respect to these regulations, unless otherwise noted, a shooting area is equivalent to a shooting range.]

...

E. Additional Provisions:

1. Shooting and target area setbacks

a. In the direction of fire and potential shotfall zone, at least the distance of travel of the largest caliber weapon to be fired. This distance can be reduced based on an engineered study and proper mitigation which reduces the Surface Danger Zone, but in no case shall it be closer than 1,320 feet from residential (whether permanent or seasonal), lodging or other occupied occupiable or occupied structures not on the subject property, a County platted subdivision, recreational trails whether public or private, and campgrounds whether public or private. This setback may be reduced with a signed agreement with the adjoining property owner.

{This setback language is ONLY with respect to one side of the shooting range, the side farthest from the shooters (downrange or shotfall zone). The language provides no setbacks whatsoever for the other (two, three, or more) sides. There is also nothing distinguishing indoor from outdoor ranges, which might have differing setbacks.}

[In all other directions, the boundary of any outdoor shooting area shall in no case be closer than 1,000 feet from residential (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, recreational trails whether public or private, and/or campgrounds whether public or private.]

[c. The boundary of any shooting area shall be situated no closer than 1760 feet (1/3 mile) from (a) any adjacent public or private property subject to conservation easement(s), whether any such easement is publicly or privately held; and/or (b) any county-mapped or otherwise substantive wildlife migration corridor situated on either public or private property.]

4-602

F-2. Security. The entire perimeter of Firing Range shall be fenced and signed to reduce the potential for trespass on to the property. In some areas topography or natural barriers may make fence placement unnecessary. In addition, warning signs identifying the range shall be posted around the perimeter of the parcel or parcels on which the shooting range is located such that each sign is visible and legible from the next (generally 200 yards but more frequently placed, depending on topography and vegetation). Fencing where wildlife is a concern should be designed and installed to be wildlife safe[.]

F-4. Noise. [a.] All firing line locations shall be located and maintained such that the sound levels generated by the discharge of firearms on the range do not exceed a 65 dB peak impulse response at the property line. [The] Prior to construction, the burden of proof that the proposed range will meet this standard shall rest with the applicant. All noise studies shall be performed by a professional engineer registered in the State of Colorado or other qualified individual.

[b. Post construction and during hours of operation, a firing range, whether outdoor or indoor, shall have at least one active dB sound level monitor placed appropriately at or near firing positions, whose sound levels are recorded and immediately available to all shooters on-site as well as available publicly. All firing ranges shall post prominently visible and legible signage explaining decibel threshold levels and time durations beyond which harm, whether temporary or permanent, to unprotected human hearing occurs.]

[c. Any outdoor firing range whose shooting area is situated within one mile of any school, lodging or other occupiable or occupied structures not on the subject property (including any religious facility or retreat), residence (permanent or seasonal), public park or open space, property under conservation easement, campsites (either private or public, whether dispersed or officially maintained), or recreational trails (either private or public), shall operate on no more than three of the days between Monday and Friday (inclusive), and shall operate only every other weekend otherwise, subject to the exemption that no earlier than one year after start of operation, a firing range for which in the previous year there have been no verifiable noise complaints or violations of the property line peak impulse response limit of Section F-4-a herein shall be permitted to operate during any day of the week.]

F-7. Firing ranges shall be developed such that there are no traveled roadways, trails, streams, ponds, lakes, or other watercourses or wetlands located [either] within the Surface Danger Zone or within any Shotfall Zone[.], or within 1320 feet in any other direction.]

F-8. The developer/operator of the firing range facility shall provide to the Land Use Department at the time of application for the building permit final inspection a certification prepared by a Colorado registered engineer that the firing range facility has an environmental stewardship plan. The environmental stewardship plan may include semi-annual soil and water sampling, regular liming of the soil to prevent lead migration, reclamation and recycling of expelled ammunition and lead, and must comply with the Best Management Practices, specifically relating to lead management, as specified by the Environmental Protection Agency's (EPA's) most current edition of Best Management Practices for Lead at Outdoor Shooting Ranges.

{{Who is in charge of enforcing this plan? How often are inspections or testing of the facility, and by whom? Is the shooting range operator required to affirm that the plan is being kept to? How often should a shooting range owner be required to demonstrate that the plan is being adhered to, and that mitigation is being accomplished? Self-enforcement won't work!}}

F-9. Operational requirements

d. Fire Safety and Response Plan [file with][filed with and approved by] local fire protection district and Sheriff.

[]h. At each shooting area or range, there shall be no less than ____ operational large fire extinguisher(s), always immediately available for emergency use, stored at both the near shooting and the far target area.]

{{The number of fire extinguishers should probably rise with the size of the shooting range, or number of simultaneous shooters it can accommodate.}}

F-10. Enforcement

a.ii. ... C.R.S. § 25-12-[109][109, as amended].

{{I don't think it's wise to incorporate verbatim the language of C.R.S. § 25-12-109, which is completely contrary to the interests of any government agency desiring to regulate harmful noise from shooting ranges on behalf of its harmed citizens. If somehow 25-12-109 changes, then Boulder County will likely be forced to amend this later on. It would be better to simply say that all county (public) enforcement is subject to the provisions in C.R.S. § 25-12-109, as amended, and leave it at that. Please also add the following ...}}

[]c. The County shall maintain records of all noise and/or other complaints concerning any shooting range or area, regardless of whether the County has an enforcement right under C.R.S. § 25-12-109, as amended, or not. Such records shall be available to the public as long as the shooting range or area remains in operation, or remains temporarily closed, and shall be kept for no less than 10 years after permanent closure.{{Suppose an operator violates all sorts of regulations and closes, only to open a new shooting range elsewhere. The public needs to know about past violations!}}

Hope this helps. Thanks.

/s/

Doug McKenna, personally
and
Doug McKenna, President
Silver Spruce Ranch, Inc.

1140 Linden Avenue
Boulder CO 80304

Email: doug@mathemaesthetics.com

Dale Case
Boulder County Land Use Dept.
2045 13th Street
Boulder, Colorado 80302

August 31, 2016

by Hand Delivery and eMail

Re: Proposed Outdoor Shooting Area/Range Regulations

Dear Mr. Case,

I have reviewed the draft regulations for shooting ranges/areas, and would like to provide the following corrections, suggestions, and comments. I have submitted these in writing to your office, and sent this by email, so that you may benefit from any cutting and pasting using the latter email text.

To synopsise, the primary issues that concern me are that: (1) there is nothing concerning setbacks in directions other than the direction of shooting; (2) there is no special setback protection for adjacent properties that have been protected by conservation easement, nor (3) for substantive wildlife migration corridors already mapped by the county. Also, (4) why are private trail systems or private campsites not protected as much as public ones? (Yes, such private trails/campsites exist). (5) All outdoor firing ranges within one mile earshot of others should be permitted to operate only half the time to give noise respite to others, unless the firing range can demonstrate that there have been no violations of the boundary noise limits in the past year. Operating full-time should be a privilege earned by being quiet, not a right to harm others on a year-round daily basis.

The language I've created below addresses some of these concerns.

There should also be requirements for unattended outdoor shooting areas, as opposed to attended outdoor shooting ranges.

In the following, I've created inline edits, typos, or additions. The original text of your draft is in a first pair of []s, and my changed text is inside the second pair. General comments about an adjoining text change are in {{ .. }}s. Search for "]"[" in the email version of these notes to find the edits and additional text.

Article 4-510

I. Firing Range, Outdoor

A. Definition:

A facility, including its component shooting ranges, Surface Danger Zone [] []or shotfall zones, [] []parking areas, all structures for classrooms, administrative offices, ammunition [] []or other []storage areas and other associated improvements, for which the primary use is to provide a place for the discharge of various types of firearms or [] []for []the practice of archery. [The][This] definition excludes hunting and shooting activity occurring outside of identified and approved shooting ranges, and occasional target

practice by individuals on property owned or leased by the [those]individuals.

[] [A shooting "area" is distinguished from a shooting "range" by virtue of the latter having an on-site range manager available during hours of operation. With respect to these regulations, unless otherwise noted, a shooting area is equivalent to a shooting range.]

...

E. Additional Provisions:

1. Shooting and target area setbacks

a. In the direction of fire and potential shotfall zone, at least the distance of travel of the largest caliber weapon to be fired. This distance can be reduced based on an engineered study and proper mitigation which reduces the Surface Danger Zone, but in no case shall it be closer than 1,320 feet from residential [] [(whether permanent or seasonal)], lodging or other [occupied] [occupiable or occupied] structures not on the subject property, a County platted subdivision, recreational trails [] [whether public or private], [and] [and/or] campgrounds [] [whether public or private]. This setback may be reduced with a signed agreement with the adjoining property owner.

{This setback language is ONLY with respect to one side of the shooting range, the side farthest from the shooters (downrange or shotfall zone). The language provides no setbacks whatsoever for the other (two, three, or more) sides. There is also nothing distinguishing indoor from outdoor ranges, which might have differing setbacks.}

[] [In all other directions, the boundary of any outdoor shooting area shall in no case be closer than 1,000 feet from residential (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, recreational trails whether public or private, and/or campgrounds whether public or private.]

[] [c. The boundary of any shooting area shall be situated no closer than 1760 feet (1/3 mile) from (a) any adjacent public or private property subject to conservation easement(s), whether any such easement is publicly or privately held; and/or (b) any county-mapped or otherwise substantive wildlife migration corridor situated on either public or private property.]

4-602

F-2. Security. The entire perimeter of Firing Range shall be fenced and signed to reduce the potential for trespass [on to] [onto] the property. In some areas topography or natural barriers may make fence placement unnecessary. In addition, warning signs identifying the range shall be posted around the perimeter of the parcel or parcels on which the shooting range is located such that each sign is visible and legible from the next (generally 200 yards but more frequently placed, depending on topography and vegetation). Fencing where wildlife is a concern should be designed and installed to be wildlife safe [] [.]

F-4. Noise. [] [a.] All firing line locations shall be located and maintained such that the sound levels generated by the discharge of firearms on the range do not exceed a 65 dB peak impulse response at [the] [any range] property line. [The] [Prior to construction, the] burden of proof that the proposed range will meet this standard shall rest with the applicant. All noise studies shall be performed by a professional engineer registered in the State of Colorado or other qualified individual.

[] [b. Post construction and during hours of operation, a firing range, whether outdoor or indoor, shall have at least one active dB sound level monitor placed appropriately at or near firing positions, whose sound levels are recorded and immediately available to all shooters on-site as well as available publicly. All firing ranges shall post prominently visible and legible signage explaining decibel threshold levels and time durations beyond which harm, whether temporary or permanent, to unprotected human hearing occurs.]

[] [c. Any outdoor firing range whose shooting area is situated within one mile of any school, lodging or other occupiable or occupied structures not on the subject property (including any religious facility or retreat), residence (permanent or seasonal), public park or open space, property under conservation easement, campsites (either private or public, whether dispersed or officially maintained), or recreational trails (either private or public), shall operate on no more than three of the days between Monday and Friday (inclusive), and shall operate only every other weekend otherwise, subject to the exemption that no earlier than one year after start of operation, a firing range for which in the previous year there have been no verifiable noise complaints or violations of the property line peak impulse response limit of Section F-4-a herein shall be permitted to operate during any day of the week.]

F-7. Firing ranges shall be developed such that there are no traveled roadways, trails, streams, ponds, lakes, or other watercourses or wetlands located [] [either] within the Surface Danger Zone or within any Shotfall Zone[.][, or within 1320 feet in any other direction.]

F-8. The developer/operator of the firing range facility shall provide to the Land Use Department at the time of application for the building permit final inspection a certification prepared by a Colorado registered engineer that the firing range facility has an environmental stewardship plan. The environmental stewardship plan may include semi-annual soil and water sampling, regular liming of the soil to prevent lead migration, reclamation and recycling of expelled ammunition and lead, and must comply with the Best Management Practices, specifically relating to lead management, as specified by the Environmental Protection Agency's (EPA's) most current edition of Best Management Practices for Lead at Outdoor Shooting Ranges.

{{Who is in charge of enforcing this plan? How often are inspections or testing of the facility, and by whom? Is the shooting range operator required to affirm that the plan is being kept to? How often should a shooting range owner be required to demonstrate that the plan is being adhered to, and that mitigation is being accomplished? Self-enforcement won't work!}}

F-9. Operational requirements

d. Fire Safety and Response Plan [file with][filed with and approved by] local fire protection district and Sheriff.

[] [h. At each shooting area or range, there shall be no less than ____ operational large fire extinguisher(s), always immediately available for emergency use, stored at both the near shooting and the far target area.]
{{The number of fire extinguishers should probably rise with the size of the shooting range, or number of simultaneous shooters it can accommodate.}}

F-10. Enforcement

a.ii. ... C.R.S. § 25-12-[109][109, as amended].
{{I don't think it's wise to incorporate verbatim the language of C.R.S. § 25-12-109, which is completely contrary to the interests of any government agency desiring to regulate harmful noise from shooting ranges on behalf of its harmed citizens. If somehow 25-12-109 changes, then Boulder County will likely be forced to amend this later on. It would be better to simply say that all county (public) enforcement is subject to the provisions in C.R.S. § 25-12-109, as amended, and leave it at that. Please also add the following ...}}

[[c. The County shall maintain records of all noise and/or other complaints concerning any shooting range or area, regardless of whether the County has an enforcement right under C.R.S. § 25-12-109, as amended, or not. Such records shall be available to the public as long as the shooting range or area remains in operation, or remains temporarily closed, and shall be kept for no less than 10 years after permanent closure.]]{{Suppose an operator violates all sorts of regulations and closes, only to open a new shooting range elsewhere. The public needs to know about past violations!}}

Hope this helps. Thanks.



Doug McKenna, personally
and
Doug McKenna, President
Silver Spruce Ranch, Inc.

1140 Linden Avenue
Boulder CO 80304

Email: doug@mathemaesthetics.com

From: [West, Ron](#)
To: [Oeth, Amy](#); [Case, Dale](#)
Subject: DC-15-0003
Date: Wednesday, August 31, 2016 3:25:02 PM
Attachments: [DC-15-0003 firing ranges.pdf](#)

Please see attached (minimal) referral.



Parks and Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303.678.6200 • Fax: 303.678.6177 • www.bouldercounty.org

TO: Amy Oeth and Dale Case, Land Use Department
FROM: Ron West, Natural Resource Planner
DATE: August 31, 2016
SUBJECT: Docket DC-15-0003, Code Amendment Regarding Firing Ranges

Staff has reviewed the submitted materials, and has limited comment, mostly editorial. Overall, the changes seem reasonable.

Article 18, Shotfall Zones – If sub-clauses are removed, the sentence reads, “The areas of a shotgun firing range where spent shotgun shot falls to the earth and where development...and human occupancy...is prohibited during active shooting.” This needs clarification. Development and occupancy are only prohibited when shooting is “active?”

Article 18, Surface Danger Zone – Should read, “...accommodate the ballistics of **the** highest....”

Article 4-150 I.A – No caps on **Surface Danger Zone**? And, shouldn’t it read, “...surface danger zone **and** [not or] shotfall zones...”? According to the LU Code version that is on-line, this should be 4-150 **J**, not I. I is already Ski Area.

Article 4-150 I.E.1.a -- Consider adding to the list of uses needing to be 1320 feet distant: “open space areas where off-trail use is allowed.”

Article 4-602 F.9.b – Should read, “Alcohol or drugs must not **be** permitted.”

Article 4-602 F.9.d – Change “file” to “must be filed.”

Archery – As written, would this preclude archery “ranges” (without any kind of structure – just a series of targets in the woods) **if** an arrow could fall outside of the boundaries of the parcel? Or, if one of the listed uses is within 1320 feet? Or, ? The archery aspect throughout the draft is cursory and vague.

From: [David Pinkow](#)
To: [Case, Dale](#)
Subject: Re: Code amendments re firing ranges
Date: Wednesday, August 31, 2016 5:33:47 PM

Dale,

Thanks very much.

Dave

On Wed, Aug 31, 2016 at 5:01 PM, Case, Dale <dcase@bouldercounty.org> wrote:

Yes. The comments are all accepted.

> On Aug 31, 2016, at 4:51 PM, David Pinkow <pinkow@gmail.com> wrote:

>

> Dale,

>

> Attached is a copy of my comments on the proposed Boulder County Land Use Code Amendments regarding firing ranges. I attempted to hand deliver a hard copy of my comments to your office, but found the office had closed at 11 AM owing to a staff function. Consequently, I slid the hard copy under the door--I hope they are delivered to you.

>

> The reason for a hard copy is that I appended a CD recording of firearms shooting at the old Allenspark Dumpsite that I thought would be enlightening for you to hear.

>

> I hope that you will accept my comments as having been submitted by the deadline of August 31, 2016.

>

> Thank you very much.

>

> Sincerely,

>

> David Pinkow

> <D Pinkow to BOCO Land Use 16-8-31 re firing ranges.pdf>

2815 Heidelberg Dr.
Boulder, CO 80305
August 31, 2016

Mr. Dale Case
Boulder County Land Use
2045 13th St.
Boulder, CO 80302

Dear Director Case,

Thank you for the opportunity to comment on the proposed Boulder County Land Use Code Amendments regarding firing ranges.

I appreciate the thoughtful manner in which Boulder County has approached writing these amendments, which draw on concepts, terminology and standards adopted by recognized authorities experienced in shooting-range design. That Boulder County has recognized the importance of defining such things as surface-danger, shot-fall and ricochet zones is gratifying.

It is heartening to note several areas in the proposed amendments where evaluation and standards are to be adjudicated by a qualified professional engineer. However, the requirements are weakened in Article 4-602 F, 4 with the reference to an “other qualified individual.” Lacking the mention of any particular qualification, the impact of this statement is considerably weakened. I would like to suggest strengthening the statement at least by stipulating “other equally qualified individual.”

Regarding the areas to be used for skeet shooting, BOCO should be aware that the range of 00 shot is over 2,500 feet at altitudes being considered for shooting ranges. A shotfall zone of 300 yards is inadequate. Altitude makes a significant difference in the distance a projectile will travel. Effective altitude is measured according to “density altitude,” which is greatly affected by temperature. On a hot day, density altitude can exceed 12,000 feet at a true altitude of 8,000 feet. Since the range of shot is determined in part by its size, BOCO should consider defining the size of allowable shot and reconsider the size of its proposed shotfall zones.

Both safety and noise are affected by the size and type of firearms utilized. I would urge BOCO to establish limits on both the caliber and capability of allowable firearms. Personally, I cannot ascribe any redeeming value to the firing a 50-caliber automatic machine gun for recreational purposes—something that was not uncommon at the old Allenspark Dump Site, when it was utilized as a location for dispersed recreational shooting.

Use of the term “occupied” structures is ambiguous. The US Forest Service restricts shooting within 150 yards of a “residence or building.” I think those are better terms.

Range orientation. Restriction of range orientation to “north only” is unnecessary. I have visited the Green Mill Sportsman’s Club in Erie, CO, where the orientation of all ranges is to the south. The ranges at that club are well constructed and very popular.

Regarding noise propagation and attenuation: It is of the utmost importance that sophisticated sound tests be performed at any site prior to its serious consideration as a shooting range. Topography of the area is an important consideration—for both safety and projection of unwanted noise. Simply taking a decibel reading a property boundary is not adequate. For example, owing to obstructions, rises and dips in terrain or other anomalies, noise may project at a much greater intensity at an elevation other than ground level. As a result of their topical features, some locals may inherently develop a greater resonance or echo than others.

I am submitting, as part of these comments, a recording of firearms discharged at the old Allenspark Dumpsite along with a map depicting locations of recording and shooting activity. No artificial enhancement or addition of resonance was made to the recordings.

The recording may also serve as a comparison to the projection of noise at the Green Mill Sportsman's Club in Erie, CO, where the surrounding terrain is basically flat, and there are twenty-foot berms surrounding each of the individual shooting venues. I understand that representatives of Boulder County have visited that site.

I am fully aware of Colorado Revised Statute 25-12-109, which limits the ability of individuals and municipalities to challenge or restrict the amount of noise emanating from qualifying sport shooting ranges. Once a shooting range has been approved for a particular locale, there will be little flexibility in regulation of the noise emanating from that venue.

This is to inform you that I fully support the comments being submitted on behalf the Glacier View Neighbors' Association by attorney John Putnam of the firm Kaplan, Kirsch and Rockwell.

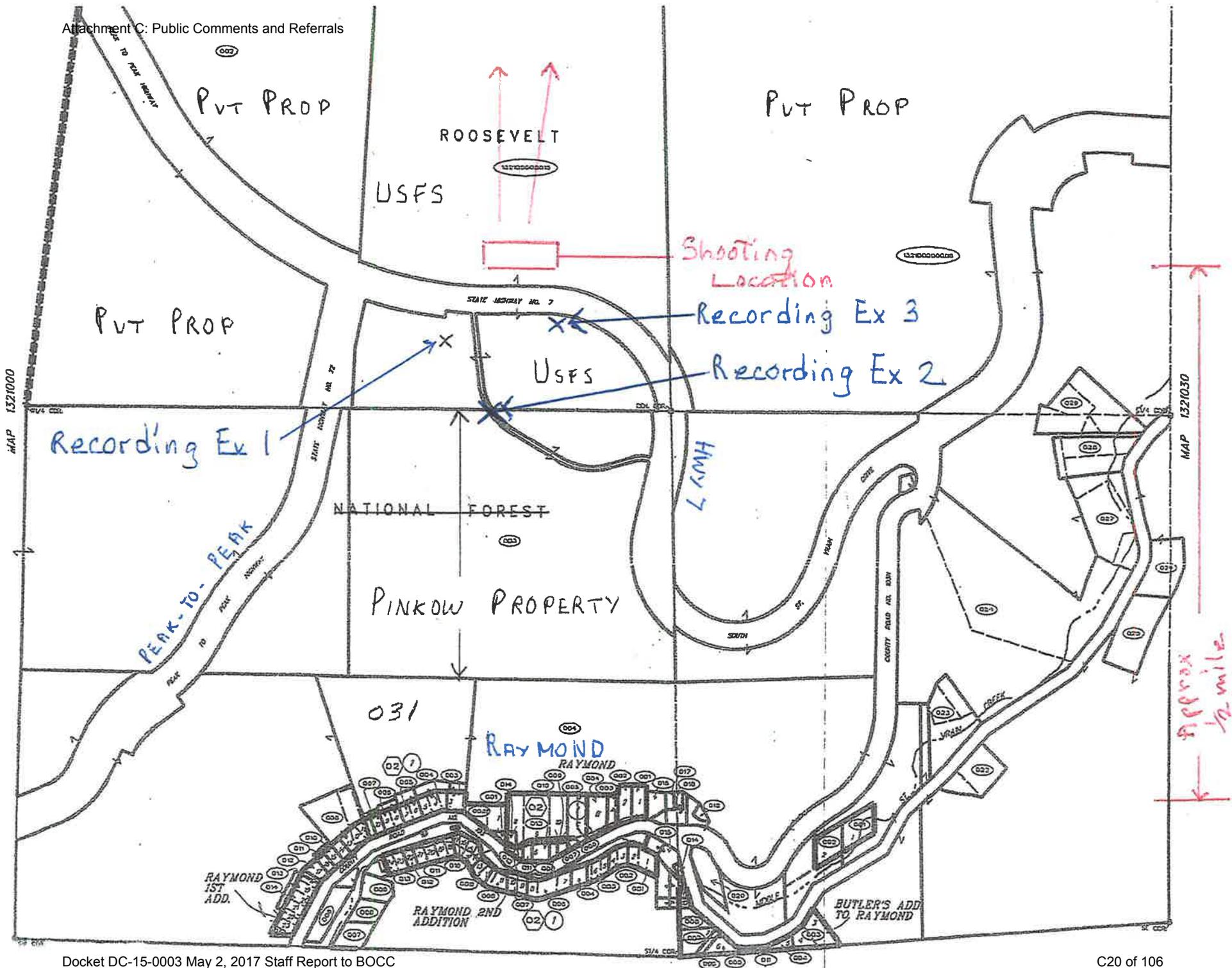
Thank you again for inviting comments on the proposed land use changes.

