ZONING ADVISORY PANEL PUBLIC COMMENT

Received Between January 7, 2022 (noon) and January 21, 2022 (noon)

As part of the County's strong commitment to an open and transparent public process, comments received from any Citizen which reference the Zoning Advisory Panel (ZAP) are usually made available to the general public through uploading the comments to the County's website prior to the next ZAP meeting. Similarly, if the commenter requests, the information may also be forwarded to the ZAP Members directly.

** Please Note: Inclusion of Public Comments herein, does not imply any support nor opposition of the comments by the County.*

*Any Web Links included in the Public Comment have not been vetted by the County and readers should proceed with caution when accessing Web links**

From: Thomas, Andrew
To: County_Planning_Mail
Subject: Public Comment 1.12.2022 ZAP Meeting
Date: Friday, January 14, 2022 9:23:31 AM
Attachments: Andrew Thomas, Public comment, ZAP, 1.13.2022.docx

Please see attached.

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Andrew R. Thomas

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ARThomas@Carroll.edu

Public comment, Andrew Thomas, 1.13.2022.

1. Given the controversy surrounding the 10-acre minimum lot size requirement for rural areas, I would strongly suggest the ZAP consider flexible alternatives that balance the need for ensuring public welfare as well as protecting the interests of property owners. Since smaller property owners likely do not have the resources to develop a Planned Overlay Development and since the type of small division they propose does not likely bring about the level of impact that a larger subdivision does a method should be developed to allowed a reasonable review of such proposals. Specifically, I would propose the following:

    a. Minimum lot sizes should reflect established state level standards set by relevant state authority (one half to 1 acre).
    b. For subdivisions involving a small number of lots, under five lots, if a