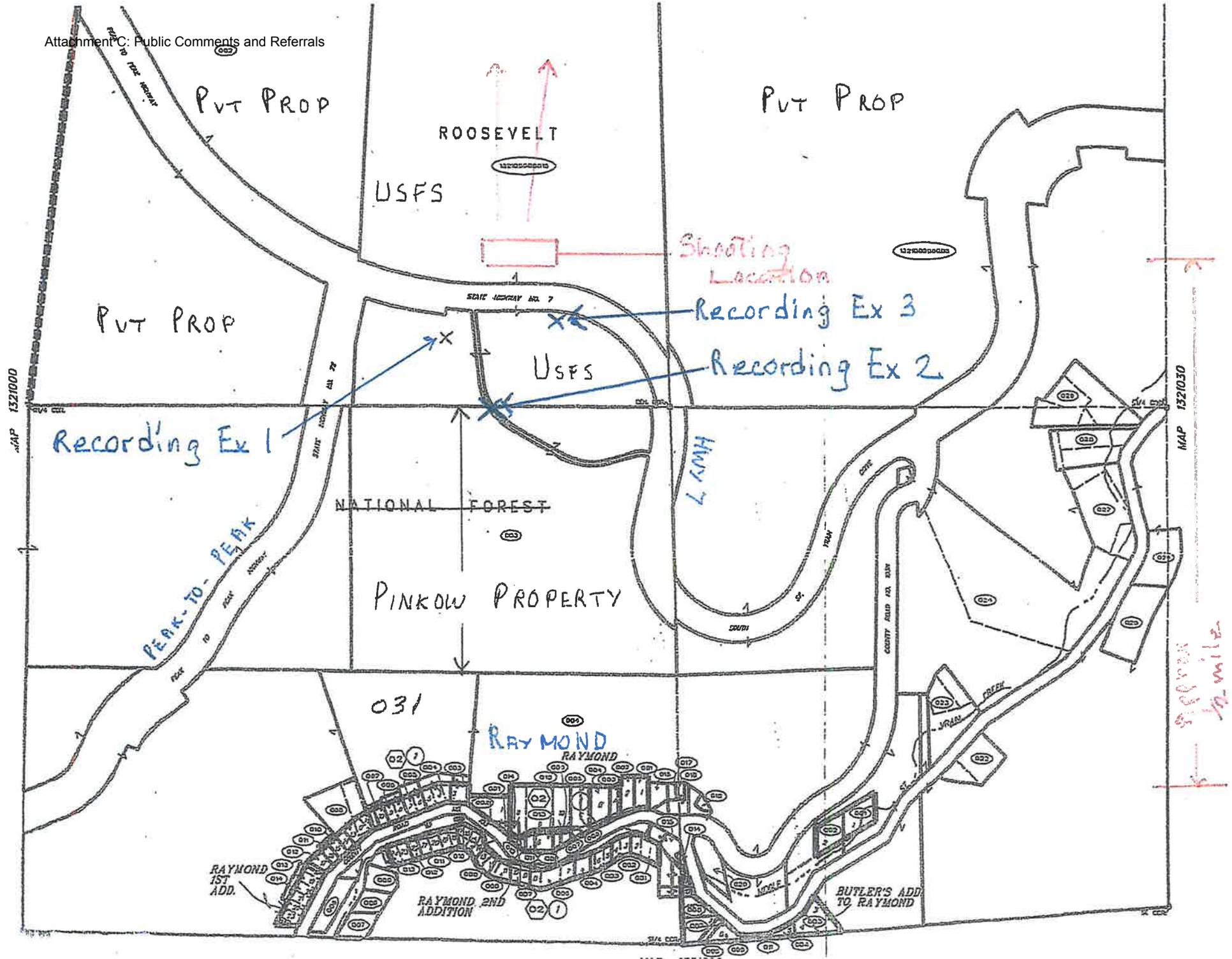
Sincerely,

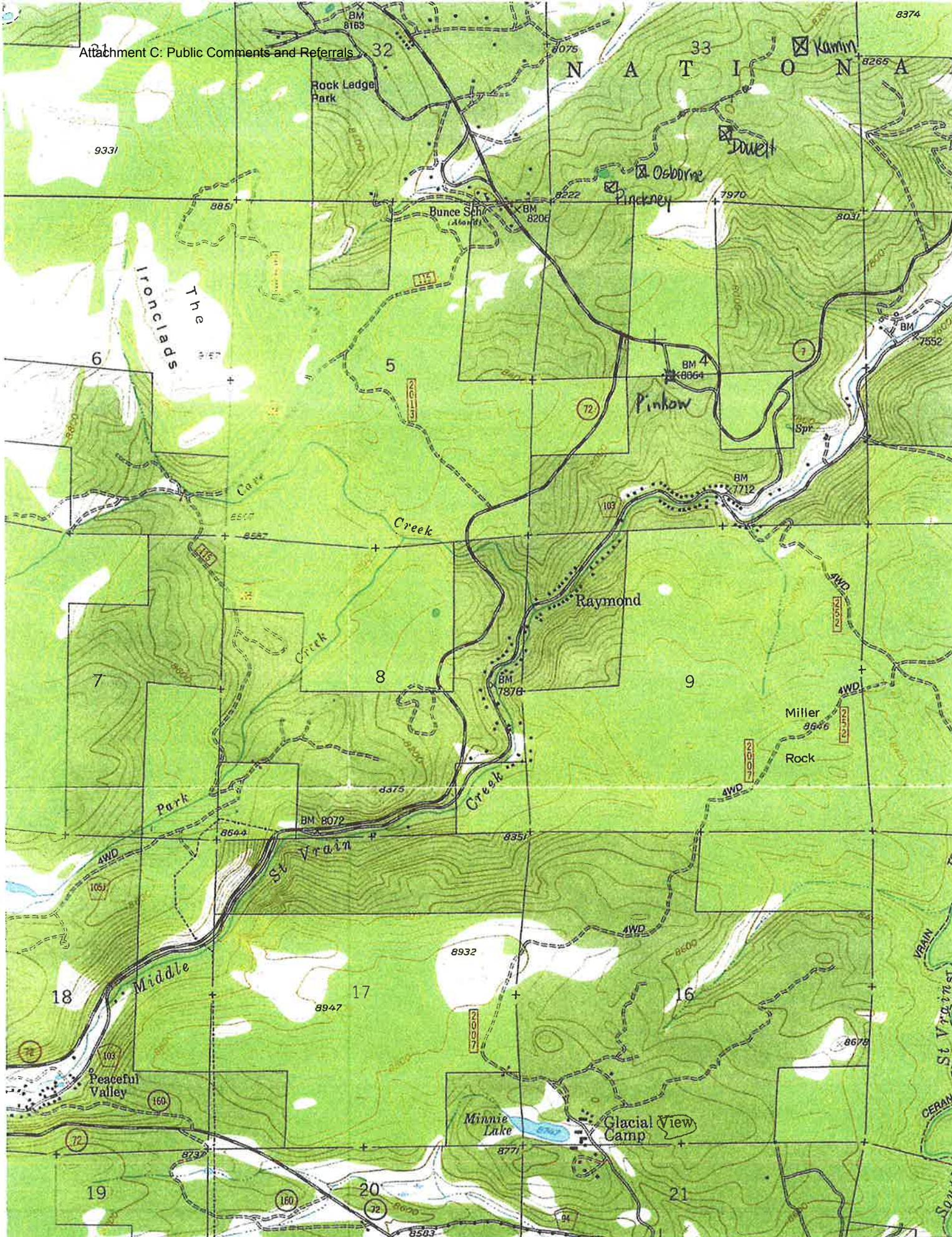


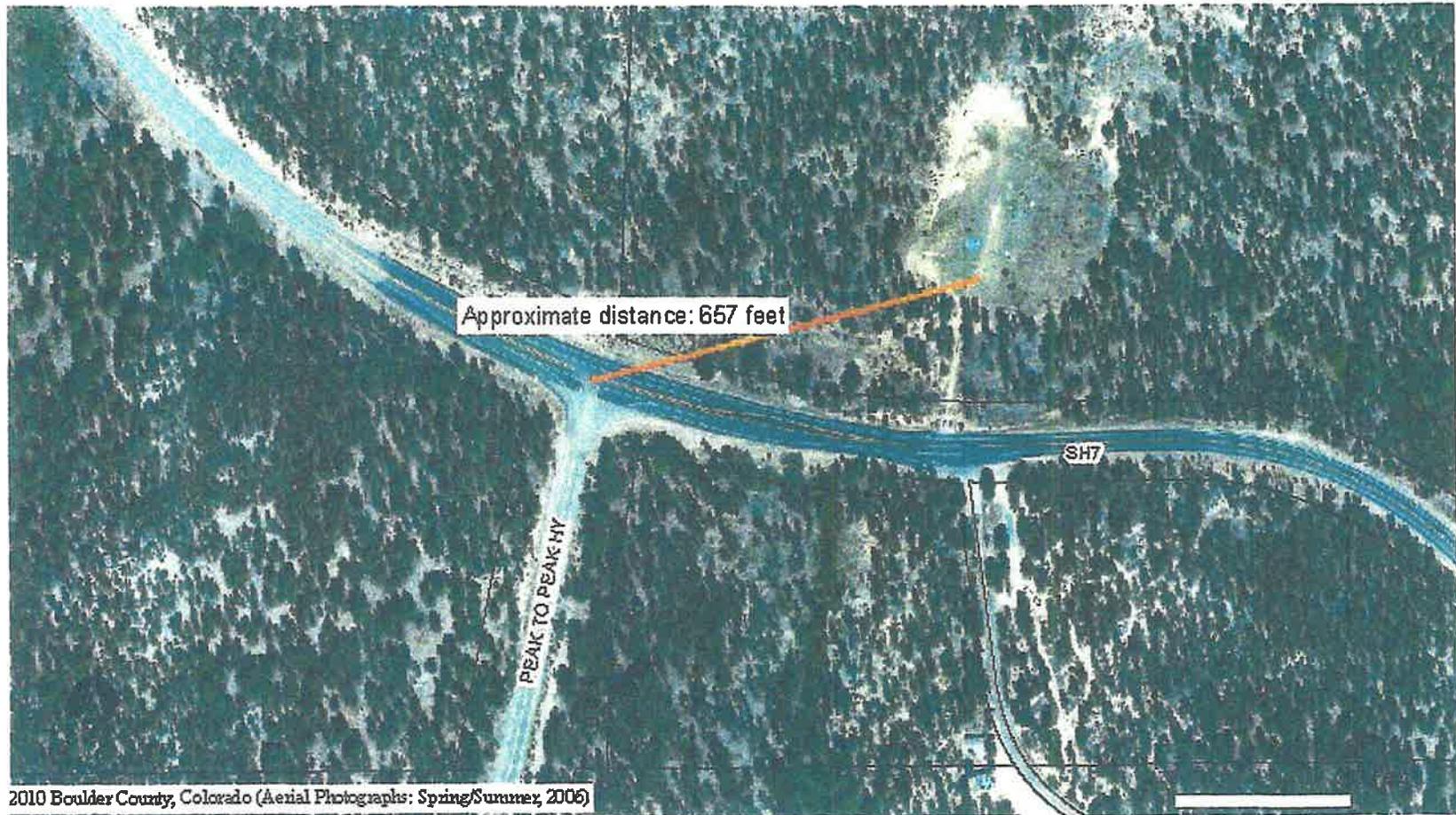
David J. Pinkow,
Boulder Resident and owner of property at 19354 Highway 7

attachments: CD recording and map of State Highway 7 at State Highway 72

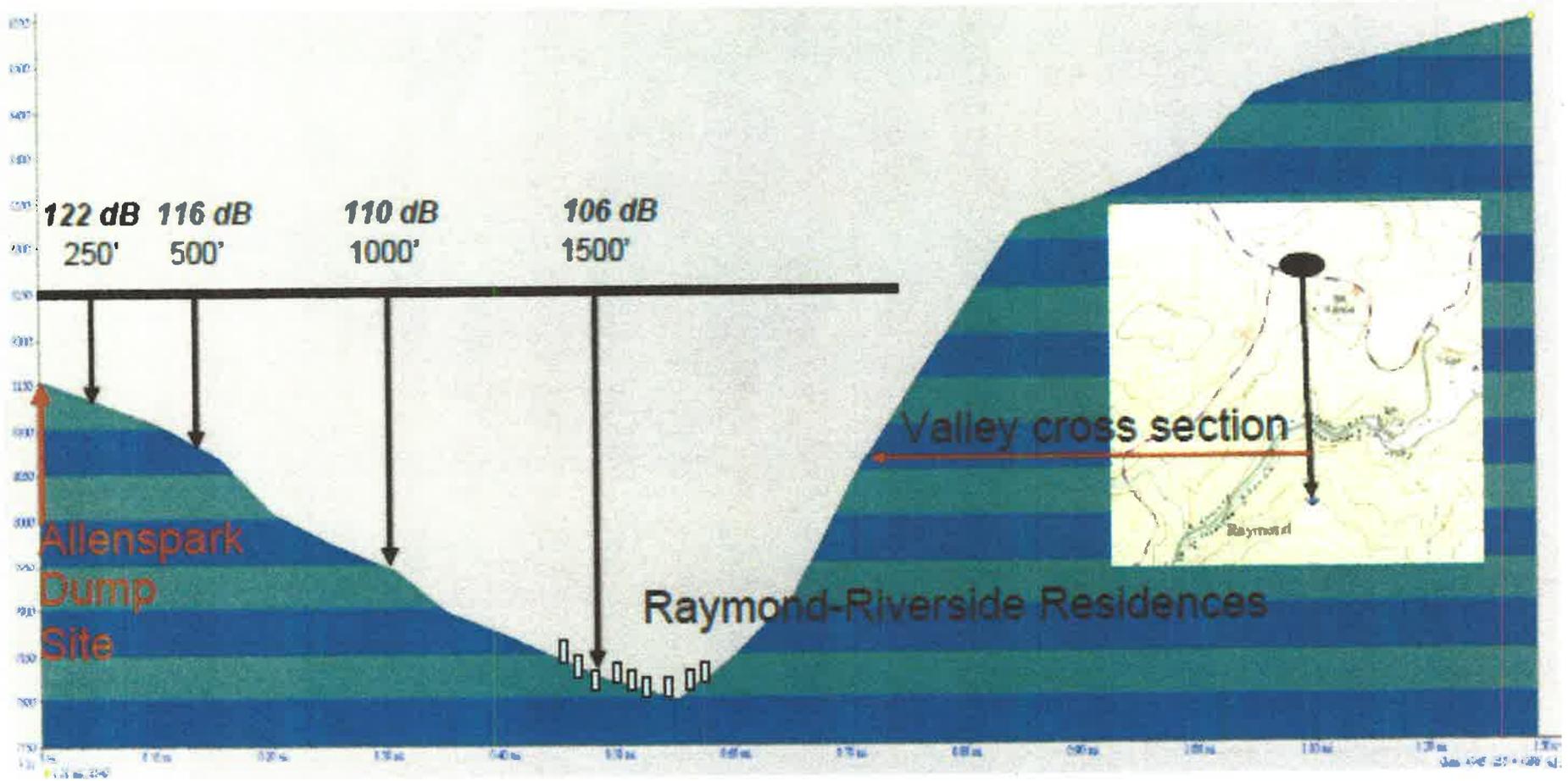






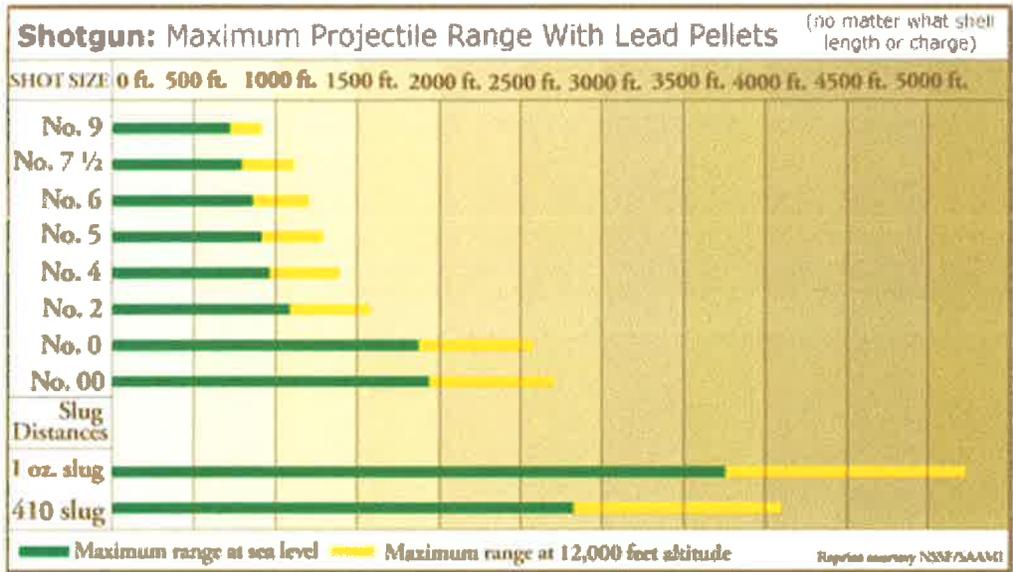


Boulder County Fri Jun 18 15:53:27 MDT 2010 This map is intended for display purposes only and is not intended for any legal representations



https://www.hunter-ed.com/michigan/studyGuide/Maximum-Projectile-Range-Shotgun/201023_700042735/

Maximum Projectile Range—Shotgun



← Previous

-
-
-
-
-
-
-

Unit 2 of 9

Topic 9 of 11

Page 3 of 4

Next →

[Back to the Study Guide Index](#)

Federal Noise Control Act

42 U.S.C. §4901 et seq. (1972)

Inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population, particularly in urban areas. The major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products in commerce. The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare.

<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/noise>

World Health Organization

Excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. It can disturb sleep, cause cardiovascular and psychophysiological effects, reduce performance and provoke annoyance responses and changes in social behaviour.



Exponent
1111 Arapahoe Avenue
Suite 100
Boulder, CO 80501

telephone: 303-443-7070
fax: 303-443-7073
www.exponent.com

June 22, 2010

John E. Putnam
Kaplan Kirsch & Rockwell LLP
1675 Broadway, Suite 2300
Denver, CO 80202

Subject: Old Allenspark Dumpsite and Proposed Shooting Range
Exponent Project No. 1003733.000

Dear John:

At your request, I visited the subject site and reviewed the available documents regarding historical use of the site and the Concept Plan from the U.S. Forest Service regarding development of the site as a shooting range. Based on the information reviewed, and prior experience with health-based evaluation and remediation of contaminated sites, I have several reservations about the development of this site for use as a shooting range. I have also conferred with environmental engineers and ecologists within Exponent in developing my thinking in this regard. The specifics of my concerns are elucidated below. Please know that I would be pleased to expand on the technical detail of any of these comments, at your request.

The area being proposed for development is a former dump site, interchangeably referred to as the Raymond Dump, Allenspark Dumpsite, Raymond-Allenspark Dump, and the Raymond-Allenspark Sanitary Landfill. Dumps, and even the more technically-engineered and managed landfills, are well known as sources of release of chemical contamination to the environment. This occurs because of the diversity of chemicals that may have been deposited in the dumps, as well as resulting from subsequent interactions within the dump. For example, toxic chemicals that may have been deposited in the dump, such as household or industrial waste, might include metals, chlorinated solvents, and pesticides from household use. Management practices such as burning of municipal trash, as was done at this location, would be expected to generate dioxins and polycyclic aromatic hydrocarbons (PAHs) within what are now the confines of the filled area. Additionally, chemistry that occurs within the filled area over time can result in conditions that favor release of toxic chemicals; for example, low pH and redox conditions are known to liberate metals from dumps and landfills, and explosive and noxious gases such as methane and hydrogen sulfide, respectively, are widely known to be created within landfills and require active mitigation.

Although it is common in some areas to develop former landfill areas to a "higher use," such development should not occur without thorough characterization of the area to ensure that development does not compromise the health and safety of area residents, visitors, or wildlife.

John E. Putnam
June 22, 2010
Page 2

My investigation indicates that at this point in time the former Raymond Dump is not appropriate for development. My comments here focus on the issues that any development could exacerbate the release of toxic chemicals to the environment, that structural modifications of the area are not appropriate, and that the Concept Plan from the U.S. Forest Service does not provide an adequate basis to substantiate development in the area.

This dump appears to be completely uncharacterized with regard to the potential for release of toxic chemicals to the environment. Records from the Boulder County Health Department indicate that materials deposited in the dump included municipal waste, clothing, furniture, cars, appliances, demolition debris, “drums,” and “other.” Records also indicate disposal of sanitary wastes in designated portions of the dump, and that periodic burning was conducted to minimize the volume of waste in the dump.

Review of historical records also indicates a history of poor management practices and ongoing illegal dumping. Lack of oversight of the dump while it was active limits the ability to predict the types of contamination that might be contained within the dump. I have not been able to locate any records of an engineered closure, characterization or monitoring, and inspection of the site provides no indication of historic or ongoing monitoring. Conversely, a brief physical inspection of the site does provide indications that releases from the dump may be occurring. Specifically, the presence of hydrophytic vegetation (such as reeds and rushes) in water collected on the surface of the dump indicates the presence of perennial water (as opposed to temporary ponding of runoff). No seeps were readily identifiable on the face of the dump; however, groundwater daylights in a spring approximately 50 meters down gradient from the dump, and may in fact be a conduit for contamination from the dump to the Middle St. Vrain River.

Given the apparent lack of baseline characterization of this former dump, it would be inappropriate for the U.S. Forest Service to promote development of the area. Site characterization needs to be conducted to ensure that the use of heavy equipment on the site, recontouring of the area, or additional development and activity will not destabilize the dump in a manner that will increase the potential for release of toxic chemicals. Releases of chemicals from the site would impact area wildlife that rely on downgradient stream flow in this area, as well as having the potential for causing increased releases to the Middle St. Vrain River. Land moving, construction, and shooting are also not appropriate in the absence of characterization of the potential for releases of explosive or noxious gases that are commonly associated with landfills and which could present a safety hazard to workers and recreational users of the area.

Although it appears that characterization of the dump has not been conducted, some recent surface soil sampling indicates that soil lead levels in the area currently exceed health-based thresholds for both protection of human health and wildlife. Lead is well known to be associated with neurological toxicity in humans following long-term exposure to even low levels. It can also be toxic following acute exposures to higher levels. Young children have

John E. Putnam
June 22, 2010
Page 3

reportedly suffered significant health effects or death following accidental ingestion of objects that contain high concentrations of lead. The adverse effect of lead on wildlife has also been established. Toxicity in both avian and mammalian species includes effects on the biochemistry, behavior, physiology, pathology, reproduction, growth, or survival. Effects of short-term exposures by mammals is not well studied, but several investigations have indicated that individual birds can be killed following accidental ingestion or intentional dosing of as little as one single piece of lead shot.

In two grab samples collected from the dump site, soil lead concentrations exceeded 800 ppm. The presence of these elevated levels in the surface horizon of the soil indicates that the source of the lead is associated with the use of the area as an informal shooting range. Presence at the surface also allows for direct contact with the contamination by humans that may visit the area and by wildlife receptors. Although there are no human health-based screening levels specific to shooting ranges, these reported concentrations exceed both the residential soil lead threshold of 400 mg/kg and the threshold for soils in industrial areas of 800 mg/kg that have been established by U.S. Environmental Protection Agency (EPA). Perhaps equally or more relevant to this site, the measured concentrations significantly exceed EPA's screening criteria for ecological receptors (i.e., ecological soil screening levels (Eco SSLs). The Eco SSLs for lead in soil are set at 11 mg/kg for protection of avian species, 56 mg/kg for protection of mammalian species, and 120 mg/kg for protection of plant life.

In addition to the potential for development to contribute to or exacerbate the release of toxic chemicals from the dump, the continued use or expanded development of the site could result in or complicate liabilities for any toxic releases that might occur from the site in the future. One would think that the U.S. Forest Service would be irresponsible to sanction activities that might result in additions to any contamination already existing in the dump; once contaminants are comingled, separating liability becomes complex.

Based on inspection of the site, review of historic records, and evaluation of recent data, any development of this area is not appropriate in the absence of a meaningful effort to characterize baseline conditions. This characterization should encompass a characterization of wastes within the profile of the historic dump, potential releases of contaminants from the dump, and the stability of the area to machinery and for development. To date, the information compiled by the U.S. Forest Service does not provide the minimum substantiation for any sanctioned activity or development of the area.

Sincerely,


Yvette Lowney
Sr. Managing Scientist

SCHOMER AND ASSOCIATES, INC.

Consultants in Acoustics and Noise Control

Paul D. Schomer, Ph.D., P.E.
Member; Board Certified
Institute of Noise Control Engineering

2117 ROBERT DRIVE
CHAMPAIGN, ILLINOIS 61821
PHONE: (217) 359-6602
FAX: (217) 359-3303

22 June 2010

Mr. John Putnam,
Kaplan Kirsch Rockwell, LLP
1675 Broadway, Suite 2300
Denver, CO 80202

Mr. John Putnam,

The US Forest Service proposes to permit construction of a shooting range on what is known as the "Old Allenspark Dumpsite." Paul Schomer of Schomer and Associates Inc. has reviewed this proposal using the following materials:

1. Two topographical maps of the old Allenspark dumpsite and proposed shooting range, both by Jon Bell dated June 16, 2010 and April 4, 2010
2. Area map entitled: Allenspark Shooting Study
3. Site schematic entitled: Allenspark Recreational Shooting Project: Proposed Action Site Concept Plan
4. A set of three photographs of the present study site

The Proposed Action Site Concept Plan, item 3 above, offers little detail on which to make a thorough noise assessment. The proposed plan appears to indicate at least three types of weapons: pistols, rifles, and shotguns. One example weapon from each of these three types of weapons has been selected for study and is listed in table 1. For operations, we have assumed a "busy hour" of 5 shooters for each of the 3 types of weapons, each shooter firing 60 rounds per hour (1 round per minute). This rate of fire calculates to 300 rounds per hour for each of the 3 types of weapons for a total of 900 rounds per hour, 15 rounds per minute—a reasonably conservative "busy hour" rate of fire.

The received sound levels have been calculated at 3 locations, each of which appears to have line-of-sight directly to the proposed range. The received sound levels have been calculated using the methods and procedures of ISO 9613-2—Acoustics—Attenuation of Sound during Propagation Outdoors—Part 2: General method of calculation. For each weapon and location the following metrics have been calculated: Peak sound level, A-weighted fast maximum sound level, A-weighted sound exposure level (ALEQ--slow maximum sound level), and the 1-hour A-weighted equivalent level (ALEQ). Of these, the A-weighted fast maximum sound level and the A-weighted sound exposure level (ALEQ--slow maximum sound level) corresponding to the metric required by the Colorado State statute and the Boulder County ordinance. Both statute and ordinance set the maximum level for impulsive sound at 50 dBA. Since, for

small arms, the fast A-weighted sound level is about 7 decibels higher than the ASEL, and the statute and ordinance are silent on which to choose, we compare the lower-level ASEL to the criterion level of 50 dB.

Table 1. Characteristics of the 3 weapons chosen for this analysis: 1 shotgun, 1 pistol, and 1 rifle

	Weapon	Caliber	Ammunition	V0 (m/s)	mass (g)	length (mm)	rounds per hour
Shotgun	Beretta 686, barrel length 70 cm; diameter 18.8mm (3/4 narrowing). Elevation 30 degrees, muzzle height 2.0 m		Winchester Trap AA Plus, 24 g (lead) 2.2mm				20
Pistol	Beretta 9mm M92 F compact	9mm	9mm sharp M/41	ca. 340	7	15	20
Rifle	Rifle M/87 (precision)	7.62mm	cal.308 Winchester Match 12.3g		12.3		20

The calculated levels, criteria, and exceedances are all listed in table 2. The rifle sound levels are predicted based on the rifle firing towards the Dowell and Kamin residences and always from the Pinkow residence. The shotgun and a pistol lines-of-fire are assumed to be perpendicular to lines from the firing site to any of the three residences. In general, the rifle produces the largest ASEL. This rifle generated ASEL is much higher than the 50 dB criterion at all three calculation positions. Table 2 also includes a prediction for the hourly ALEQ, and compares these predictions to a common criterion of 55 dB. For this notional calculation, 900 rounds per hour (15 per minute) is assumed, 300 rounds for each type of weapon. In accordance with ISO 1996—1 and ANSI S-12.9—Part 4, a 12-dB penalty is added to the calculated ALEQ to account for the “highly impulsive” nature of small arms firing sound.

All of the calculated ASEL exceed the 50 dB criterion by a great deal—the smallest exceedances are over 20 dB. For reference, 20 dB corresponds to a 100-fold increase in energy. All of the calculated ALEQ exceed the 55 dB criterion. The exceedances are almost the same large number of decibels as for ASEL. These two metrics encompass what is used for many to most environmental noise regulations in the United States.

Other propagation factors tend to cancel each other out. The dip in the terrain north of the two knolls, the air-to-ground propagation caused by the knolls, and rocky surfaces all tend to increase the received sound levels over the predictions herein; and the forest cover will tend to decrease the received sound levels. From my experience, I estimate that the combination of factors that will increase the received sound levels are as great or greater than the one factor that can decrease the received sound levels.

Thus, within a reasonable degree of scientific certainty, I predict that noise levels emanating from the proposed range will exceed applicable Colorado State and County noise regulations by a very substantial amount. The predicted exceedances are huge. And exceedances will exist out to a distance of 2 to 3 miles from the firing position. Because of the huge exceedances, and the relatively large number of homes near the proposed range, this project should be considered as controversial and with large impacts. Thus, a full EIS should be generated.

Table2. Calculation results for the indicated metrics at the 3 residences indicated

Residence	Kamin	Dowell	Pinkow
Distance (ft); source to receiver	4,500	3200	800
Distance (ft); source to barrier	900	900	400
Effective Barrier height (ft)	45	50	15
Lpeak	110.2	112.7	114.7
ASEL	71.6	74.5	74.3
Criterion	50	50	50
Exceedance	21.6	24.5	24.3
LEQ(hr)	61.1	64.0	65.8
Adj LEQ	73.1	76.0	77.8
Criterion	55	55	55
Exceedance	18.1	21.0	22.8

Signed:



Paul Schomer, Ph.D., P.E.

Member, Board Certified; Institute of Noise Control Engineering

PROPOSED ALLENSPARK RECREATIONAL SHOOTING RANGES

ENVIRONMENTAL ASSESSMENT SCOPPING COMMENTS

The scope for the Environmental Assessment for the proposed "Allenspark Recreational Shooting Project" should address the numerous significant off-site safety issues created by the proposed project. These include:

- 1) Errant projectiles falling in the Surface Danger Zone created by the rifle range to the North of the proposed ranges.
- 2) Errant projectiles falling in the Surface Danger Zone created by the pistol range to the East of the proposed ranges.
- 3) Errant projectiles falling in the Surface Danger Zone created by the shotgun range.
- 4) The off-range hazard created by the limited property available for projectiles exiting the shooting areas.
- 5) The off-range hazard created by the lack of ownership and control of the down range SDZ areas.
- 6) The off-range hazard created by the lack of fences, gates, and other security measures leading to unauthorized shooting at the proposed ranges
- 7) The off-range hazard created by the lack of supervision at each of the ranges during the shooting.
- 8) The off-range hazard created by the lack of required berms and baffles at the ranges.
- 9) Use of the ranges by law enforcement organizations.
- 10) The absence of a plinking range and other ranges.
- 11) Consideration of future development and activities in the vicinity of the range.
- 12) Consideration of alternatives sites including other locations and the no-build alternative.

ALLENSPARK RECREATIONAL SHOOTING PROJECT" EA HAZARD ASSESSMENT

The scope of the EA should include preparation of a site specific off-range Hazard Assessment. The "Allenspark Recreational Shooting Project", the EA hazard assessment should employ

basic standards and procedures for a hazard assessment as commonly used for facilities involving private and public safety.

To evaluate the off-site safety hazard created by the Allenspark Recreational Shooting grange, it is important to establish the Surface Danger Zone or SDZ created by the range; its extent and if the range has full control of the properties within the SDZ. The SDZ is the area that errant bullets exiting the range can impact.

Circumstances to be considered that commonly result in errant bullets exiting the Allenspark Recreational Shooting range to be addressed should include;

- Shooters shoot from alternative locations and not from the designated firing sheds.
- Shooters are unaware of the distance their bullets can travel and the hazard created,
- Shooters set up and shoot at make-shift and multiple targets in various locations,
- Shooters engage in un-aimed and "hip-shooting",
- Shooters engage in rapid and automatic fire shooting,
- Shooters who are novices or who are inexperienced and have not had firearms safety training,
- Shooters under the influence of alcohol or drugs,
- Shooters using guns that are not properly sighted in,
- Shooters who either accidentally or intentionally shoot in an unsafe direction,
- Novice and inexperienced shooters holding an incorrect sight picture,
- Shooters with physical impairments,
- Shooters who "flinch" (close their eyes and/or pull off-target) when shooting.
- Unauthorized shooters entering on to the property.
- Unintentional discharges.

THE ALLENSPARK RECREATIONAL SHOOTING PROJECT PISTOL RANGE

It appears that the Allenspark Recreational Shooting pistol range will not be fully enclosed and will have large open air blue-sky areas. It is understood the pistol range will have an

unspecified enclosure located at each of the firing positions but that there will be neither overhead nor ground baffles down range nor berms on each side of the range. Nor are there facilities to be provided for range management and supervision at the pistol range.

Thus the EA scope should address that shooters will be able to see blue-sky and that bullets could pass over the berm and penetrate into the blue-sky creating a Safety Danger Zone downrange. The extent of this SDZ should be based on common pistols used by shooters, capable of hitting off-range properties and residences out to a distance of over a mile to the East of the pistol range. The EA scope should address pistol shooting positions from standing to bench rest and that a variety of weapons will be used..

THE ALLENSPARK RECREATIONAL SHOOTING PROJECT RIFLE RANGE

It appears that the Allenspark Recreational Shooting rifle range will not be fully enclosed and will have large open air blue-sky areas. It is understood the rifle range will have an unspecified enclosure located at each of the firing positions and a berm downrange, but that there will be no overhead or ground baffles down range nor a berm on the left of the range. Nor are there facilities to be provided for range management and supervision at the rifle range.

Thus the EA scope should address that shooters will be able to see blue-sky and that bullets could pass over the berms and penetrate into the blue-sky creating a Safety Danger Zone downrange. The extent of this SDZ should be based on common rifles used by shooters, capable of hitting off-range properties and residences out to a distance of approximately three miles to the North from the rifle range and beyond the project map. The EA scope should address all rifle shooting positions from standing to prone and that a variety of weapons will be used.

THE ALLENSPARK RECREATIONAL SHOOTING PROJECT SHOTGUN RANGE

From the information available it is understood the shotgun range is only for skeet shooting. In accord to the NRA Range Source Book, this will create a SDZ or shotfall area with a 180 degree arc extending out 900 feet. Specific information on the shotgun range configuration and shooting position was not provided.

ABSENCE OF "PLINKING" AND OTHER RANGES:

The limited size of the range limits shooting activities that would be anticipated to be included in any new public shooting range such as areas for 300 and 500 yard rifle shooting, "plinking", a silhouette shooting range, or the very popular cowboy action shooting.

The absence of a "plinking" range poses a hazard in as much as the rifle range in particular will be used for this activity.

The proposed Allenspark Recreational Shooting Project shooting ranges as configured, located in a populated area, pose a material hazard to the surrounding properties and their residents. Preventing the ranges from posing such a hazard will be a significant and difficult challenge.

Prepared By:



Roy Ruel, PE

All-Engineers, LLC

From: [Nate Hunt](#)
To: [Case, Dale](#); [Oeth, Amy](#)
Subject: Comments on Land Use Code Amendments regarding Firing Ranges
Date: Tuesday, September 06, 2016 11:55:26 AM
Attachments: [Comments on Boulder Land Use Amendments re Shooting Ranges.pdf](#)

Dear Mr. Case:

I am emailing regarding the proposed Land Use Amendments for Firing Ranges. I submitted comments to you on behalf of the Glacier View Neighbors Association last week on August 31, 2016 (see e-mail below). At the time I tried e-mailing our comments, the Boulder County website was not functioning and I could not obtain the e-mail addresses for submitting comments. I called and left a message requesting your e-mail address but did not receive a response. It appears I submitted the comments to an incorrect e-mail address. My apologies for the incorrect spelling of your last name on the letter.

Please let me know that you have received this email and the attached comments.

Thank you, Nate

[Nate Hunt](#)
Kaplan Kirsch & Rockwell LLP
1675 Broadway #2300
Denver, CO 80202
nhunt@kaplankirsch.com
303.825.7000
<http://www.kaplankirsch.com>



KAPLAN KIRSCH ROCKWELL

Confidentiality Notice: The information contained in this e-mail message is intended only for the personal and confidential use of the recipient named above. Any metadata contained in this message or attachments is not intended for disclosure to the recipient or anyone else. This message may be an attorney-client communication and/or confidential work product. If the reader of this message is not the intended recipient, you have received this document in error. Any review,

dissemination, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please notify us immediately by e-mail, and delete the original message.

 Please consider our environment before printing this email.

From: Nate Hunt

Sent: Wednesday, August 31, 2016 4:48 PM

To: 'dchase@bouldercounty.org'

Cc: John Putnam

Subject: Comments on Land Use Code Amendments regarding Firing Ranges

Dear Mr. Chase:

Attached are comments submitted on behalf of Glacier View Neighbors Association regarding the proposed Land Use Code Amendments relating to firing ranges. Thank you for your consideration and please confirm your receipt of these comments.

Thanks, Nate



KAPLAN KIRSCH ROCKWELL

August 31, 2016

VIA E-MAIL

Dale Chase
Land Use Planning Division
Boulder County, Colorado
2045 13th Street
Boulder, CO 80302

Re: DC-15-0003: Land Use Code Amendments Regarding Firing and Shooting Ranges

Dear Mr. Chase:

On behalf of the Glacier View Neighbors Association and a number of individual landowners in and around Allenspark (collectively, “Glacier View”), I am submitting these comments regarding the Land Use Planning Division’s (“Division”) proposed ordinance amendments for firing ranges in Boulder County (the “amendments”). Glacier View generally supports the proposed amendments, but believes that some modifications to the amendments are necessary to ensure the attainment of the County’s objective of protecting public safety and the compatibility of firing ranges with surrounding land uses. Glacier View’s recommendations will improve the amendments’ measures intended to address negative impacts caused by firing ranges.

Glacier View does not make its recommendations lightly or in a vacuum. Its recommendations are based on a long and difficult history with a recreational shooting area at the former Allenspark Dump, located on a small 97-acre parcel of National Forest land near the junction of Highways 72 and 7 and surrounded by private property. The families that comprise Glacier View have been actively involved with issues related to recreational sport-shooting since 2006, when a wildfire sparked by recreational shooting at the Dump developed into a large, uncontrolled forest fire that threatened their properties and lives. Rain and the effective response of fire fighters prevented a major catastrophe caused by irresponsible shooters. For several years, the downrange residents experienced numerous near-misses from the reckless shooting of automatic and semiautomatic weapons in the vicinity of several residences. That dangerous shooting continued until the U.S. Forest Service closed the Dump to shooting in April, 2010.

Attorneys at Law
Denver • Washington, DC

Kaplan Kirsch & Rockwell LLP
1675 Broadway, Suite 2300
Denver, CO 80202

tel: (303) 825-7000
fax: (303) 825-7005
www.kaplankirsch.com

Dale Chase
August 31, 2016
Page 2

Since then, Glacier View has fought to prevent the Dump from being used as a firing range, including the submission of detailed comments on the unsuitable nature of the site and commissioning studies regarding the impact and design of firing ranges.

The Allenspark Dump is an example of a shooting area that is dangerously incompatible with surrounding land uses due to the insufficient space at the site to create separation adequate for safety and protection from noise impacts. Glacier View is encouraged by the proposed restrictions and offers further recommended changes with the objective of further enhancing safety and compatibility with nearby residential areas and other land uses.

Surface Danger Zone and Firing Range Definitions. As residents surrounding the Allenspark Dump shooting area, we have firsthand knowledge of the dangers presented by a nearby firing range. Thus, we strongly support the County's designation of a Surface Danger Zone. Because the Zone is a key safety component of a firing range, we recommend the following additions to ensure maximum safety:

- **Section 18-xxx should expressly recognize that site-specific factors may require the County to impose additional restrictions on a firing range.** The definition of "Surface Danger Zone" contemplates the reduction of spatial requirements—*i.e.*, safety margins or measures—in consideration of topographic features and manmade improvements. However, it is important that the amendments make clear that the spatial requirements are a floor, not a ceiling. At certain sites, additional spatial requirements and other measures may be appropriate despite the presence of topographic features that serve as mitigating measures. We recommend that the Division include language expressly recognizing its authority to impose additional spatial requirements and safety measures necessary to address the particular conditions of a site and the surrounding properties.
- **Expand the setback in Section 4-510.1.E.** Our experience demonstrates that 1,320 feet from residences is an insufficient setback. We recommend a minimum setback of one mile (approximately 5,280 feet) from residences, even if special safety features are employed, such as no-blue-sky overhead baffles. This addresses the range of dangers posed by rifles commonly used at ranges, even with baffles in place.

Dale Chase
August 31, 2016
Page 3

- **Variiances to the setback in Section 4-510.1.E should require a signed agreement by all relevant property owners.** Many residents that make up Glacier View were affected by the shooting activities at Allenspark Dump, despite not having property directly adjoining the site. However, the amendments' provision allowing a setback to be reduced through an agreement with "the adjoining property owner" unreasonably vests that individual, no matter how small their property may be or how it is situated, with the ability to sign away the minimum setback, despite the fact that a firing range may pose dangers to residents far beyond the immediate property adjoining a firing range. Thus, we recommend that the setback waiver provision be replaced with a broader provision that ensures potentially affected persons are included in decisions to reduce setbacks.

Specific Criteria/Development Standards. We support the County's proposed designed criteria in Section 4-602, but believe they can be improved with the following modifications:

- **Expressly recognize that the County may impose additional protections to address site-specific conditions.** Again, while the regulations afford the County discretion to deviate from the standards where topographic features may mitigate potential adverse effects, it does not expressly afford the County discretion to impose stricter standards on a particular site. It is important that the amendments expressly recognize the County may impose stricter standards even where site conditions have the potential to mitigate effects of a firing range.
- **Section 4-602.F.1.a should include range design standards established by the federal government.** While we support the County's establishing criteria for the firing range design, it is important that the County consider other design guidelines in addition to those established by the firearm industry. Thus, we recommend amending Section 4-602.F.1.a to state: "Such geographic areas should be based on industry-accepted range design guidelines, standards and best practices, *including those established by the U.S. Department of Defense, Department of Energy, and other federal agencies.*"
- **Section 4-602.F.2 should ensure that security is not compromised.** We support the amendments' security provision and also believe that minimizing impacts to wildlife is important. However, fencing intended to accommodate wildlife should not compromise measures intended to ensure human safety and prevent trespass on the property. Accordingly, we recommend modifying Section 4-602.F.2 to

Dale Chase
August 31, 2016
Page 4

state: “Fencing where wildlife is a concern should be designed and installed to be wildlife safe *while maintaining all measures intended to secure a firing range and reduce potential for trespass on the property.*”

- **Section 4-602.F.4’s noise level threshold should be reduced.** Based on our experience and extensive evaluation of noise impacts at the Allenspark Dump, we believe that the 65 dB peak impulse response at the property line is insufficient to ensure compatibility with surrounding residences. Consistent with Boulder County’s noise restrictions in Ordinance 92-28, we urge the County to require that sound levels generated by the discharge of firearms on a range do not exceed 50 dB peak impulse response at the property line. Further, given that noise is one of the primary concerns with shooting ranges, in addition to the dangers posed by firearms, the amendments should require (1) that acoustical tests be performed on any proposed site *prior to* development, and (2) that assessment of acoustic impacts on surrounding land uses consider topography that may affect the projection and resonance of sound. Determining whether a site is acoustically compatible with the surrounding effected properties will inform the design of a potential firing range and would help prevent future conflicts that may arise from noise impacts.
- **Section 4-602.F.8 should require environmental remediation prior to development of a site.** An environmental stewardship plan is critical to ensuring that a proposed range has minimal impact on the surrounding environment. However, consistent with that provision, the amendments should require that currently existing conditions—including any contamination from previous land use (such as a shooting range, landfill or other venue)—should be cleaned up prior to development of a site as an approved firing range. The firing range at Allenspark Dump highlights the importance of addressing existing environmental issues at a site prior to construction of the range. The Dump contains noxious and potentially dangerous materials and the development of the range would expose materials and destabilize the site. Ascertaining existing levels of contamination and mitigating them would provide the County with a baseline of the conditions at the site, including soil quality, against which the County can evaluate the future environmental impacts of a firing range.

Accordingly, we recommend adding the following requirement to Section 4-602.F.8: “Prior to development of the firing range, the developer/operator shall

Dale Chase
August 31, 2016
Page 5

remediate any existing environmental hazards or pollution, including lead and other wastes or conditions, posing risks to human health or the environment.”

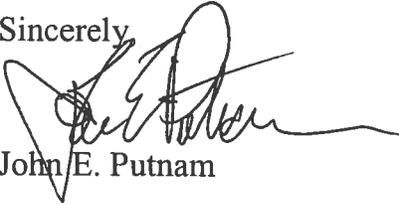
- **Section 4-602.F.9 should be amended to enhance public safety.** Although Section 4-602.F.9’s operation requirements are a good start to ensuring public safety, we urge the County to provide additional safety measures. First, Section 4-602.F.9.e should expressly require approval by the Land Use Department and Sheriff of a Safety Plan before development of a firing range. Second, effective supervision of a firing range is paramount to ensuring the safe and responsible operation of a range. In the interest of public safety, it is critical that the County requires that professional firing range supervisors must be present during all hours of operation of the range.
- **Section 4-602.F.9.g should be amended to ensure compliance with the environmental stewardship plan.** To ensure that a firing range is being operated in an environmentally sensitive manner, the amendments should expressly provide for the County’s review of the range to ensure compliance with the environmental stewardship plan. Accordingly, Section 4-602.F.9.g should be amended as follows: “Through the Special Review process the Board of County Commissioners (BOCC) may require periodic reviews to assure effective monitoring and operation of the range to protect the health and safety of those in the area *and to ensure compliance with the environmental stewardship plan*. If at any time the BOCC finds the operation does not meet the design or operational expectations *or the environmental stewardship plan*, they may modify existing conditions or impose additional conditions to address concerns.”
- **Section 4-602.F.10.a.ii’s “established residence” requirement is unreasonable and must be stricken from the amendments.** Glacier View is concerned with Section 4-602.F.10.a.ii’s restriction that “Complainants must have established residence within Boulder County on or before January 1, 1985.” Although the provision is based on the C.R.S. § 25-12-109, there is no apparent justification for the restriction, which has the effect of providing only those people who have been living in Boulder County for over 30 years with the right to initiate enforcement against excessive noise caused by a firing range. This provision is arbitrary, unlawful, and would violate the constitutional protections of due process and equal rights. It also undermines the intent of the ordinance, which is to ensure *all* “residents and recreational users in any area near a proposed range” in Boulder

Dale Chase
August 31, 2016
Page 6

County are adequately protected. The existing resident restriction must be stricken from the amendments.

Thank you for considering Glacier View's comments and please contact Nate Hunt or me at (303)825-7000 if you have any questions or would like additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Putnam", written over a large, stylized checkmark or "V" shape.

John E. Putnam

Oeth, Amy

From: Bill Ellis <wlellis@comcast.net>
Sent: Wednesday, October 19, 2016 11:50 AM
To: Oeth, Amy
Subject: Fwd: Comments on proposed Land Use code amendments regarding shooting ranges
Categories: Firing Range

Dear Ms. Oeth,

I just sent the below email regarding Docket DC-15-0003 to Dale Case, but I see you are the staff planner on this docket so I am also forwarding it to you for consideration in today's Planning Commission hearing.

Thanks,

Bill

----- Forwarded Message -----

Subject:Comments on proposed Land Use code amendments regarding shooting ranges
Date:Wed, 19 Oct 2016 11:32:31 -0600
From:Bill Ellis <wlellis@comcast.net>
To:dcase@bouldercounty.org
CC:gsanfacon <gsanfacon@bouldercounty.org>

Hello Dale,

Please excuse my late comments regarding the subject docket, DC-15-0003, for today's Planning Commission hearing. I will not be able to attend the hearing today and hope these comments will be taken into consideration as part of the public hearing process. I have three major concerns, the somewhat contradictory nature of which reflects the difficulty is finding a solution to the sport shooting issues.

1. The regulations relating to the siting and operation of shooting ranges should not be so difficult as to effectively preclude the establishment of such ranges. That would not help in addressing the problems associated with dispersed shooting on public lands, especially in the mountain areas of the county.
2. The proposed definition in Article 4-510,I,E,1a, states that setback distances in no case shall be closer than 1320 feet from residential, lodging or other occupied structures not on the subject property..... This clause does not address impacts on undeveloped property. Noise and potential dangers from shooting can also impact private undeveloped property. Excluding private undeveloped property from the setback requirements could amount to a taking of private land by decreasing property values, depriving the right of a property owner(s) to the safe use and enjoyment of their property, and negatively impacting the potential use of the property for residential development. As such, private undeveloped property should be included in the setback requirements.
3. Article 4-602-F.10.a,ii, regarding enforcement states that ordinance violations will be enforced only if a complainant has established residence in Boulder County prior to January 1, 1985. This makes no sense and is discriminatory if not unconstitutional as written. In my opinion, C.R.S. 25-12-109 was intended

to prevent people from moving onto areas near established shooting ranges and then complaining about noise. As written, 4-602 would mean that only residents of the county for at least 31 year could expect enforcement of ordinance violations relating to new shooting ranges. This is patently wrong and must be clarified.

Thank you for the opportunity to voice these concerns at this late date,

Bill Ellis
3202 Riverside Drive
Lyons (Raymond)

DC-15-0003

Referrals and Public Comments

Submitted after the
Planning Commission Hearing
on October 19, 2016

Oeth, Amy

From: Case, Dale
Sent: Monday, December 12, 2016 3:45 PM
To: Oeth, Amy
Subject: FW: Review of proposed code changes
Attachments: BRC Code change concerns.pdf; Phils response to the Proposed Code Changes 11-16.pdf; Earls Comments Firing Range proposed regulations 11-16.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Firing Range

Some comments from Boulder Rifle Club Members. Might be good to schedule a meeting with them to talk about possible solutions – especially as it relates to BRC.

From: Pelle, Joe
Sent: Monday, December 12, 2016 3:19 PM
To: 'Deb Gardner (deb.gardner.house@gmail.com)'; Krezek, Michelle; Case, Dale
Subject: FW: Review of proposed code changes

Here are the letters, (attached) I spoke to you about.

From: Steven Martin [<mailto:president@boulderrifleclub.com>]
Sent: Friday, December 09, 2016 4:36 PM
To: Pelle, Joe
Cc: Oehlkers, Jason
Subject: Review of proposed code changes

Sheriff Pelle,

Please find attached a summary of the reviews done by Mr. Earl Perry and Mr. Phil Duclos, PE, both of whom are on the Board of Directors for the Rifle Club.

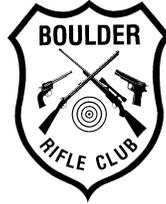
Should you have any questions that these support documents do not fully clarify please let us know.

Thank you again for your time,

Steve Martin

Steve Martin

Boulder Rifle Club



Sheriff Pelle,

Attached I have the support material from Mr. Earl Perry, firefighter for Boulder Mountain Fire, and Mr. Phil Duclos, PE, both board members of the Boulder Rifle Club.

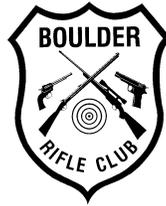
I would like to thank you again for allowing us to meet with you again this year and reiterate our support.

Per your request I have attempted to summarize these two detailed analyses of the County Planning Commission's recommendations in regard to DC150003.

Considering our recent experience with the Code Enforcement division, only a strict interpretation of the recommendations is to be expected.

1. Locating and purchasing a property either in the mountains or on the plains will be virtually impossible with the Surface Danger Zone and noise limits suggested. The surface danger zone would require control of about 6 sections of land (estimated current prices \$19 – 45 million). The noise limits (less than conversation noise in a restaurant) would require about \$0.5 million in baffling. We doubt a property of this size can be found, much less developed in an economically viable manner, in the plains.
2. If such a location were found, in plains or mountains, the costs of construction for reliable access roads, parking, clubhouse, overhead baffles, backstops, side berms plus the noise abatement could not be recouped. We estimate \$4 – 5 million in addition to land costs. Absent grants or partnering public investment, no private entity will invest with these requirements.
3. Fixed firing point outdoor rifle ranges, mandated by everything but name in the proposed regulations, have far fewer use cases than the existing outdoor ranges in the County. Because ranges are not used only from fixed firing points, containment structures cannot be fully effective. Our belief is that no PE will sign off on any requirement for 100% containment in every direction for an outdoor range.
4. The orientation requirements (NW – N – NE) make it difficult to find suitable space in the mountains, particularly at desirable distance ranges, but if found would shorten shooting times by an hour a day and shorten the season from 11 to perhaps 8 months, compared to plains sites.
5. Mountain sites are subject to serious access problems from wildfires, flooding or other mountain weather events.
6. Law enforcement use of mountain sites greatly extends response times to an urban or plains incident, if a call drops during training.

Boulder Rifle Club, Inc. P.O. Box 21197 Boulder, Colorado 80308-4197 www.boulderrifleclub.com



7. Supervision of the firing range might lessen containment costs but would entail employment and liability costs and could make it less attractive to dispersed shooting recreationists.
8. All new ranges would be subject to these regulations. Any modifications to existing ranges will be subject as well. As we have learned, existing ranges risk massive remediation costs or even closure should they apply to improve or perform normal maintenance.
9. In sum, if adopted, the planning commission's recommendations will prevent any new range construction or improvement to any existing ranges anywhere in the County.

From: Mr. Phil Duclos, PE

-

My comments concerning the Planning Commission recommendations in regard to DC150003:

The intent is to change the zoning rules to require a Special Use Review for outdoor firing ranges in ALL zoning districts. Such is not the case today.

Along the way a number of new definitions and rules were included.

The first definition included is that of the "Surface Danger Zone". The SDZ has its origins in the US Army manuals for range design and it is an attempt to describe an area of likely projectile impact from any weapon that the US Army might shoot. As you might imagine, the US Army shoots some big guns, including tanks and artillery, much of which is designed to penetrate and destroy structures and vehicles. As a result the SDZ for much of what the US Army does is many miles in size.

In its broadest definition, the SDZ is the distance toward a target that a projectile fired by the largest caliber firearm allowed on the range can shoot.

The Boulder Rifle Club Range Rules prohibit the use of the rifles chambered in 50 BMG (and its equivalents) or larger, which are the largest calibers allowed by the National Firearms Act of 1934 (NFA). The rifles allowed by the BRC Range Rules can still have a range of several miles when fired into the air at an angle intended to shoot the furthest distance.

The first part of the definition of the SDZ sounds quite reasonable -

"The area, determined by an applicant's Professional Engineer, which may reasonably expect projectile impact. The zone spans the area that could receive projectile impact resulting from direct fire, including misdirected and accidental discharges, and ricochets from any firearm."

Engineers deal in facts. Professional Engineers deal in provable facts and are trusted to do so. As a Professional Engineer (PE) myself I fully understand what that means. So when a PE approves a design, they are saying "This will work under the conditions covered by the design". So the word "reasonably" in the SDZ excerpt shown above is meaningless from the perspective of an PE. There is no "reasonably", it either will or it will not. Unless calculable odds are given for an acceptable chance of a projectile impact being outside the SDZ then the only valid value is zero.

The next sentence explains that the SDZ includes the area in which any projectile fired for any reason from any firearm could impact under any circumstances whatsoever.

The SDZ definition continues -

"The boundaries of the zone (i.e., the length of the range and the width of the firing point or points) accommodate the ballistics of the highest powered firearms, and the range of ammunition that may be used in the permitted firing activities."

The PE reads this as "the distance that any firearm pointed in any direction using any ammunition, may fire".

Common hunting rifles have a maximum trajectory of several miles. So the distance encompassed by the SDZ would have to be several miles in every direction.

The SDZ definition continues -

"Spatial requirements may be reduced or expanded in consideration of natural topographic features or manmade improvements, including but not limited to backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which will provide sufficient safety measures to protect adjacent properties."

It is hard to see how the spatial requirements could be expanded due to topographic features or manmade improvements beyond the further distance that any firearm permitted on the range could possibly shoot.

But the remainder of the sentence describes manmade improvements intended to slow or stop projectiles short of their maximum trajectory. How or if these manmade improvements should prove "sufficient" as "safety measures to protect adjacent properties" is not defined.

The SDZ definition in total challenges the PE to design manmade improvements to contain 100% of all projectiles fired from any firearm permitted firing any permitted ammunition pointed in any direction for the design of the range to be anything less than the maximum trajectory of any permitted firearm.

Absolutes are pretty rare in life but there is an answer here. It's called an "indoor range".

Nothing short of an impenetrable container completely enclosing the range will meet this requirement.

The SDZ definition discussion of "backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles" is appropriate but no combination of these improvements will provide 100% projectile containment. No PE will certify any range that is not completely impenetrable in every direction as providing 100% containment. That leaves the SDZ back at its original definition as the distance of the maximum trajectory of any permitted firearm using permitted ammunition in any direction.

Lacking in the SDZ definition and anywhere in the docket is any discussion of supervision for the firing range. Firing ranges have rules for only one reason, safety. Safety of users of the firing range and safety of others within the maximum trajectory of the firearms used on the range.

Perhaps the biggest problem with "informal" shooting areas is the lack of enforcement of range rules through supervision. Persons using informal shooting areas may have little or no knowledge of safe firearm handling or shooting rules or may disregard them with impunity. Persons new to the sport of target shooting are often unfamiliar with firearms and lack knowledge of safety handling practices. Failure to obey firearm handling rules may have deadly consequences.

Range Safety Officers (RSOs) should be present whenever the firing range is open.

RSOs explain and enforce the rules of the range and may explain firearm handling rules to those unfamiliar with them. RSOs monitor and control the actions of shooters on the firing line to try to ensure that -

1. Firearms are handled safely entering and leaving the range.
2. Firearms remain unloaded or holstered until the shooter is on the firing line and shooting has commenced.
3. Firearms remain pointed in the correct direction.
4. Discharge of firearms is aimed at the targets and the backstop behind them.
5. Firearms are unloaded or holstered after a ceasefire has been called and no person handles firearms during the ceasefire when anyone is in front of the firing line.
6. All other rules of the range are obeyed.

Ranges which lack supervision are, in my opinion, unsafe by definition.

Some clubs, like the Boulder Rifle Club (BRC), are self-supervised. That means that every member knows, understands and agrees to obey the range rules and has attended a class that instructs them in detail. Members are responsible for the conduct of themselves and their guests and ensure that the range rules are obeyed. Matches or any activity open to the public have RSOs who conduct the match or activity in accordance with the range rules. Members cooperate to conduct shooting activities safely and are encouraged to speak up immediately should they witness any unsafe condition on the range. The range rules are enforced rigorously with penalties up to expulsion from the club.

Manmade improvements are necessary for any range. Backstops and bullet traps decelerate and contain projectiles for later recovery and recycling. Side berms decelerate projectiles to isolate one range from another. Ground and overhead baffles decelerate projectiles that would otherwise not impact the backstop.

All of these improvements combined reduce the chance of a projectile leaving the range but even with supervision there can be no guarantee.

Outdoor ranges provide target shooting at distances that are typically longer than those provided by indoor ranges. Outdoor ranges are also subject to weather. While every shooter would like every shooting experience to be on warm, sunny, summer days that is seldom the actual case. Real life happens under real conditions and target practice only on warm, sunny, summer days leads to disappointing scores during anything else. Law enforcement and self-defense training also needs to happen during real life situations including cold, wet, snowy and dark conditions for training to be effective. These conditions are only available outdoors.

Law enforcement and self-defense training involves movement, both laterally and towards or away from the target. Law enforcement training also involves vehicles, getting out of, into and moving around them. One of the most hazardous scenarios in law enforcement is the "traffic stop." Effective training includes everything in that scenario including both vehicles.

Outdoor ranges with overhead and ground baffles are designed for a "fixed firing point." Baffles are positioned such that projectiles fired from the shooting position, typically seated, that will not impact the backstop will instead impact the overhead or ground baffles or side berms. Movement is not

allowed with physical barriers on the sides of and in front of the shooting position. Many target shooting competitions involve shooting positions other than seated at a bench and include prone (laying down), sitting, kneeling or standing. The variation in shooting positions provides challenges for baffled outdoor ranges because baffles that are effective for one shooting position are seldom effective for others. Movable baffles are possible but add complexity and cost to the design of the range and are uncommon as a result.

"Dynamic" training or competitions involve movement around barriers, through doorways and other obstacles to simulate life outside the range. Many of these exercises involve pistols so the distance to the target is short, some exercises include striking the target with the hand, but baffles restrict movement making completely baffled ranges unsuitable for these activities.

Baffled ranges have fixed firing positions that must be covered as part of the baffling and these help isolate the shooter from rain and snow. That is good from the sunny, warm, summer day shooting perspective but creates unrealistic conditions. Baffles also affect the wind and may enhance or negate the effect of the wind on projectiles and their impact on the target, creating yet another unrealistic condition. In many competitions shooting will continue until conditions make shooting unsafe because of visibility or until weather hazards present a danger to the shooters.

Shooting distances in excess of 100 yards are the exclusive domain of outdoor ranges and many law enforcement exercises and target shooting competitions are oriented around the challenges that these long ranges provide.

It is curious that 4-602.A.1 requires the approval of a "County-approved engineer" but that the SDZ definition requires approval of a "Professional Engineer". One might suppose that the County would require that any County-approved engineer also be a Colorado Professional Engineer but that apparently is not a requirement and one wonders how the County's requirements for an engineer might be different than the State's.

4-602.A.1.i.vii requires an "emergency communications system" but does not define the scope or goal of such a system.

In conclusion it is my opinion that no range exists or can be built in Boulder County that meets the requirements outlined in DC150003 because -

1. No property exists in Boulder County which meets the definition of SDZ without improvements.
2. No amount of improvements will provide an outdoor range with 100% certainty of projectile containment. 100% projectile containment can only be guaranteed by a completely enclosed range, the definition of an indoor range.
3. No firing range can be considered safe without enforcement of the range rules, typically through supervision.
4. A fixed firing position, baffled outdoor range which meets some but not all of the requirements outlined in DC150003 would be prohibitively costly to build and operate without some form of grant or other public support.

Regards,

Phil Duclos, PE

From:

Mr. Earl Perry

At his request, members of the Board of Boulder Rifle Club met with Garry Sanfacon and Michelle Krezek to start discussing ways the Boulder Rifle Club could work with the County in its partnership with various other agencies and northern front-range counties to identify existing and potential shooting ranges, the idea being to minimize dispersed shooting, such as the Lefthand Canyon "range." We were very interested and somewhat encouraged by this, because we have some unused land adjacent to our South Range. Specifically, we have discussed

- A 300-yard range. This would be the only such range in the County. It meets a public need for sight-ins, for competition at that distance, and for SWAT practice for the Boulder Sheriff's department and other agencies with whom they practice.
- A clubhouse and indoor range, to replace the existing one. We have an active education program, juniors programs, and a number of activities open to the public which need a better facility than the current one.
- An archery range.

It seemed to us that some expansion of the range could offer the opportunity to achieve our goals, meet the county's need to concentrate more public shooting on formal ranges, and the Sheriff's need for expanded training opportunities.

We have reviewed the proposed changes to the regulations which the County is considering. If they are accepted as written, we conclude that even with the best will in the world, we could not comply and therefore won't be able to help.

These regulations, if adopted, will make it impossible to develop an outdoor range economically anywhere in the plains of Boulder County, and will make it very difficult to develop a range in the mountains, even on Forest Service land, if they choose to dedicate it. These impacts were designed into the proposal so obviously that they appear an attempt to subvert the Northern Front Range Recreational Sport Shooting Management Partnership.

Specific discussion is below.

Comments

From the background:

The present regulations do not offer sufficient protections to health and safety and thus, the county land use staff proposes the attached regulatory amendments.

The National Shooting Sports Industry statistics would seem to bely this assertion. See

nssf.org/PDF/research/IIR_InjuryStatistics2013.pdf

which indicates that firearms are responsible for 0.5% of unintentional adult fatalities (motor vehicles, are 27.9%, poisoning 27.3%). It would be of interest to see some data behind this comment, and particularly, to see some data from Boulder County. As stated it seems to assume facts not in evidence. This

assumption is used to buttress a series of regulatory changes that make range construction or refurbishing economically impossible.

Plains

Taken singly or collectively, the regulations make it impossible within any reasonable economic compass to build a new range in the Plains, or even to improve an existing range. To evidence this, note the land requirements necessary.

4-602 Special Provisions - (new criteria/development standards)

A. ...

a. Range Design

(i) Pistol and Rifle Firing Ranges. Pistol and rifle firing range design shall include sufficient land area under control of the applicant for the surface danger zone (direct fire zone, safety zones, and ricochet zones) to accommodate the ballistics of the highest powered firearms and ammunition to be used on the range.

The Surface Danger Zone is “The area, determined by an applicant’s Professional Engineer, that may reasonably expect projectile impact.”

“Reasonable” is the key. Proper use of a firearm in accordance with standard safety rules and correctly designed backstops will not result in any projectile impact, including ricochets, beyond the backstop. Supervised use is equally unlikely to produce ex-Range impacts. The chance for such an impact can be mitigated to “none” by regulation (cased rifles only from vehicle to firing line) and the most standard of gun safety rules: keep your finger off the trigger until sights are trained on the target and you are ready to fire. I have spent parts of almost 10 years shooting outdoors at the Boulder Rifle Club, and have not observed any shots fired over the backstops. Speaking from observation, the area that can “reasonably expect projectile impact” is the range. Only gross negligence will produce an impact beyond it. The area that can possibly expect projectile impact is what these regulations are imposing.

There are a number of places near Boulder where smallbore firearms (.22s) and pistols can be shot, most of them indoors, and requiring memberships of varying expense. What is lacking in our area is the ability to shoot deer and elk rifles at ranges of 25 – 400 yards. The chief uses of an outdoor range are:

- sighting in deer and elk rifles
- short-range rifle matches (medium range matches are defined as 200 – 600 yards, long range is 800 - 1000)
- law enforcement practice (regular and SWAT)

Ranges longer than 400 yards are more than an hour from Boulder proper, and also require membership.

Much dispersed shooting is by people practicing with these rifles.

To accommodate this unmet recreational need would require a range a quarter mile long. At a minimum, **a quarter-section.**

The maximum range of a deer or elk rifle is about 3.5 miles (elevated about 43 degrees, boattail ammunition). Given a pair of bounding azimuths of about 15 degrees either side of the firing point, this would require a surface danger zone extending about 4 sections beyond the range, widening to about 2 sections at its distant point. Roughly **6 sections**. Assuming it is possible to buy a fan of land, **4 sections**.

The proposed regulations would require setbacks in the shooting and target areas. Beyond the targets, the setback is as envisioned above: the “surface danger zone.” To this is added or subtracted a quarter-mile offset from various facilities depending on agreement with the owners. What is important to note here is what uses require the quarter-mile setback:

Residential
Lodging
Platted subdivision (whether developed or not, presumably)
Townsites
Recreational trails
Open space areas with offtrail use permitted
Campgrounds
Other potential hazards

The same list governs the 400-foot setback in “other directions.”

The only way to assess the impacts of these setbacks is to create a set of venn diagrams around each such use or area in eastern Boulder County. Neither I or to my knowledge the planners have completed this exercise, without which it isn’t certain whether there are any areas left that would lie outside the setbacks. Can’t say for sure, but my guess is the answer is “none,” and that this was intended.

The proposed regulations specify that the range have 1.5 parking places per firing position. Even a very modest range like Boulder Rifle Club has 65 – 70 firing points, so this would require about 100 – 110 parking places. With feeder access, a couple more acres. This will probably require another **quarter section** when added to the land needed for buildings.

The regulations requiring momentary sound impulse to be less than 65db at residential or other occupied structures not on the property. Sound attenuation is governed by a simple equation, but in practice is so difficult to predict that only detailed studies under a complex of environmental conditions (prevailing but also occasional winds, density altitude, and local topography all powerfully affect it). And for what? The prevailing sound levels in restaurants as of 2014 were 68 – 82 DB.¹ The idea is to make a firing range quieter than a restaurant. It is difficult to quantify this without study, but if we posit for simplicity’s sake the proposed regulations requirement of a ¼ mile buffer around the firing point is enough to accomplish this attenuation, this is another **half section** (320 acres) that must be obtained or controlled.

Mitigative Factors

Surface Danger Zone.

The surface danger zone requirements can be shortened by

- putting in bullet-proof baffles in front of and above the firing points.
- facing the backstop with energy-absorbing materials
- putting an angled bulletproof ricochet catcher along the top of the backstop, if it is anticipated that the impact surface cannot be designed to be ricochet-free.

¹ Science News 10/15/16, p.4. “Modern establishments routinely inflict between 68 and 82 decibels on patrons and staff, a 2014 study found.”

The surface danger zone requirements can be narrowed by putting in tall berms along the sides of the range. Given an angle of repose of around 34 degrees, common in soils though exceeded in rock, this would mean ranges with 30-foot earthen berms would be 180 feet apart, so any but the largest site would be limited to only 2 or 3 ranges. The only way to narrow these separations is to erect bulletproof walls between the ranges.

Sound.

It is possible to erect a semi-circular sound-attenuating baffle around the firing line. There are interlocking absorptive “tiles” used to line some urban freeways. We estimate the cost of this to be at least \$500,000. It is unclear whether these can withstand the wind loads common in Boulder County, either in the plains, or in the funnels of mountain canyons.

Range Use Complications

Unless they are set up for particular types of competitions such as silhouette or smallbore prone, ranges are rarely used only from their firing points. Shooters frequently fire from midpoints along the range, even up close to the targets. Sometimes there are formal mid-range firing points, as for instance a 400 yard range might have firing points at 300, 200, and 100 yards. Overhead baffles are effective only from the furthest firing point; if baffles are installed at intermediate firing points, they obscure vision from the more distant points and can cause ricochet hazards. And many range uses are not from fixed points. For instance, a critical law enforcement skill is using a rifle from and around a patrol car at distances beyond typical pistol situations. There have been 3 recent incidents of this type, where officer and public safety were safeguarded by competent riflery. Such an exercise is fast-moving and cannot be confined to areas under a baffle. Another complication is position shooting. A baffle that works for standing position will not safely deflect, or possibly not even be hit by, a negligent discharge from prone position. A baffle that works for prone position will block the view of the targets from offhand, or must be positioned far downrange.

Assuming a very large capital source, it seems attractive to use baffles and metal berms and ricochet catchers, but an outdoor range will never be sealed. Only an indoor range can meet a standard requiring that no bullet ever escape the range. Supervision – by self or staff – can meet the requirements, but cannot obviate the theoretic possibility of a negligent discharge at some point by someone.

Costs

Summing the acreage requirements, a 400-yard range in the plains, if a site can even be located, would require 5 – 7 sections of land. If completely bermed and baffled about 3 sections, if the sound profile works out. Even if you could find a parcel that big in eastern Boulder County, it would be unaffordable. Put any reasonable price on east BoCo land: \$5,000/acre? \$10,000/acre? Boulder County Assessor values platted but undeveloped mountain land near my house at \$100,000/acre, and Boulder County pays more than \$10,000/acre for open space. Note this parcel near the Rabbit Mountain Open Space:

http://www.landandfarm.com/property/Rocking_R_Vacant_Land-3133411/

which is about \$27,500/acre. If we go with \$10,000/acre, the land cost is \$19 – 45 million, most of which is for land which will see an impact only from negligence and therefore may never be impacted. Depending on how much of the design relies on structure rather than land acquisition, buildings, earth-moving, sound absorption, and baffle/berm construction could run \$3 – 5 million.

Many of these land costs can be abated if the regulations are predicated on proper supervision, but that is non-trivial. We usually have 1 – 2 trained range officers per range, and on a public range day we open 2 – 4 ranges. If this range has supervision dawn to dusk, it would be 4 - 2 people 12 hours a day, 12 months. (Plains ranges do receive use all year.) This is beyond what you can get from volunteers; costs for a paid staff would need to be considered. If the range relies on a self-supervising ethos to save staffing costs, there would need to be a membership who subjected themselves to substantial educational requirements – which, of course, means that because not everyone could be a trained member the public would be much less served.

It is worth noting that the proposed requirements apply to existing ranges that seek to modify their facilities, so that avenue is also closed off.

Ranges in the Mountains

It appears that the regulations were designed to end range construction and range improvement in the plains. The background states, “Boulder County has not yet decided on any particular site, although there are five on Forest Service land which are under preliminary consideration.” The idea was from the start to displace range activity from the east side of the county, and make the Forest Service solve the problem. Whether this constitutes a good-faith effort to cooperate with U.S. Forest Service, Arapaho & Roosevelt National Forests and Pawnee National Grassland, Colorado Parks & Wildlife- Northeast Region, Clear Creek County, Gilpin County, and Larimer County.

Most of the comments we made about the near-impossibility and prohibitive costs of range construction in the plains apply to range construction in the mountains. But obviously, the proposed regulations expect the land to be free – the Forest Service will dedicate the land to the partnership, and acquisition problems are solved. Perhaps this is so, and if it is, the land acquisition costs the proposed regulations impose on plains range construction will be avoided.

There are a couple requirements in the proposed regulations that are more relevant to ranges in the mountains. “All firing lines should be aimed at target lines to the northeast, north or northwest unless there is sufficient screening, natural or manmade, to eliminate the effects of glare from the sun.” As a glance at a BoCo contoured map will show, drainages trend west-east throughout the mountain half of the county. It makes sense, when possible, to put ranges in valleys or canyons, to take advantage of the natural berming and (once it is measured) the effects on sound propagation. It is not going to be easy to find sufficiently long reaches of north-facing flatland in the mountains, which is what the regulations require. It should also be noted that the range and “surface danger zone” cannot contain any “traveled roadways, trails, streams, ponds, lakes, or other watercourses or wetlands...” West of the Flatirons, there are mostly either ridges or canyons. This is matter for detailed study – there may be relict sections of peneplain where a range could be established, but as a general thing, everywhere up there except ridge tops is part of a watercourse running an average 90 degrees contrary to the proposed rule.

We would also instance a couple other problems that will be exacerbated by a range in the mountains. First is access. Unless you pave and commit to plow, a winter range will have only about 2/3 the season of a range in the plains. From November to April, access will be chancy or unavailable, and the people who do force a way in will tear up the roads. And for most people and most agencies, getting to a range in the mountains is nearly as time-consuming and inconvenient as traveling out to Byers to one of the distant full-size ranges. Though they would normally staff around the problem, this inhibits response times to big incidents for the agencies that are using it. At BRC, our members and the local sheriff’s office use the range facilities pretty much year-round. That is unlikely with a mountain range. Weather is also a problem, not only because it is lots colder and that will discourage a lot of use, but because winds

and high altitude mean the data gathered by shooting have to be re-factored ballistically because they are not valid for lower, stiller, warmer areas. Another point is conformation. A range in the mountains will have about an hour a day less shooting light than a range in the plains. We don't have data, but suspect from using the high-altitude range at Buffalo Creek (near Bailey), that a range in the mountains will have increased lightning exposure and will have lots more part-day closures due to weather than our plains range does.

Oeth, Amy

From: Sanfacon, Garry
Sent: Tuesday, December 13, 2016 2:42 PM
To: Earl Perry; Krezek, Michelle; Boulder County Board of Commissioners; Case, Dale; Oeth, Amy
Cc: 'Steven Martin'; phil.d@boulderrifleclub.com
Subject: FW: BRC - Comments on the Proposed Firing Range Regulations - Earl Perry
Attachments: Comments Firing Range Proposed Regulations Earl Perry 12-13-16.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Firing Range

Earl,

Thanks for taking the time to review the proposed firing range regulations. I'm copying the Land Use Department planning staff, Dale Case, Land Use Director and Amy Oeth so they can include them as part of their review and respond to you with any follow-up questions.

Also, here is the webpage for this docket which was reviewed by the Planning Commission and should be heard by the Board of Commissioners in early 2017:
<http://www.bouldercounty.org/property/build/pages/lucodeupdatedc150003.aspx>

Best regards,
Garry

From: Earl Perry [<mailto:earlperry@comcast.net>]
Sent: Tuesday, December 13, 2016 2:22 PM
To: Sanfacon, Garry; Krezek, Michelle; Boulder County Board of Commissioners
Cc: 'Steven Martin'; phil.d@boulderrifleclub.com
Subject: BRC - Comments on the Proposed Firing Range Regulations - Earl Perry

Attached are my comments on the proposed firing range regulations adopted recently by the BoCo Planning Commission. I have given these comments as well to Sheriff Pelle, in summary as well as this fuller treatment. In very abbreviated form, I conclude that the proposed regulations, if adopted, will make it impossible to develop or improve a range in Boulder County, and will therefore preclude addressing the problem of dispersed shooting.

At his request, members of the Board of Boulder Rifle Club met with Garry Sanfaçon and Michelle Krezek to start discussing ways the Boulder Rifle Club could work with the County in its partnership with various other agencies and northern front-range counties in their effort to identify and potentially modify, or construct, existing and potential shooting ranges, the idea being to minimize dispersed shooting, such as the Lefthand Canyon “range.” We were very interested and somewhat encouraged by this, because we have some unused land adjacent to our South Range and already are cooperating with the County – the Sheriff’s Department. Specifically, we have discussed

- A 300-yard range. This would be the only such range in the County. It meets a public need for for sight-ins, for competition at that distance, and for SWAT practice for the Boulder Sheriff’s department and the other agencies with whom they operate.
- Additional 25 and 50-yard ranges, to allow more Sheriff department use and free up use on the existing 25 and 50-yard ranges.
- A clubhouse and indoor range, to replace the existing one. We have an active education program, juniors programs, and a number of activities open to the public which need a better facility than the current one.
- An archery range.

It seemed to us that some expansion of the range could offer the opportunity to achieve our goals; meet the county’s need to concentrate more public shooting on formal ranges; and help meet the Sheriff’s need for expanded training opportunities.

Summary

We have reviewed the proposed changes to the regulations which the County is considering. If they are accepted as written, we conclude that even with the best will in the world, we could not comply with them to make any range improvements and therefore won’t be able to help.

These regulations, if adopted, will make it impossible to develop an outdoor range economically anywhere in the plains of Boulder County, and will make it very difficult to develop a range in the mountains, even on Forest Service land, if the agency chooses to dedicate it. These impacts were designed into the proposal so obviously that they appear an attempt to subvert the Northern Front Range Recreational Sport Shooting Management Partnership.

Specific discussion is below.

Comments

From the background:

The present regulations do not offer sufficient protections to health and safety and thus, the county land use staff proposes the attached regulatory amendments.

The National Shooting Sports Industry statistics would seem to bely this assertion. See

nssf.org/PDF/research/IIR_InjuryStatistics2013.pdf

which indicates that firearms are responsible for 0.5% of unintentional adult fatalities (motor vehicles are 27.9%, poisoning 27.3%). It would be of interest to see some data behind this background statement, and particularly, to see some data from Boulder County. As stated it seems to assume facts not in evidence. This assumption is used to buttress a series of regulatory changes that make range construction or refurbishing economically impossible.

Plains

What is lacking in the Boulder area is the ability to shoot deer and elk rifles at ranges of 25 – 400 yards. The chief uses of an outdoor range are:

- sighting in deer and elk rifles
- short-range rifle matches (medium range matches are defined as 200 – 600 yards, long range is 800 - 1000)
- law enforcement practice (regular and SWAT)

Ranges longer than 400 yards are more than an hour from Boulder proper, and also require membership.

Much dispersed shooting is by people practicing with these rifles.

To accommodate this unmet recreational need would require a range a quarter mile long. At a minimum, **a quarter-section.**

But the proposed regulations contemplate land control far beyond the range. To build a new range in the Plains, or even to improve an existing range, note the land requirements necessary.

4-602 Special Provisions - (new criteria/development standards)

A. ...

a. Range Design

- (i) Pistol and Rifle Firing Ranges. Pistol and rifle firing range design shall include sufficient land area under control of the applicant for the surface danger zone (direct fire zone, safety zones, and ricochet zones) to accommodate the ballistics of the highest powered firearms and ammunition to be used on the range.

The Surface Danger Zone is “The area, determined by an applicant’s Professional Engineer, that may reasonably expect projectile impact.” The maximum range of a deer or elk rifle is about 3.5 miles (elevated about 43 degrees, boattail ammunition). Given a pair of bounding azimuths of about 15 degrees either side of the firing point, this would require a surface danger zone extending about 4 sections beyond the range, widening to about 2 sections at its distant point. Roughly **6 sections**. Assuming it is possible to buy a fan of land, **4 sections**.

“Reasonable” is the key. Proper use of a firearm in accordance with standard safety rules and correctly designed backstops will not result in any projectile impact, including ricochets, beyond the backstop. Supervised use is equally unlikely to produce ex-Range impacts. The chance for such an impact can be mitigated to “none” by regulation (cased rifles only from vehicle to firing line) and the most standard of gun safety rules: keep your finger off the trigger until sights are trained on the target and you are ready to fire. I have spent parts of almost 10 years shooting outdoors at the Boulder Rifle Club, and have not observed any shots fired over the backstops. Speaking from observation, the area that can “*reasonably* expect projectile impact” is the range. Only gross negligence will produce an impact beyond it. The area that can *possibly* expect projectile impact is what these regulations are imposing.

The proposed regulations would also require setbacks in the shooting and target areas. Beyond the targets, the setback is as envisioned above: the “surface danger zone.” To this is added a quarter-mile offset from various facilities depending on agreement with the owners. What is important to note here is what uses require the quarter-mile setback:

Residential
Lodging
Platted subdivision (whether developed or not, presumably)
Townsites
Recreational trails
Open space areas with offtrail use permitted
Campgrounds
Other potential hazards

The same list governs the 400-foot setback in “other directions.”

The only way to assess the impacts of these setbacks is to create a set of venn diagrams around each such use or area in eastern Boulder County. Neither I or to my knowledge the planners have completed this exercise, without which it isn’t certain whether there are any areas left that would lie outside the setbacks. My guess is the answer is “none.” I took a look on the map at two possibilities, Rocky Flats and the Cemex plant near Lyons. Neither of these is large enough to handle a 3.5-mile surface danger zone, and contamination probably renders the Rocky Flats site usable. Much of it is not in Boulder County.

The proposed regulations specify that the range have 1.5 parking places per firing position. Even a very modest range like Boulder Rifle Club has 65 – 70 firing points, so this would require about 100 – 110 parking places. With feeder access, a couple more acres. This will probably require another **quarter section** when added to the land needed for buildings.

The regulations require momentary sound impulse to be less than 65db at residential or other occupied structures not on the property. Sound attenuation is governed by a simple equation, but in practice is very difficult to predict; only detailed studies under a complex of environmental conditions (prevailing but also occasional winds, density altitude, vegetation, and local topography all powerfully affect it) can produce an idea of likely effects. And for what? The prevailing sound levels in restaurants as of 2014 were 68 – 82 DB.¹ The idea is to make a firing range quieter than a restaurant. It is difficult to quantify this without study, but if we posit for simplicity’s sake the proposed regulations requirement of a ¼ mile buffer around the firing point is enough to accomplish this attenuation, this is another **half section** (320 acres) that must be obtained or controlled.

Mitigative Factors

Surface Danger Zone.

The surface danger zone requirements can be shortened by

- putting in bullet-proof baffles in front of and above the firing points.

¹ Science News 10/15/16, p.4. “Modern establishments routinely inflict between 68 and 82 decibels on patrons and staff, a 2014 study found.”

- facing the backstop with energy-absorbing materials
- putting an angled bulletproof ricochet catcher along the top of the backstop, if it is anticipated that the impact surface cannot be designed to be ricochet-free.

The surface danger zone requirements can be narrowed by putting in tall berms along the sides of the range. Given an angle of repose of around 34 degrees, common in soils though exceeded in rock, this would mean ranges with 30-foot earthen berms would be separated by 180 feet, so any but the largest site would be limited to only 2 or 3 ranges. The only way to narrow these separations is to erect bulletproof walls between the ranges.

Sound.

It is possible to erect a semi-circular sound-attenuating baffle around the firing line. There are interlocking absorptive “tiles” used to line some urban freeways. We estimate the cost of this to be at least \$500,000. It is unclear whether these can withstand the wind loads common in Boulder County, either in the plains, or in the funnels of mountain canyons.

Range Use Complications

Unless they are set up for particular types of competitions such as silhouette or smallbore prone, ranges are rarely used only from their firing points. Shooters frequently fire from midpoints along the range, even up close to the targets. Sometimes there are formal mid-range firing points, as for instance a 400 yard range might have firing points at 300, 200, and 100 yards. Overhead baffles are effective only from the furthest firing point; if baffles are installed at intermediate firing points, they obscure vision from the more distant points and can cause ricochets. And many range uses are not from fixed points. For instance, a critical law enforcement skill is using a rifle from and around a patrol car at distances beyond typical pistol situations. There have been 3 recent incidents of this type, where officer and public safety were safeguarded by expert riflery from our Sheriff’s department. Such an exercise is fast-moving and cannot be confined to areas under a baffle. Another complication is position shooting. A baffle that works for standing position will not safely deflect, or possibly not even be hit by, a negligent discharge from prone position. A baffle that works for prone position will block the view of the targets from offhand, or must be positioned far downrange from the firing point.

Assuming a very large capital source, it seems attractive to use baffles and metal berms and ricochet catchers, but an outdoor range will never be sealed. Only an indoor range can meet a standard requiring that no bullet ever escape the range. Supervision – by self or staff – can meet the requirements, but cannot obviate the theoretic possibility of a negligent discharge at some point by someone.

Costs

Summing the acreage requirements, a 400-yard range in the plains, if a site can even be located, would require 5 – 7 sections of land. If completely bermed and baffled about 3 sections, if the sound profile works out. Even if you could find a parcel that big in eastern Boulder County, it would be unaffordable. Put any reasonable price on east BoCo land: \$5000/acre? \$10,000 acre? Boulder County Assessor values platted but undeveloped mountain land near my house at \$100,000/acre, and Boulder County pays more than \$10,000/acre for open space. Note this parcel near the Rabbit Mountain Open Space:

http://www.landandfarm.com/property/Rocking_R_Vacant_Land-3133411/

which is about \$27,500/acre. If we go with \$10,000/acre, the land cost is \$19 – 45 million, most of which is for land which will see an impact only from negligence and therefore may never be impacted. Depending on how much of the design relies on structure rather than land acquisition, the road construction, parking design, buildings, earth-moving, sound absorption, and baffle/berm construction could run \$3 – 5 million.

Many of these land costs can be abated if the regulations are predicated on proper supervision, but that is non-trivial. We usually have 1 – 2 trained range officers per range, and on a public range day we open 2 – 3 ranges: 3 - 5 range officers on up to 4 ranges. If a new facility has 2 ranges with supervision dawn to dusk, it would be 2 - 4 people 12 hours a day, 12 months. (Plains ranges do receive use all year, though practically there is about a month where it is minimal; a range in the mountains would have a shorter season; see below.) This level of oversight is beyond what you can get from trained volunteers; costs for a paid staff would need to be considered. If the range relies on a self-supervising ethos to save staffing costs, there would need to be a membership who subjected themselves to substantial educational requirements, like Range Officer certification. Of course, if there is self-supervision only and training standards are set high, the public would be much less served.

It is worth noting that the proposed requirements apply to existing ranges that seek to modify their facilities, so that avenue is also closed off.

Ranges in the Mountains

The background states, “Boulder County has not yet decided on any particular site, although there are five on Forest Service land which are under preliminary consideration.” The idea from the start was to displace range activity from the east side of the county, and make the Forest Service solve the problem.

Most of the comments we made about the near-impossibility and prohibitive costs of range construction in the plains apply to range construction in the mountains. But obviously, the proposed regulations expect the land to be free – the Forest Service will dedicate the land to the partnership, and acquisition problems are solved. Perhaps this is so, and if it is, the land acquisition costs the proposed regulations impose on plains range construction will be avoided.

There are a couple requirements in the proposed regulations that are more relevant to ranges in the mountains. “All firing lines should be aimed at target lines to the northeast, north or northwest unless there is sufficient screening, natural or manmade, to eliminate the effects of glare from the sun.” As a glance at a BoCo contoured map will show, drainages trend west-east throughout the mountain half of the county. It makes sense, when possible, to put ranges in valleys or canyons, to take advantage of the natural berming and (once it is measured) the effects on sound propagation. It is not going to be easy to find sufficiently long reaches of north-facing flatland in the mountains, which is what the regulations require. It should also be noted that the range and “surface danger zone” cannot contain any “traveled roadways, trails, streams, ponds, lakes, or other watercourses or wetlands...” West of the Flatirons, there are mostly either ridges or canyons. This is matter for detailed study – there may be relict sections of peneplain where a range could be established, but as a general thing, everywhere up there except ridge tops is part of some watercourse running an average 90 degrees contrary to the proposed rule.

We would also instance some other problems that will be exacerbated by a range in the mountains. First is access. 1) A winter range will have only about 2/3 the season of a range in the plains, even if you pave and plow the access. From November to April, snow accumulation will make access chancy or unavailable, and the people who do force a way in will tear up the roads. 2) for most people and most agencies, getting to a range in the mountains is nearly as time-consuming and inconvenient as traveling

out to Byers to one of the distant full-length ranges. 3) Though they would normally staff around the problem, this inhibits response times to big incidents for the law enforcement agencies that are using a range in the mountains. At BRC, our members and the local sheriff's office use the range facilities pretty much year-round. That is unlikely with a mountain range.

Weather is also a problem, not only because it is lots colder and that will discourage use even when you can get in, but because winds and high altitude mean the data gathered by shooting have to be re-factored ballistically because they are not valid for lower, stiller, warmer areas.

Another point is conformation. A range in the mountains will have about an hour a day less shooting light than a range in the plains. We don't have data, but suspect from using the high-altitude range at Buffalo Creek (near Bailey), that a range in the mountains will have increased lightning exposure and will have lots more part-day closures due to weather than our plains range does.

Related to access is serious fire potential. Outdoor firing ranges have some probability of ignition, which can mostly be mitigated if you ban certain materials and activities (tracers, tannerite targets, smoking, camping) and if you remove all vegetation from parking areas and the immediate vicinity of the backstop. But there will always be some possibility of a fire start. *If we set aside lightning and consider only human-caused ignition, range location is neutral as to fire starts, but it is not neutral as to fire fighting.* Access to a fire once it has started is much more difficult in steep, forested terrain, as compared to the grasslands of the plain. As the Left Hand fires have demonstrated, mountain fires spread further, last longer, cost more, and often move into the wildland-urban interface, where they can be really devastating. If you compare the Cold Springs Fire (or any other of our recent mountain fires) to the grassfire near US 36 Mile 30 this last summer, the point will be clear. Because of easy access that one was held to about 3.5 acres.

General Reaction

We noted that with the best will in the world, we could not comply with these regulations if we wanted to refurbish or expand our range. We no longer have the best will in the world. On April 20, 2016, we received an email from Code Compliance Specialist II Scott Weeks, containing the following line:

We received a violation inquiry on the property regarding noise. I proceeded to perform some research on the permitting history of the property. I found, unrelated to noise, that two structures have been added to the property without permits: one on the south portion of the property between 2002-2003; and one on the north side of the range between 2010-2011.

Because the Legislature had enacted anti-harassment legislation protecting pre-existing shooting ranges from noise complaints, and our North range preexisted not only the resident complaining but the land use code, Mr Weeks was stymied on that basis, so he attempted to close the North Range by using the construction of an awning and a lawnmower shed that was too small for a building permit as a pretext for revoking the exemption the club had for range use. He did, however, offer that the offending structures could be torn down, a permit applied for, a full review of the exemption triggered, and if the range survived that, a permit might be issued, and we could reconstruct.

By way of background, in addition to use by its 920 members and their guests, in 2015 Boulder Rifle Club provided public and law enforcement use of our South Ranges in the amount of 5300 user days. More than 1/10 of that was by the Boulder County Sheriff's office, and cooperating Law Enforcement agencies in the area with whom they need to train. There are programs for juniors and women, as well as an education program with the most thorough concealed-carry classes in the state. (Our thought is that we would rather be around concealed carriers who have had hours of live-fire practice, and hours of legal

instruction by a lawyer or Sheriff's deputy, rather than someone who has gone through 3 hours of cut-rate instruction, so that is how the class is set up.) To allow for this level of public use, our volunteers provided almost 3.5 years of supervision, match direction, training, coaching, and instruction. We are in talks with another local law enforcement agency to support their training needs as well. We are proud of our juniors, some of whom have gone to national championships and Olympic competition, we are proud contribution to public safety and firearms knowledge.

This could not happen without the North Range. It is never scheduled, so when an activity for the public or the Sheriff's department takes over the ranges or clubhouse at the South Range, there is a place for the members to go. Without this secondary area, the Board would need to cut back on public service to accommodate its members at the only range it would have left to it. This we are loathe to do, and assuredly forced cut-backs would not help with the problem of dispersed shooting.

We are unclear about the motivation behind this attempt. Was it a Lois Lerner, where a bureaucrat feeling secure decides to oppress an unpopular group? Or should we take it that the right hand and left hand are not in communication? Should we expect more attempts to oppress us? Sheriff Pelle and Garry Sanfaçon have respectively stated that they appreciate the use opportunity; and that the Partnership is serious in attempting to find range-based solutions to the need for shooting opportunities in Boulder County.

Because a couple board members have law enforcement experience, and all the board members strongly support it, we want to continue to provide the Boulder Sheriff's Office with

- convenience. A group of outdoor ranges allows several relays at once, while others can maintain and clean their firearms in the clubhouse, with the training taking place only about 10 minutes from headquarters, well within the time and distance radius of County emergency response.
- Medium distance training with vehicle access. As we noted above, the Boulder Sheriff's Office has been involved in some incidents where rifle skill has been critical to maintaining public safety; a range for those exercises is not easily available elsewhere without running up a lot of travel costs.
- SWAT practice, some of which is integrated with other agencies our Sheriffs are likely to have to work with. Most urban SWAT incidents are moderately close range (77 yards on average), but a plains-to-mountains county like Boulder also has a great need for officers to practice at longer ranges.

We think this is a good system for the Sheriff's Department, and we know it is good for us as a club and as citizens. And as citizens, as well as (one of us) a firefighter who has actually been on some of the Lefthand Canyon fires, we recognize a need for safe, range-based shooting opportunities. We strongly support the Partnership's goals.

We base our responses on what the proposed regulations say, and on what we have been told by Sheriff Pelle and Mr. Sanfaçon. But what we have been subjected to is an attempt to find a pretext to shut down one of our ranges, one which is essential to providing services to our members, and indirectly to the public and the local law enforcement community. If one agency of the county sets out to interfere with the exercise of a civil right by an unpopular group, it is difficult for us not to infer that all branches of the county are aligned in that attempt. Naturally we prefer to believe the Sheriff and Mr. Sanfaçon when they express interest in cooperation to attain the goal of the Northern Front Range Recreation Shooting Partnership, since we too are interested in that. But evidence is evidence. These proposed regulations are certainly more consonant with the shut-us-down hypothesis, than with a real attempt to provide shooting opportunities.

When we ran the proposed regulations by the National Shooting Sports Federation, one of their environmental consultants got back to us within hours saying, “If these are accepted as written, no one – including the Sheriff – will fire a shot on a new or refurbished outdoor range in Boulder County.”

Oeth, Amy

From: Sanfacon, Garry
Sent: Tuesday, April 04, 2017 2:34 PM
To: Oeth, Amy
Subject: FW: Boulder County Firing Range Land Use Code update

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Firing Range

Amy,

Here's Ron's comments about the latest version of the regs. Feel free to contact him directly if you have questions.

Thanks,
Garry

From: Ronald Abramson [<mailto:ronald.abramson@coloradoranger.org>]
Sent: Tuesday, April 04, 2017 11:18 AM
To: Sanfacon, Garry
Subject: Re: Boulder County Firing Range Land Use Code update

Garry - Thanks for giving me the opportunity to review the proposed regs. They look great. Amy has done an incredible job putting these together!

Only suggested change I have is 4-601 F (1) f - "All manmade berms shall be vegetated to reduce the potential for erosion."

Our plan for the facility would be to have a dirt/light concrete mix for the berms to keep them well formed and looking professional and/or use a combination of protected soft material backstop. Attached are some pictures of a version of the dirt/concrete mix using sand and you can see how nicely formed the berms are.

Vegetation looks sloppy in my view (picture attached for reference) and makes ranges look like dumps, but I know there is a major cost issue there, so maybe flexible language that says vegetation "or other material or protection to prevent erosion" would be a good compromise.

Also, some of the sideberms could potentially use concrete block or similar material so not sure if this falls into the definition of "manmade" or not but obviously you wouldn't want (or be able to) use vegetation on those types of sideberms.







Best,

Ron

Col Ronald Abramson
State Commander
Colorado Mounted Rangers
720.515.1776 Cell
Ronald.Abramson@ColoradoRanger.org
Serving & Protecting Colorado Since 1861

On Apr 3, 2017, at 8:52 AM, Sanfacon, Garry <gsanfacon@bouldercounty.org> wrote:

<DC-15-0003- Firing Range Code-2017-03-31-redline for BRC.docx>

From: [Earl Perry](#)
To: [Oeth, Amy](#)
Subject: FW: Boulder County Firing Range Land Use Code update
Date: Friday, April 14, 2017 12:41:41 PM
Attachments: [DC-15-0003- EP Comments on Firing Range Code-2017-03-31-redline for BRC 4-13-17.docx](#)

I think the club is preparing a response, but I'm responding on my own. This version still has the problems of the previous one we met about. This version leaves the county with diffuse veto power and makes it impossible to make a business decision about whether to build or not, since you cannot know what the county will decide to accept. Even to reach the stage of deciding requires hiring a PE who will still not sign off on any outdoor range because there cannot be any certitude about whether someone may fire a round in some untoward direction. If you take the perspective of a builder, there is at least a building code which you can study and craft your designs so you can comply with it, so it is possible to make an informed decision about whether to build or not build. Not so here. The document contains sentences like, "The County may vary from these standards where the applicant has demonstrated..." "The County may also impose stricter standards based on range design..." "Shotfall zones for trap live-bird simulators, sporting clays, or other shotgun firing ranges shall be determined on a case-by-case basis." No one can plan, much less operate, based on such nebulous implications. I have been told by county representatives including a commissioner that the county is serious about cooperating in solving the dispersed shooting problem, but this version would indicate otherwise. It is not fundamentally changed from the version of which one of your own planning commission members remarked that it will mean the end of any outdoor range construction or renovation in the county.

These proposed regulations rely on the expectation of good will. "Let's spend 10000s or even 100000s of planning money because the County says it wants to cooperate." Our good will, of course, was strained to the breaking point by the land use department attempt to shut us down.

Now, based on what we have been told, the county does, but based on what was done to us and the way this version is essentially unchanged, I don't think it is sound fiscal management to spend money based on a statement, especially when the proposed rules indicate otherwise.

Accordingly I edited this document to include provisions one could actually use to plan. I also struck out some things that achieve little or nothing and could be a burden or impossible to comply with: north orientation, wetlands (see Sackett vs EPA), watercourses (there are no places anywhere in the county that are not part of a watercourse). I note section 402-6 F 1 I vii I implies such a range will be membership-based. While this would apply to BRC, and having trained range officers or club members would indeed conduce to safe operation, it is not clear that was the county's intention in agreeing to cooperate with the Front Range Shooting Partnership. Would the county form a shooting club? Would the range be built (cf the new range in Pawnee NG) and left open to the public?

Any questions or discussion to 303 233 3110.

From: Oeth, Amy [<mailto:aoeth@bouldercounty.org>]
Sent: Friday, March 31, 2017 3:54 PM
To: Earl Perry <earlperry@comcast.net>; president@boulderrifleclub.com;

phil.d@boulderrifleclub.com

Cc: Case, Dale <dcase@bouldercounty.org>; Sanfacon, Garry <gsanfacon@bouldercounty.org>

Subject: Boulder County Firing Range Land Use Code update

Hi Boulder Rifle Club representatives,

Attached is the updated draft version of the Firing Range code update. Changes from the previous version you reviewed are redlined (shown in a few different colors based on the editor).

The proposed code updated is scheduled to go before the Board of County Commissioners on 5/2/17 at 1pm. A public notice will be posted to the Daily Camera/Times Call on 4/4/17 with this general public hearing information. The staff report for the hearing will be posted at least a week in advance of 5/2/17 and will contain the final proposed code amendment. There may be a few more changes to the draft that is attached, but this version should cover the bulk of the changes.

Please feel free to call or email me with concerns, questions, or feedback. We value your input.

Thank you,

Amy Breunissen Oeth, AICP

Long Range Planner II | Boulder County Land Use Department

2045 13th Street, Boulder, CO 80302

Office: 720-564-2623

aoeth@bouldercounty.org

www.bouldercounty.org/lu

Exhibit A

PROPOSED TEXT

Article 18 Definitions - new definitions

18-195A: Shotfall Zones: The area of a shotgun firing range where spent shotgun shot falls to the earth and where development, other than trap or skeet houses or the equivalent facilities for other types of shotgun events, and human occupancy, other than operators of the trap, skeet or equivalent facilities, is prohibited ~~during shooting.~~

18-207A: ~~Surface Danger Potential Impact Zone:~~ ~~The area, determined by an applicant's Professional Engineer professional engineer registered in the State of Colorado or other equally qualified individual, in which projectile impact may occur is forecasted to receive, that may reasonably expect projectile impact. The zone is generally in the line of fire and spans the area that could receive projectile impact and debris resulting from direct fire, including misdirected and accidental discharges, and ricochets from any firearm. The boundaries of the zone (i.e., the length of the range and the width of the firing point or points) accommodate the ballistics of the highest powered firearms, and the range of ammunition that may be used in the permitted firing activities, extends from the range backstop a distance of no more than 1 mile, with a width of not more than 10 degrees as measured from the central firing point on a range. Spatial requirements may be reduced or expanded in consideration of natural topographic features. Spatial requirements may also be or reduced in consideration of operational plans and/or manmade improvements, including but not limited to backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which will provide sufficient safety measures to protect adjacent properties.~~

Formatted: Font color: Red

Article 4-510 Recreation Uses – new use definition

A. Firing Range, Outdoor

1. Definition: A facility inclusive of its component shooting ranges, ~~Surface Danger Potential Impact Zone and~~ Shotfall Zones, parking areas, all structures for classrooms, administrative offices, ammunition storage areas and other associated improvements, for which the ~~primary~~ use is to provide a place for the discharge of various types of firearms. The definition excludes hunting and shooting activity occurring outside of identified and approved ~~shooting firing~~ ranges, and occasional target practice by individuals on property owned or leased by the individuals.
2. Districts Permitted: By Special ~~Use~~ Review in F, A, GI, LI,
3. Parking Requirements: ~~to be determined through review~~ 1.5 parking places for each firing position
4. Loading requirements: none
5. Additional Provisions:
 - a. Shooting and target area setbacks

- (i) In the direction of fire ~~and potential shotfall zone, at least the maximum distance of projectile travel of the estimated to occur at the facility based on the ballistics of the type of ammunition and firearms largest caliber weapon permitted to be fired for use on the range the shotfall zone and potential impact zone.~~ This distance can be reduced based on an engineered study and proper mitigation which reduces the ~~Surface Danger Potential Impact~~ Zone, but except where noted below shall not be closer than 1,320 feet from residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, ~~a County platted subdivision, County townsites, designated~~ recreational trails, open space areas where off-trail use is allowed, designated campgrounds whether public or private, and/or any other potential hazards as identified through ~~special Special use Use review Review, review. This The 1,320 foot~~ setback may be reduced with a signed

Formatted: Font color: Red, Strikethrough

Formatted: Font color: Red

Formatted: Font color: Red, Strikethrough

agreement with neighboring property owners within 1,320 feet. In all other directions, the boundary of any outdoor shooting area shall be no closer than 400 feet from residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property, a County platted subdivision, County townsites, recreational trails, open space areas where off-trail use is allowed, designated campgrounds whether public or private, and/or any other potential hazards as identified through special use review. During the review process, a proposed decreased or This distance may be increased in spatial requirements may be considered based on range design, operational plans, topographic features, and noise studies, and/or manmade improvements, including but not limited to backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which provide sufficient safety measures to protect adjacent properties. during the review process. See Figures 1- for samples of range setbacks with sSurface dDanger zZones.

(ii) Default zoning district setbacks are applicable to office, restrooms, classroom space, or other related range ~~areas~~ facilities where weapons are not being fired.

Table 4-510-A-5-a-i Setback Summary

<u>Setbacks</u>	<u>Minimum Distance</u>
<u>Direction of fire and shotfall zone</u>	<ul style="list-style-type: none"> <u>maximum distance of projectile travel unless mitigated potential impact zone</u> <u>no closer than 1,320 feet from the list defined in 4-510-A-5-a-i</u>
<u>All other directions</u>	<ul style="list-style-type: none"> <u>no closer than 400 feet from the list defined in 4-510-A-5-a-i</u>
<u>Office, restrooms, classroom space, or other related range areas where weapons are not being fired.</u>	<ul style="list-style-type: none"> <u>Default zoning district setbacks</u>

We are considering adding example diagrams here- TBD

4-602 Special Provisions - (new criteria/development standards)

AF. Special Review for Firing Range, outdoor-Outdoor use

1. The following standards shall apply to the development of proposed outdoor firing ranges upon application for a special use permit. The County may vary from these standards where the applicant has demonstrated, and a professional engineer registered in the State of Colorado or other equally qualified individual County approved engineer has verified, that the proposed facility includes alternative designs and features, either natural or manmade, that will otherwise mitigate the potential adverse impacts to the health, safety and welfare of owners or users of ~~neighboring adjacent neighboring~~ properties and the general public. ~~The~~ County may also impose stricter standards based on range design, environmental resources and other site specific factors.

a. Range Design

(i) Pistol and Rifle Firing Ranges. Pistol and rifle firing range design shall include sufficient land area under control of the applicant for the Ssurface dDangerPotential Impact Zzone (direct fire zone, safety zones, and ricochet zones) to accommodate the ballistics of the highest powered firearms and ~~ammunition~~ the range of ammunition that may be used in the permitted firing activities, to be used on the range. Such geographic areas shall be designed based on industry-accepted range design guidelines, standards,

and best practices. Such spatial requirements may be reduced in consideration of natural topographic features or manmade improvements, including but not limited to, backstop and side berms, bullet traps, ricochet catchers, and overhead or ground safety baffles which will provide sufficient safety measures to protect persons or adjacent properties. ~~The range design and operation will dictate the Surface Danger Potential Impact Zone. The Surface Danger Potential Impact Zone which will, in turn, affect setback distances. The range design and operation will impact the setbacks through defining the Surface Danger Zone.~~

- (ii) Shotgun Ranges. Trap ranges shall have a shotfall zone on property under control of the applicant, as established by a line which extends 50 yards to the right and 50 yards to the left of, and perpendicular to, the centerline of the trap house. From each end of said line, boundary lines having interior angles of 130 degrees shall extend down range for at least 300 yards with the actual distance determined by the maximum distance of the full range of ammunition and firearms permitted for use on the range. Skeet ranges shall have shotfall zones on property under control of the applicant which are a complete semi-circle with its center point located at the center point of a defined station and a radius of the semi-circle being at least 300 yards with the actual distance determined by the maximum distance of the full range of ammunition and firearms permitted for use on the range. Shotfall zones for trap live--bird simulators, sporting clays, or other shotgun firing ranges shall be determined on a case-by-case basis.
- b. Security. The entire perimeter of a Firing Range shall be fenced and signed to reduce the potential for trespass onto the property. In some areas topography or natural barriers may make fence placement unnecessary. In addition, warning signs identifying the range shall be posted around the perimeter of the parcel or parcels on which the ~~shooting-firing~~ range is located such that each sign is visible and legible from the next ~~parcel~~ (generally 200 yards but more frequently placed, depending on topography and vegetation). ~~Fencing where~~ Where wildlife is a concern, fencing should be designed and installed to be wildlife safe while maintaining all measures to secure a firing range and reduce potential for trespass on the property.
- c. ~~Parallel ranges shall be separated by bulletproof barriers or berms a minimum 10 feet high. Backstops shall be a minimum 20 feet high. Barriers and backstops meeting this standard are defined as adequate parking. At a minimum, there shall be 1.5 parking places for each firing position.~~
- d. Noise. All firing line locations shall be located and maintained such that the sound levels generated by the discharge of firearms on the range do not exceed a 65 dB peak impulse response at existing residential structures (whether permanent or seasonal), lodging or other occupiable or occupied structures not on the subject property. ~~The applicant shall submit a noise study proving the proposed range will meet this standard at time of application. The burden of proof that the proposed range will meet this standard shall rest with the applicant.~~ All noise studies shall be performed by a professional engineer registered in the State of Colorado or other equally qualified individual and shall take the topography of the surrounding area into account.
- e. ~~Range Orientation. All firing lines should be aimed at target lines to the northeast, north or northwest unless there is sufficient screening, natural or manmade, to eliminate the effects of glare from the sun.~~
- f. All backstops shall have sufficient depth of sand or other similar soft earthen material that is free of rocks, stones and other hard objects that may result in ammunition ricochets. ~~All manmade berms shall be vegetated to reduce the potential for erosion.~~ A manmade, mechanical backstop may be substituted upon approval. All backstops and berms shall be maintained to perform their intended functions.

Formatted: Font color: Red

Formatted: Font color: Red, Strikethrough

Formatted: Font color: Red, Strikethrough

- g. Firing ~~R~~anges shall be developed such that there are no traveled roadways, trails, streams, ponds, ~~or lakes; or other watercourses or wetlands~~, located within the ~~Surface~~ ~~Danger~~~~Potential Impact~~ Zone or within any Shotfall Zone.
- h. The developer ~~or~~ operator of the ~~firing~~ ~~Firing range~~ ~~Range~~ facility shall provide to the Land Use Department, at the time of application for the building permit final inspection, a certification prepared by a ~~professional engineer registered in the State of Colorado or other equally qualified individual~~ ~~Colorado registered engineer confirming that the~~ ~~firing~~ ~~Firing range~~ ~~Range~~ facility has an ~~environmental~~ ~~Environmental stewardship~~ ~~Stewardship plan~~ ~~Plan~~. The ~~environmental~~ ~~Environmental stewardship~~ ~~Stewardship plan~~ ~~Plan~~ may include semi-annual soil and water sampling, regular liming of the soil to prevent lead migration, reclamation and recycling of expelled ammunition and lead, and must comply with the Best Management Practices, specifically relating to lead management, as specified by the Environmental Protection Agency's (EPA's) most current edition of Best Management Practices for Lead at Outdoor Shooting Ranges.
- i. Operational Requirements
 - (i) Hours of operation will be limited to the hours between 7:00 a.m. to 7:00 p.m. with the exception of shooting for educational ~~or law enforcement~~ activities which will be allowed until 9 p.m. ~~up to~~ one day per week, unless more restrictive hours are necessary to address impacts to ~~neighboring~~ areas. ~~Trainings areas are allowed to remain in operation up to two hours past sunset for up to five days per month.~~
 - (ii) Alcohol or drugs must not be permitted on site.
 - (iii) No tracer rounds or incendiary rounds permitted.
 - (iv) ~~A~~ Fire Safety and Response Plan must be filed and approved by ~~the~~ local fire protection district and Sheriff.
 - ~~(v)(i) Safety Plan must be filed and approved with Land Use Department and the Sheriff and range rules posted.~~
 - ~~(vi)(v)~~ At each ~~firing~~ ~~Firing range~~ ~~Rangerange~~, there shall be operational large fire extinguisher~~(s)~~; always immediately available for emergency use, stored at all shooting and target ~~areas~~. Number of extinguishers to be determined during the ~~special~~ ~~Special use~~ ~~Use review~~ ~~Review~~ process.
 - ~~(vi)~~ On site emergency communication system required.
 - ~~(vii)~~ ~~A Safety Plan must be filed and approved with the Land Use Department and the Sheriff and range rules posted.~~
 - ~~(i)~~ ~~Supervision. In order to consider~~ ~~To receive a reduction in setbacks, a firing range shall have at least one trained safety officer present when open to the public. When the facility is closed to the public, a range member who has passed the minimum training requirements of the range shall be present.~~
 - ~~(viii)(viii)~~ ~~Through the Special Review process the Board of County Commissioners (BOCC) may require periodic reviews to assure effective monitoring and operation of the range to protect the health and safety of those in the area and to ensure compliance with the Special Use Review approval. If at any time the BOCC finds the operation does not meet the design or operational expectations, they may modify existing conditions or impose additional conditions to address concerns including, without limitation, requiring on-site range staff, cameras, or corrective design measures.~~
- j. Enforcement.
 - (i) ~~Shooting~~ ~~Firing~~ range noise ~~ordinance~~ violations will be enforced if the following criteria are met:
 - 1. A civil action or criminal penalty shall ~~only not~~ be ~~sought~~ ~~commenced~~ against an approved range or its owners or operators ~~following a written complaint~~

Formatted: Font color: Red, Strikethrough

Formatted: Font color: Red

Formatted: Font color: Red

Formatted: Font color: Red, Strikethrough

- ~~from a resident of Boulder County. -based on the grounds for commencing civil action or penalty include of noise in excess of permitted levels emanating from such a range that results from the operation or use of the range only upon a written complaint from a resident of Boulder County.~~
2. Written complaints must contain the name and address of the complainant, how long the complainant has resided at the address indicated, and the times and dates upon which the alleged excessive noise occurred. Enforceable complaints must meet the criteria of C.R.S. § 25-12-109, as amended.
 - (ii) Notwithstanding 4-602(F)1.j(i) above, any other ~~of the~~ provisions of this section may be enforced under Article 17 of the Code, or by any legal or equitable means recognized by the Colorado State Statutes and the Colorado Court Rules, as amended.
 - k. Any future expansion that results in additional firing positions, such as but not limited to including without limitation a lengthened daily period of operations or increasing increased the length of the direct fire zone or the area of the shotfall zone ~~in order~~ to accommodate the use of firearms not identified in the then-existing ~~special~~ Special Use permit application ~~would will constitutes~~ a substantial modification under 4-603 of ~~this the~~ Code. Changes that would are not be considered a substantial modification and would be considered are routine maintenance include simple, small-scale activities (i.e., repairing structures such that a building permit is not required under the county eCode) associated with regular (daily, weekly, monthly, etc.) and general upkeep of an existing building, firing line, target line, parking lots, etc. Routine maintenance activities are associated with maintaining a facility in its original condition, not expansion or new construction.

Oeth, Amy

From: Earl Perry <earlperry@comcast.net>
Sent: Tuesday, April 25, 2017 2:38 PM
To: Oeth, Amy
Cc: Case, Dale; Sanfacon, Garry
Subject: RE: Boulder County Firing Range Land Use Code update

Follow Up Flag: Follow up
Flag Status: Completed

...

I have one question - why the change from labeling "Surface Danger Zone" to "Potential Impact Zone"? Have you seen the use of Potential Impact Zone in other codes? I have seen the use of "Safety Fan" used similarly in other codes.

>>>

Herewith: If we adopt

- a 10-degree dispersion, as opposed to a 360-degree,
- a range of 3.5 miles, reasonable for all but .50BMG
- a volume of 12 ft³ per human (a little high)

then there is a 1:14,907,200 chance of a stray bullet landing in a human-size volumetric unit in the dispersion area, ie, striking a person who has entered the area. (See below.) This compares with a lightning strike probability of 1:280,000 (http://www.lightningsafety.com/nlsi_pls/probability.html).

Here are some other probabilities:

(<http://theweek.com/articles/462449/odds-are-11-million-1-that-youll-die-plane-crash>)

1 in 3.7 million

Chance that you will be [killed by a shark](#).

1 in 11 million

Chance that you will be [killed in an airplane crash](#).

1 in 5,000

Odds that you will be killed in a car crash. "You're much more likely to die getting to the airport than you are flying in the plane," [said the editors at Discovery](#).

Calling this a "surface danger zone" is hyperbolic to the point of being propagandistic. The use of this term is clearly intended to frighten the indifferent and confirm the prejudices of the biased.

On the other hand, there is potential, however small, for a bullet to land in the area. Hence "potential impact zone."

<<<<<

$(3.5\text{mi} \times 3.5\text{mi} \times 3.14159 \times 5280\text{ft}/\text{mi} \times 5280\text{ft}/\text{mi} \times 6\text{ft height}/\text{person}) = \text{cubic volume of the dispersal area up to the height of a person}$
 $/ (360/10) \text{ the part of the whole circle represented by 10 degrees, hence the cubic volume of a 10-degree wedge of the dispersal area}$
 $/ 12\text{ft}^3 \text{ (cubic volume of a person)}$
 $= 14907200$

Note that the greatest increase in the probability of a bullet strike comes from slivering the full 360 degree circle down to 10 degrees. The larger the part of the circle you use, the more expensive the range and the smaller the probability a wanderer would be impacted.

Public Comments
regarding potential
Firing Range sites,
not Land Use Code
amendment
proposal DC-15-0003

A STATEMENT OF CONCERNS

From: THE PEAK TO PEAK SCENIC BYWAY COALITION

1. GENERAL CONCERNS:

The Peak-to-Peak Scenic Byway Coalition represents the shared interests of a great many property owners and other stakeholders in the Front Range's high country along the Peak-to-Peak Highway, primarily in Boulder County. The Coalition comprises the owners of ranches, permanent residences, summer residences, off-grid residences, wilderness cabins, and land—including large adjacent tracts under Conservation Easement to either Boulder County or the Nature Conservancy—as well as renters, visitors, hikers, backpackers, family campers, mountain bikers, students, fishermen, birders, rock climbers, equestrians, religious retreats, wedding parties, veterans, photographers, students, researchers, and many other wilderness, wildlife, and forest stakeholders who regularly enjoy, use, or study western Boulder County's spectacular mountains, lakes, wildlife, and forest.

Our Coalition was formed out of concern about the obvious inappropriateness of the five possible target shooting area sites in the Peak-to-Peak corridor that have been chosen by the County Commissioners and the Northern Front Range Recreational Sport Shooting Management Partnership (the "Partnership"), of which Boulder County is a member. The Partnership is considering at least one of these sites to recommend to the U.S. Forest Service, essentially as a "sacrifice zone," in furtherance of the Forest Service's desire to build designated target shooting areas in the increasingly populated Front Range. This "sacrifice" supposedly counterbalances the Forest Service's well-documented need to ban unregulated dispersed shooting in that portion of the Arapaho/Roosevelt National Forest.

The Coalition takes no stand against the right to own a firearm nor against a designated shooting area that is placed on an appropriate, non-destructive site. Indeed, many, perhaps most, of us in the mountains are responsible gun owners. What we are concerned about is recreational firearm use that risks—regardless of whether shooting occurs responsibly or irresponsibly or in either concentrated or dispersed form—severe and, possibly catastrophic property damage, injury, or loss of life. In addition to those risks, any designated shooting area in the Peak-to-Peak corridor will—with 100% certainty—cause continual, long-term, concentrated harm to the quiet enjoyment of public lands (including wilderness areas) as well as to private users and property. The Forest Service cannot show that replacing dispersed shooting in the Forest with designated shooting areas will reduce the threat to people, to wildlife, or to the land and water that we all depend on. In fact, such replacement would concentrate some of the risks, especially those of wildfire, damaging noise, and serious land and water pollution.

Such an outdoor target shooting area in the Peak-to-Peak corridor will disrupt Boulder County's wildlife population, its migration patterns and its habitat, degrade water quality, and plainly be contrary to Boulder County's well-regarded, strongly supported, and publicly stated conservation and environmental goals, especially in the mountains. Every outdoor shooting area, with its inevitable too loud and fear-inducing noise, safety issues, fire danger, stray bullets, chemical and other pollution, sewage, and traffic, will negatively impact its surrounding area. Minimal Forest Service rules notwithstanding, such impacts realistically can extend up to several miles from any shooting activity. The Peak-to-Peak Scenic Byway corridor is not an acceptable place for a designated, open-air, recreational shooting area. There are too many full-time and part-time residents, ranchers, visitors, and other stakeholders there now.

2. FLAWED PROCESS CONCERNS: Unanswered questions.

After participating in several Partnership and Forest Service feedback sessions, including meeting with members of the Partnership and several Commissioners and their Staff, and upon careful examination of the Partnership's documentation and methodology, we are deeply concerned over the total inappropriateness of all five of the nominated Peak-to-Peak corridor sites (Allenspark Dump, Bunce School Road, Beaver Reservoir Road, Ruby Gulch, and West Magnolia Road) that the Partnership is considering.

The careless process used by the Commissioners and the Partnership to choose these possible sites is seriously flawed. Decisions are being made with no information from the Forest Service on what constitutes a designated Shooting Area; what its size and layout are, how many people can use it simultaneously, hours and days of operation, and what weapons will be allowed or disallowed. Will there be a requirement for lead-free ammunition? Will there be a requirement to use noise-suppression equipment? What will be the consequences to target shooters when rules or laws are broken, as history shows is certain to occur? Under what violative or harmful circumstances will a target shooting area be closed down, either temporarily or permanently? How will any such shooting area be regulated, staffed, patrolled, managed, protected, cleaned up, and/or financed by an understaffed federal agency with a poor enforcement track record in Boulder County? One would think that the answers to these specific and important questions would bear considerably on the choice of any site.

For example, the Partnership's selection process for the five possible sites in the Peak-to-Peak corridor has used incomplete GIS maps and has presented those maps repeatedly to the public, in spite of having been informed since almost the beginning of the process that those maps are incomplete and inaccurate. On the maps used, an off-the-grid residence within one half mile of one of the nominated sites is not shown. Many square miles of land (close to 3000 acres) under Conservation Easements are not shown; trails and dozens of nearby campsites are unmarked, etc. One site is within one half of a mile of CU's Mountain Research Station, whose ongoing work will be seriously compromised by an adjoining public shooting area. Another nominated site is in the middle of a large and ancient wildlife migration corridor, designated on the Boulder County Comprehensive Plan as "Critical Wildlife Habitat and Migration Corridor". That Corridor is supposed to be permanently protected by both Nature Conservancy and Boulder County Open Space Easements. Another nominated site is only one-half mile from Nederland High School.

In addition, the exclusive membership of the Front Range Sports Shooting Partnership does not include representatives from any of the municipalities involved, nor are there any representatives of the large number of private citizen users and property owners that will be affected. There is no public access to the content of the Partnership's meetings and many comments submitted by the public to the Partnership website after the "open houses", are only partially scanned or are truncated for no discernible reason.

The Jefferson County Public Shooting Range Working Group posts all its Minutes and Reports on the web and its membership includes representatives of all the many stakeholders.

3. QUID-PRO-QUO CONCERNS:

It has been expressed by some of the Commissioners and their Staff that the establishment of a recreational shooting area in the most desirable Boulder County high mountain country - the Peak-to-Peak corridor - is a necessary quid-pro-quo to counterbalance (pay for) the banning of unsupervised dispersed shooting in that part of the A/R National Forest. This is a governmentally, environmentally, and recreationally bankrupt compromise. If the Forest Service lands of that part of the Boulder County high mountains are deemed inappropriately dangerous for dispersed shooting, then, by definition, the five sites along the Peak-to-Peak corridor selected by the Commissioners and Partnership to be considered for a designated Shooting Area are also dangerously inappropriate.

But this arbitrary “quid-pro-quo” linkage of the two should not be considered a given. The two goals can be implemented at wholly different times. These decisions, which will negatively affect a huge number of people, should be made separately and only after answering important questions such as those listed in No. 2 above. The accountable County agencies involved here have lent their prestige to this quid-pro-quo solution, thereby failing to represent the concerns of a large number of Boulder County residents, property owners, and recreational users, by planning to recommend one wholly inappropriate site out of five wholly inappropriate sites.

The Forest Service has stated that any of its land within a half-mile of residential subdivisions or concentrated recreational use areas is unsuitable for recreational sport shooting. This standard establishes that **no** Forest Service land in the Peak-to-Peak Scenic Byway corridor is appropriate for recreational sport shooting, dispersed or designated.

A properly and carefully designed process must develop firm criteria before identifying areas for consideration, and get the answers to specific questions of Forest Service target shooting policy first. The uproar over the current choice of five sites demonstrates that the present process being used is seriously flawed. The maps being used must be correct, and all the stakeholders must be represented.

Each of these open-air shooting sites will create or exacerbate water pollution problems. Lead or other metals used in ammunition, and arsenic, mercury, phosphorous, or chlorates from partially combusted, constantly accumulating gunpowder residues will settle into the porous sandy ground and be washed downstream or into groundwater after every single summer afternoon downpour.

And, most serious of all, these sites would all create year-round omnipresent risk of dangerous wildfires.

4. WILDFIRE CONCERNS:

Boulder County's foothill and mountain dwellers and users are subject to a constant, well-documented, high-probability risk of forest fires, many of which have recently proven to be exceptionally destructive to property and expensive for the County and its residents. A superheated bullet fragment ricocheting off a rock in a berm in a designated open-air shooting area in the Peak-to-Peak corridor, would create a wildfire that would be swept east toward more populated areas of the County by the prevailing westerly winds. During the summer of 2015, three wildfires were started by shooters in Forest Service designated Shooting Areas. One, in the Forest Services's Byers Canyon Shooting Range in Grand County, was sparked by a legal .223 full-metal jacket rifle round that travelled **two miles** to create a fire that burned a square mile of land, with the inevitable forced evacuation of residents and recreationists. The other two fires occurred in the Pawnee Grasslands Shooting Area of Weld County. In August, 2016, two more wildfires were started in the Forest Service Pawnee Grasslands Shooting Area by shooters using illegal exploding targets.

The Beaver Lake Fire of September, 1988, caused by a neglected campfire, was blown eastward through Silver Spruce Ranch and the Boy Scout Camp and almost reached the Peak-to-Peak Highway, when the wind changed course, to blow from the east and the fire was then forced back westward, toward Beaver Creek..

Given those experiences, it is simply untenable to presume that a designated target Shooting Area in western, densely forested, Boulder County is less risky than the unregulated dispersed shooting now occurring. The risk of a forest fire increases the more one enables separate independent uses (shooting, campfires, fireworks, etc.), each with its own individual risk. The initial risk need not be larger than a tiny probability before it becomes essentially certain over the course of a few years a forest fire will erupt to destroy people's homes and lives, and drain County coffers yet again.

Two of the Commissioners' and the Partnership's currently proposed shooting sites (Ruby Gulch and Beaver Reservoir Road) are within the Fire District of the town of Ward, along the Peak-to-Peak Scenic Byway. The burden of protecting large numbers of nearby property and residences from a fire erupting at Ruby Gulch or Beaver Reservoir Road will fall on Ward's Indian Peaks Fire Dept. whose ratio of funding to acreage and buildings protected is one of the smallest in all of Colorado.

The proposed Shooting Area site on Beaver Reservoir Road sits right on Beaver Reservoir Road, which is the only access or fire evacuation route for the 100 or so veterans (including a few from WW II) who spend the summer at the American Legion Veterans' Camp at Beaver Reservoir. A fire at the proposed Beaver Reservoir Road site would close off, perhaps fatally, any possibility for most of the resident veterans, those who do not have access to the necessary high clearance 4WD vehicles that are capable of escaping down the very steep, rough, and rocky road to Camp Dick on the Middle St. Vrain River.

This life threatening situation also applies to the people who live at Stapp Lakes farther west on Beaver Reservoir Road..

LIST OF RECENT WILDFIRES CAUSED BY SHOOTERS IN W. COLORADO

<u>DATE:</u>	<u>LOCATION:</u>	<u>ACRES BURNED:</u>	<u>EVACUATIONS:</u>
9/2015	USFS Byers Canyon Rifle Range	600	Yes
10/2015	USFS Baker Draw Shooting Area Pawnee Grassland	1. 560 2. 29	No No
2/2016	"	1. 171 2. 29	No No
8/2016	"	715	No

CONCLUSION

The internationally known Peak-to-Peak Scenic Byway and the mountain areas it provides access to are an irreplaceable treasure of Boulder County. Wittingly or not, the Boulder County Commissioners and their Partnership are participating in a process that will cause significant economic harm to one of the County's most productive assets, and also will essentially damage the integrity of and trust in Boulder County's own Comprehensive Plan, its Open Space program, and its other conservation goals, such as encouraging the gift of Conservation Easements to help protect the County's extraordinary wildlife, land, and water.

Each such open air recreational shooting area will create a circle-of-harm that will permanently degrade, and threaten large swaths, measured in square miles, of the heavily populated and widely used land of the Peak-to-Peak corridor, both public and private. This plan for the Peak-to-Peak corridor would be carried out at the expense of the very many for the pleasure of a small minority that historically has demonstrated considerable difficulty in policing itself, and from which, in the past, significant and well-documented harms have ensued.

All five of these possible sites are dangerously inappropriate, are damaging to many residents of Boulder County and the choosing of them is insensitive to both local and county-wide concerns. We strongly urge the Boulder County Commissioners, the Front Range Sport Shooting Partnership, and the Arapaho/Roosevelt National Forest to withdraw from consideration all of the five nominated sites in the Peak-to-Peak corridor and to find elsewhere a more appropriate and less dangerous and damaging site for the proposed Boulder County designated recreational Shooting Area.

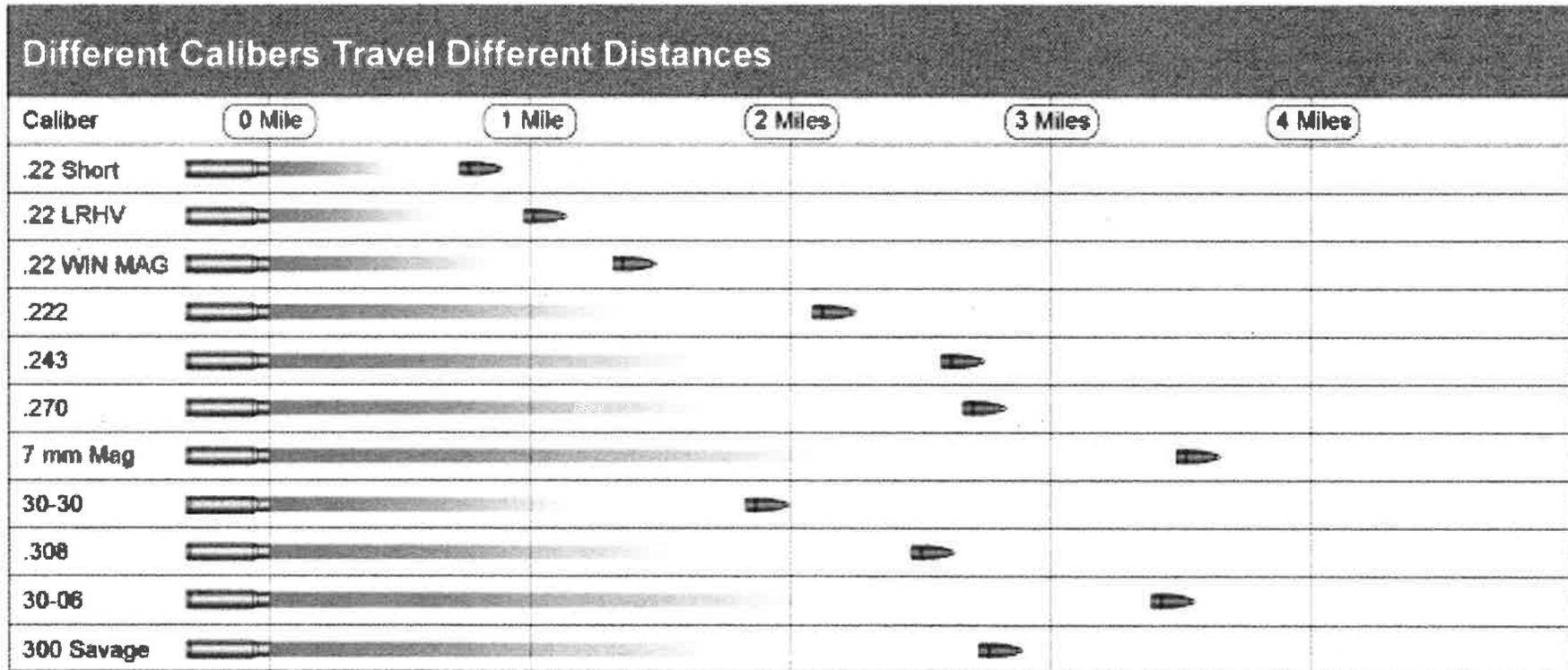
THE PEAK-TO-PEAK SCENIC BYWAY COALITION

for further information: consult www.peaktopeakcoalition.com

Doug McKenna	303-4459-3286
Priscilla McKenna	303-459-3265
47517 Peak-to-Peak Highway	303-449-5777
Ward, CO 80841	

Attached:

- List of wildfires recently generated by designated Forest Service open-air Shooting Areas in western Colorado - 2015, 2016.
- Letter from the Commander of the Longmont American Legion re Beaver Reservoir Veterans' Camp.
- Letter from The Nature Conservancy re the Wildlife Habitat and Migration protected by the Conservation Easements on the South St. Vrain Valley given to TNC.
- Table of ranges of bullets from different guns.



from www.gohunt.com



The Nature Conservancy in Colorado
2424 Spruce Street
Boulder, CO 80302

tel [303] 444-2950
fax [303] 444-2986
nature.org/colorado

Delivered via email to: comments-rm-arapaho-roosevelt@fs.fed.us
September 8, 2015

United States Forest Service
Arapahoe and Roosevelt National Forests
2150 Centre Ave. Building E
Fort Collins, CO 80526

Re: Plan to Prohibit Dispersed Shooting in Arapahoe and Roosevelt National Forests While Simultaneously Creating Designated Recreational Sport Target Shooting Ranges or Areas

To whom it may concern:

Thank you for the opportunity to comment on the selection of shooting range sites in Arapahoe and Roosevelt National Forests. The Nature Conservancy is a non-profit organization dedicated to conserving the lands and waters on which all life depends. In Colorado, the Conservancy has worked with local communities to conserve over 900,000 acres of grasslands, forests, sagebrush and wetlands. We are science-based and collaborative, and work to bring public and private partners together to find solutions to the most important conservation issues.

The Nature Conservancy currently holds eight conservation easements with four landowners in the area around the proposed Beaver Reservoir Road shooting range in Boulder County. The Rangeview Ranch Conservation Easement, completed in 1976, was one of the Conservancy's first easements in Colorado. Since that time the Conservancy has protected an additional 1,714 acres in the immediate area. Together with Boulder County's conservation easement on the Welch Ranch, our conservation efforts form a block of protected land encompassing 2,824 acres. Much of this protected property is within a few hundred feet to two miles of the proposed shooting range site at Beaver Reservoir Road.

These protected properties are in a substantially undisturbed, natural state and provide significant habitat for native plants and wildlife. This cluster of protected lands provides a unique permanent connectivity of the high elevation mountains to the foothills which provides a migration route for bear, elk, deer, and other wildlife. Together the protected properties form a Conservation Area that is ecologically diverse, and includes riparian vegetation communities, narrow canyons, extensive meadows, montane forests, wetlands, rivers and creeks, and springs. The Conservation Area provides natural habitat for a rich assemblage of plants, invertebrates, fish, amphibians, reptiles, mammals, and birds including, otter, moose, elk, deer, mountain lion, bobcat, coyote, bear, raptors, songbirds, heron and other water birds, and many other kinds of birds. The protected properties provide important calving areas for elk. In addition to the biological values protected, the conservation easements protect outstanding scenic and open space values that can be enjoyed by the general public from multiple Boulder County Roads, the "Peak to Peak Highway," and public trails.

The Nature Conservancy is entrusted to perpetually protect the conservation values of the eight conservation easements in this Conservation Area. We are concerned that the location of the shooting range in close proximity to these conserved properties may have an impact on the conservation values, including increasing the risk of wildfire and degradation of water quality. The Conservancy urges decision makers to fully consider impacts of the proposed activities to this valuable conservation resource of Western Boulder County. Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathan Moyer". The signature is fluid and cursive, with the first name being more prominent.

Nathan Moyer
Conservation Easement Program Manager

AMERICAN LEGION

John F. Buckley Post # 32

**315 South Bowen Street
Longmont, Colorado 80501
303 776-2034**



7/14/2015

To all concerned parties;

Beaver Reservoir has been leased by the American Legion Post 32 of Longmont since the early 1950's as a retreat for our returning soldiers and as a safe haven to reenter into civilian life. The thought that a shooting range so close after all these years is a setback in our cause to reestablish these individuals to civilian life. We do not condone a shooting range anywhere close to Beaver Reservoir for these reasons.

The high traffic area due to hikers and campers is not compatible for one thing, we have a lot of traffic coming up from Camp Dick in atv riders, jeepers and hikers and on the other end we have a Boy Scout camp, hikers and campers numbering in the hundreds all the way from highway 72 to the Coney Flats trailhead. We know no one wants this in their backyard, but we believe a controlled shooting range is the best answer. We already deal with random shooters in our area at all times of the day and night, and

[Type text]

while listening to gun fire and wonder if a stray round is going to come through the camper.

Many of us are hunters but we do not allow shooting or firearms at Beaver reservoir except to be transported to and from their campers. We recently disallowed BB and pellet gun shooting in camp due to the possibility of an accidental shooting.

It's a daunting task to find a compatible shooting area that all can agree on, so we are aware of your plight and would agree to meet or attend any of your sessions to help find a reasonable solution.

I am constantly reading about the problem and even read comments people write and retort to, at best it has been a right and tradition to shoot in national forests but now comes the masses and developments that are challenging that right. I do not want to tread on civil rights but unless recreational shooting is monitored and sequestered it is going to be a problem for those of us who do adhere to shooting guidelines and common sense.

Sincerely

Tom Daschofsky

Post 32 Commander

Boulder
Daily
Camera
8/3/16

No 10 gallons, no campfire

By Doug McKenna

Hidden in the mountainous national forest in western Boulder County, there are thousands of unofficial campsites with informal firepits. Many dozens of them are next to the western border of my extended family's ranch.

In 1988, a careless camper started a forest fire that burned our land, national forest and neighboring Boy Scout property. The density of careless weekend campers has since at least doubled.

So during fire season, we load a portable water tank onto a pickup truck and privately patrol these campsites. Neither the fire department nor the cash-strapped Forest Service does this. During fire bans, a county sheriff checks, but without any useful water and only when someone complains.

We reluctantly perform this public service out of "enlightened" self-interest because we invariably find and extinguish abandoned, smoldering campfires that threaten us and our neighbors. The near weekly summertime frequency that this occurs is not just sobering, it's frightening.

At 5:30 p.m. on a windy Saturday evening, a few hours after careless campers ignited Nederland's Cold Springs fire, Sheriff Pelle belatedly issued a fire ban. With telltale campfire smoke rising near us, we printed copies of the announcement to distribute, and headed out in our

water truck to inform campers of their newly changed duties that, by virtue of being off-the-grid, they would not know about.

There were over a dozen open fires. And within minutes we found an unattended one, coals and large logs smoking in the audible wind, its unidentifiable igniters departed. After raking and many gallons of watering, we had it extinguished.

It being early in the evening (i.e., there were only a few obstreperous drunks), the folks we informed were understanding and cooperative. Some were reluctant to cut their dinner cooking short, having no other means. Most knew about the prominently visible fire near Nederland that afternoon, though not its campfire origin.

I asked each camper: Do you have enough water to put your fire out? With two exceptions who asked for our water truck's help, everyone said yes, proudly showing us maybe a gallon of water. In short, *no one* was properly prepared. And a weekend camper often builds two fires.

It can take 10 gallons to douse a campfire to be confident it won't re-ignite, certainly when there's a steady, dry wind. Burning logs create buried layers of insulated coals, so one must soak everything thoroughly. If the ashes aren't cool to the touch, it is not out.

After the 1976 Big Thompson Flood, with its many fatalities and proper-

ty losses, the county erected educational road signs about "climbing to safety." But don't destructive human-caused forest fires occur more frequently than destructive flash floods?

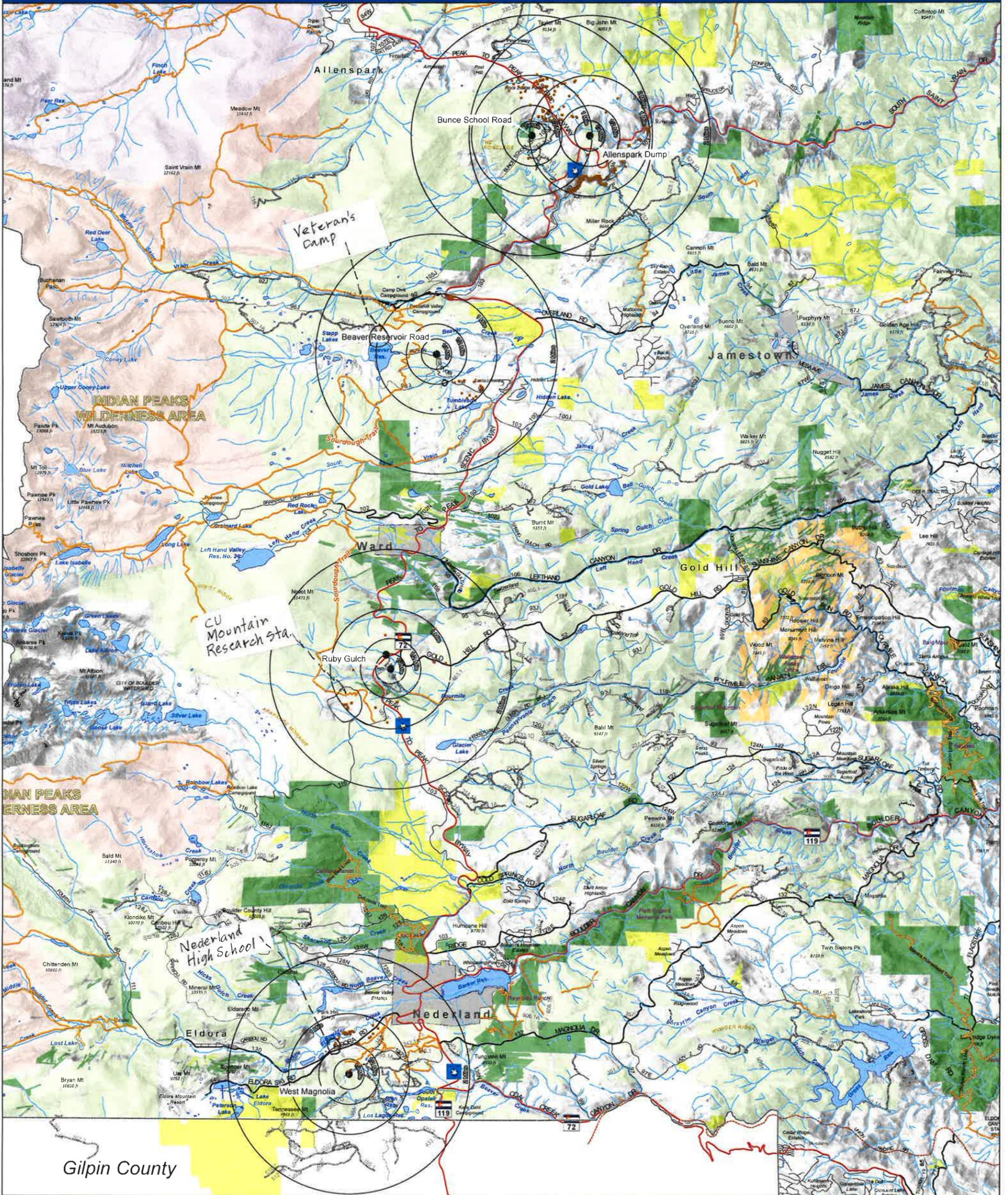
We need similar signs on all roads leading to any mountain campsites. They should say: "Campfires Require Ten Gallons to Douse. Got Your Water?"

Perhaps there also should be legal teeth behind these warnings. Without 10 gallons of water directly on hand to put it out safely, a campfire in forested Boulder County should be prohibited, regardless of any fire ban. Anyone who doesn't have the means to douse their campfire responsibly should be ticketed for recklessly endangering the public.

Regardless of any law, by informing demonstrably ignorant or forgetful national forest visitors of proper campfire management, such permanent signs would help protect every mountain resident a lot more than sporadic fire bans.

Yes, there are careless idiots and drunks in the forest, but most campers desire to be responsible. Let's help everyone avoid a common mistake with enormous consequences. If just one future forest fire in Boulder County is prevented, all such informative signs will have paid for themselves.

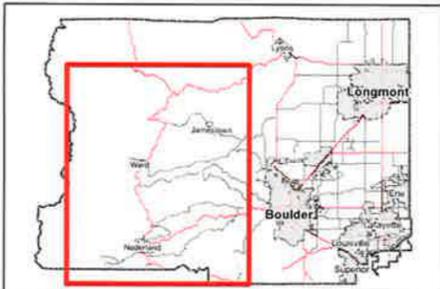
Doug McKenna lives in Boulder and helps manage Silver Spruce Ranch in western Boulder County.



Legend

Area of Detail

Date: 7/13/2015



- Potential Site
- Structures within 1-Mile
- Trail
- Municipality
- County Open Space
- County Conservation Easement
- Indian Peaks Wilderness
- USFS Land
- BLM Land
- Rocky Mountain National Park



This map is for illustrative purposes only and the features depicted on it are approximate. More site specific studies may be required to draw accurate conclusions. Boulder County makes no warranties regarding the accuracy, completeness, reliability, or suitability of this map. Boulder County disclaims any liability associated with the use or misuse of this map. In accessing and/or relying on this map, the user fully assumes any and all risk associated with the information contained therein.



Boulder County Land Use Department

2045 13th Street, Boulder, CO 80302 303-441-3930 www.bouldercounty.org/lu

Beaver Reservoir Road Potential Shooting Range Proximity Map

Legend

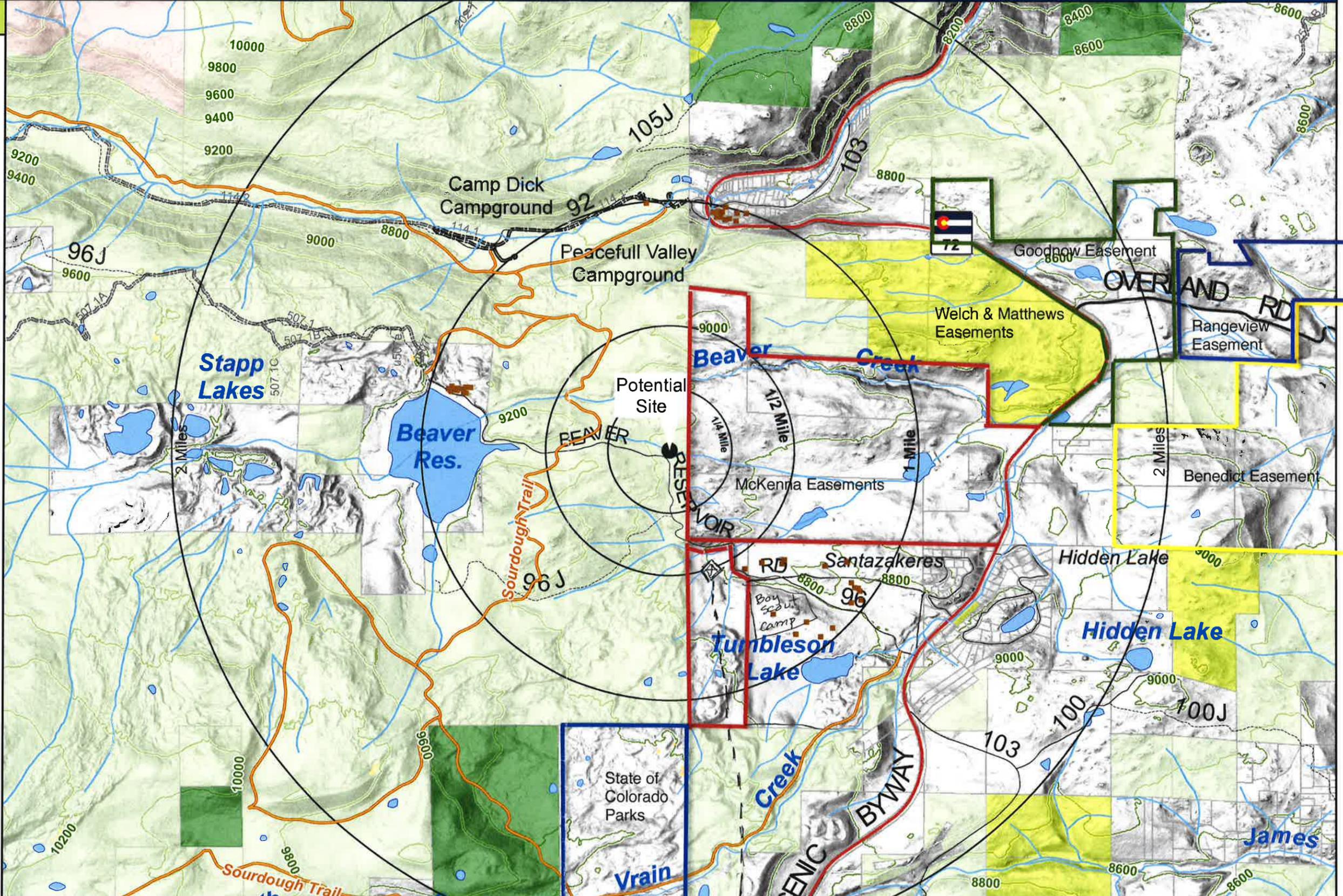
- Potential Site
- Structures within 1-Mile
- USFS Trail
- County Open Space
- County Conservation Easement
- Indian Peaks Wilderness
- USFS Land
- CO State Parks Land
- McKenna Easements
- Goodnow Easements
- Benedict Easements
- Rangeview Easement

Corrected Map

0 1,000 2,000 Feet
1 in = 2,000 feet

Area of Detail Date: 7/9/2015

The user agrees to all Terms of Use set forth by Boulder County. For Terms of Use, please visit: www.bouldercounty.org/mapdisclaimer





Legend

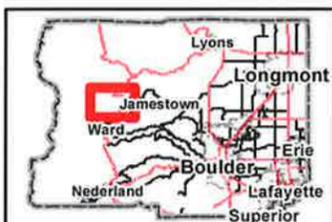
- Potential Site
- Structures within 1-Mile
- USFS Trail
- County Open Space
- County Conservation Easement
- Indian Peaks Wilderness
- USFS Land

Inaccurate Map used by the Commissioners and the Partnership

0 1,000 2,000 Feet
1 in = 2,000 feet



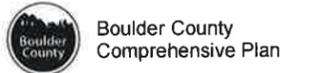
Area of Detail Date: 7/9/2015



The user agrees to all Terms of Use set forth by Boulder County. For Terms of Use, please visit: www.bouldercounty.org/mapdisclaimer



Critical Wildlife Habitat and Migration Corridors



Critical Wildlife Habitats



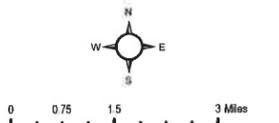
An area of unique habitat which has a crucial role in sustaining populations of native wildlife and in perpetuating and encouraging a diversity of native species in the county. The area may be significantly productive habitat or particularly vital to the life requirements of species that are critically imperiled or vulnerable to extirpation.

Wildlife Migration Corridors



A specific, delineated area of known elk migration movement for a major elk herd in Boulder County.

Adopted October 15, 2014
Planning Commission



The user agrees to all Terms of Use set forth by Boulder County
For terms of the please visit www.bouldercounty.org/map/boccplan

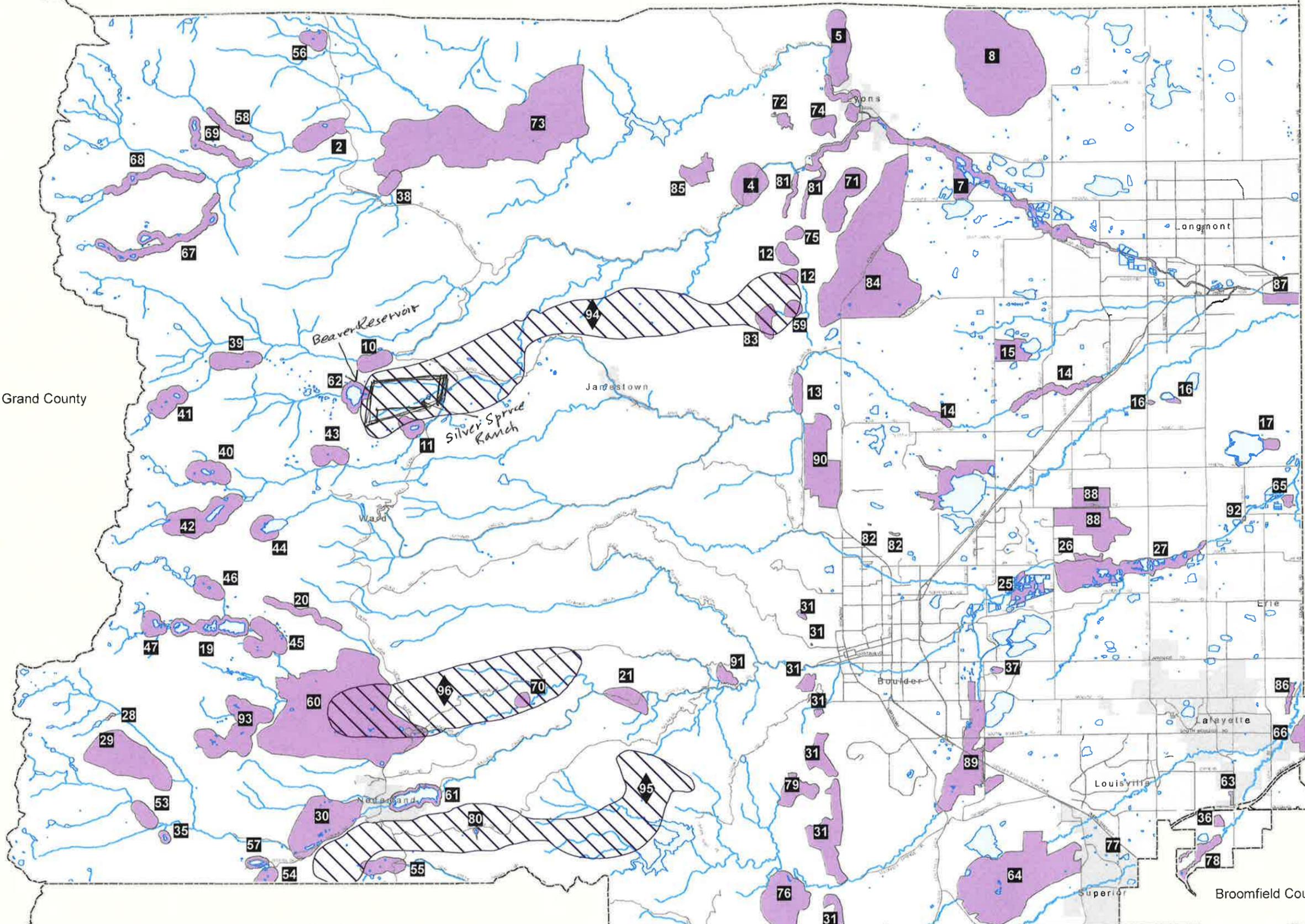
Weld County

Broomfield County

Jefferson County

Gilpin County

Grand County



From: [CarlsonFamily](#)
To: [#LandUsePlanner](#)
Subject: Comment on DC-15-0003
Date: Thursday, October 06, 2016 9:46:00 AM

Please honor Constitutional 2nd Amendment rights by providing sufficient target ranges.

Thank you!

From: [Ask A Planner](#)
To: [#LandUsePlanner](#)
Subject: Ask a Planner - Web inquiry from Kirk Cunningham - DC15-0003
Date: Monday, August 29, 2016 2:58:58 PM

Boulder County Property Address : Peak-to-Peak Highway and vicinity

If your comments are regarding a specific docket, please enter the docket number: DC15-0003

Name: Kirk Cunningham

Email Address: kmcunnin@juno.com

Phone Number: (303) 939-8519

Please enter your question or comment: The County's stated goals in this docket are admirable as far as they go, but seem unlikely to produce a satisfactory result.

The ARNF has recently proposed five potential designated shooting sites at various places along the Peak-to-Peak Highway between the West Magnolia area and the junction of Colorado 72 and 7. The Sierra Club objects to ANY designated or informal shooting areas in this part of the ARNF for the following reasons:

1. The stated purpose of such a designation is to concentrate shooting at one area where (in principle) it can be better regulated compared to the dispersed shooting that presently occurs. However, since the ARNF has effectively no enforcement personnel to enforce any shooting activities anywhere, we anticipate that people will shoot where they want regardless of any designated area. I also strongly suspect that the Boulder County Sheriff is not looking for more law enforcement opportunities involving armed individuals!
2. Two shooting areas designated on the plains (on the Pawnee Grasslands and near Byers) are generally better located given the remoteness of those areas but at both locations unsupervised shooting has resulted in fires that have burned a total of about 2000 nearby acres in the last few years. One can imagine that a designated shooting area will also be an even bigger fire hazard on forested land. We already have enough idiots causing fires in the mountains through other kinds of carelessness!
3. Needless to say, there are few areas west of the Peak-to-Peak highway that are not heavily used by recreationists virtually all year around. Public lands east of this highway are in addition interspersed with many private properties occupied most of the year. Bullets fired, either by mistake or deliberately, away from target backstops are no respecter of persons. This is the reason, for example, why many hikers avoid the ARNF lands in hunting season, all because of a relatively tiny number of people who actually hunt on Front Range public lands. Dispersed or designated shooting areas pose dangers all year! And of course, the noise of a designated shooting area, is not conducive to the quiet, respectful recreational enjoyment of public lands practiced and advocated by the Sierra Club.

Recreational shooting should be allowed only at very remote, unfrequented sites outdoors or at indoor facilities run by the government or private companies.

Conservation Chair, Indian Peaks Group

Sierra Club

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

August 29, 2016

To Boulder County,

I am writing concerning the collaborative effort undertaken by the County and its partners and the Land Use Code regarding Firing Ranges. I have two concerns that I would like to address.

- 1) Boulder County is currently considering 5 sites for a shooting or firing range, with a commitment to select at least one. I strongly encourage the County to establish more than one site, as it is quite likely that the demand for recreational shooting will be heavy, especially on the weekends.
- 2) Current USFS regulations prohibit shooting within 150 yards of a residence, building, campsite, developed recreation site or any occupied area (including occupied trails or roads), and prohibit shooting across roads. The County has proposed to extend that to 1,320 feet (440 yards), roughly tripling the existing regulation. I am concerned that the plan under consideration eliminates almost all possibilities for dispersed shooting. My review of the proposed map for Boulder County shows that all of the proposed areas remaining available for dispersed shooting are not accessible by road. I encourage the county to review the areas proposed for closure to dispersed shooting to identify areas accessible by road where dispersed shooting could still be undertaken.

Thank you.

Sincerely,



Harry Lane David

445 Huron Ave
Eldora, CO 80466

Prof. D303@gmail.com

**REASONABLE AND REALISTIC PROXIMITY AND ENVIRONMENTAL STANDARDS WOULD DOOM THE
BEAVER RESERVOIR ROAD SHOOTING RANGE SITE**

Stan Heginbotham
s.heginbotham@att.net
Ward, CO
July 21, 2015

The procedures and criteria that the Sport Shooting Partnership is employing in its well-intentioned venture to identify Shooting Range sites in four front range counties are seriously flawed.

The use of firearms has been a traditional feature of life in these mountains. As an Expert rifle and pistol marksman trained in the U.S. Marine Corps, I understand and value the tradition of recreational shooting. At the same time, populations along the Peak to Peak Scenic Byway are committed to promoting and ensuring safe practices in our communities and have strong commitments to the extraordinary natural beauty and rich wildlife and flora of this scenic corridor. We are highly conscious of the fact that human presence and activity -- especially activities that endanger public safety and produce significant noise -- impinge on and undermine the quality of life in these mountains.

The fact is that the Peak to Peak Scenic corridor is not only significantly populated but is also used by numerous organizations and parks to expose visitors to the great natural resources of the area. As a result there are precious few acreages large and remote enough to meet the very considerable land requirements for safe and non-destructive shooting areas. In order to provide even minimal choices for Shooting Range areas, the Forest Service and its partners have established preliminary criteria for identifying potential sites that seriously impinge on the natural uses of the land by residents and visitors. Their preliminary criteria establish ludicrously small standards for distances of facilities from a possible shooting range site: a quarter-mile from campgrounds, recreation areas, trails, and single homes; a half mile from subdivisions and or town sites, and a mile from municipalities.

Both safety and even moderate noise considerations require well over a mile separation of shooting ranges from significant human and wildlife habitation and usage. Unsupervised shooters cannot be counted on to observe rigorous safety procedures that might justify minimal separation standards from a safety perspective. Human activities and wildlife corridors require much greater separation norms when realistic noise considerations are taken into account (noise carries surprising distances in the rarified mountain air, especially when it reflects off rocky cliffs). Two miles or more would be an appropriate separation criterion. But even minimally reasonable separation criteria would virtually eliminate site options along the Peak to Peak Scenic corridor.

That result, however, would be bureaucratically and politically unpalatable. Nationally, the Forest Service has concluded -- for whatever reason -- that it needs to integrate Recreational Sport Shooting provisions into its Forest Plan. When that mandate gets passed down to the local level, the resulting "objective" (bureaucratese for "directive") is to "Identify at least one designated shooting area within each county inside or adjacent to the Arapaho and Roosevelt National Forests." There is no proviso that appropriate land for such an area need be available within each of those counties. The interests of individuals, residences, institutions and wildlife within those should, in other words, be subordinated to the politically driven imperatives of a federal bureaucracy.

[PTO]

The Beaver Reservoir Road site is a particularly egregious violation of common sense and rational planning resulting from this pressure to make local conditions conform to national norms. On a space of roughly a dozen acres that was initially identified as meeting its preliminary criteria, the Partnership chose a site just a few hundred feet from private land, barely more than a quarter-mile from the extensively used Sourdough Trail, less than a mile from Peaceful Valley Campground, and barely more than a mile from Tahosa Boy Scout Camp, from Peaceful Valley Resort, from Camp Dick Campground, from an American Legion fishing camp, from Santazakers and Hidden Lake residential subdivisions and from numerous private residences. Minimally realistic separation criteria would have wiped these few acres of Forest Service land off the "possible designated shooting sites" map because of any one or combination of these considerations.

Even more troublesome is the fact that the Preliminary Criteria totally ignore a critical characteristic of the environment surrounding the Potential Site on Beaver Reservoir Road: much of the private land that would be impacted by a Shooting Range is under conservation easements administered by the Nature Conservancy and Boulder County Open Spaces. These lands cannot be developed and must be maintained in their natural state in order to encourage and promote the habitats and migration patterns of the many animals that frequent the area. Approximately 35 acres of protected land are less than a quarter mile from the proposed site; about 130 acres are less than a half mile from the proposed site, and about 400 acres are less than a mile from the proposed site. The noise, traffic, and human activity resulting from a Shooting Range would dramatically violate the intent and legal obligations of existing conservation easements. This factor alone provides persuasive grounds for eliminating the Beaver Reservoir Road site from any possible consideration as a location for a Shooting Range.

It is no wonder, then, that the Forest Service and the Partnership should have been deluged by opposition from institutions and individuals whose lives and activities would be adversely affected by a Shooting Range on the Beaver Reservoir Road Potential Site. This opposition, which reflects the unreasonable use of preliminary criteria and is grounded in the realities of living and recreating along the Peak to Peak Scenic Byway, is completely persuasive. This site should be removed from consideration by the Partnership and the Forest Service.

The strategy of identifying five prospective sites in Boulder County from which at least one must presumably be chosen pits, of course, neighbor against neighbor. For me to suggest that the Beaver Reservoir Road site is totally inappropriate, according to that presumed logic, implies that I believe that one of the remaining four "possible" sites should be chosen. I reject that logic and that implication. It is quite possible that none of the other sites is appropriate. Preliminary scans suggest that The Bunce School, Allenspark Dump, and West Magnolia sites make little more sense. The first two are adjacent to -- on either side of -- the Peak to Peak Scenic Highway in close proximity to many private residences. The West Magnolia site is barely more than a mile from Nederland and would clearly severely impact the lives of many residents of that town. The case for or against Ruby Gulch is less obvious, though it is less than two miles from the Ward town boundary.

The critical point, however, is that decisions on where --if at all -- shooting ranges are to be allowed on Forest Service land in Boulder County should be determined by the best interests of the residents, institutions, and wildlife of Boulder County, not by the efforts of federal agencies to make the county conform to political and bureaucratic pressures negotiated in Washington, D.C. I suspect that residents of the other three counties involved in this dispute would endorse that principle as well.

Oeth, Amy

From: Ron Hoagland <bpacker@gmx.com>
Sent: Wednesday, October 26, 2016 9:44 AM
To: #LandUsePlanner
Subject: Recreational Shooting Site Petition

Boulder County Planner; As a concerned resident of Peaceful Valley I and many of my neighbors have a concern with the close proximity of the proposed recreational shooting sites under consideration by Boulder County. I have collected signatures from many of my neighbors concerning the Beaver Reservoir Site and are now ready to present them to the appropriate county representative. Please advise me as to whom this petition should be submitted. Thank you, Ron Hoagland 970-475-4745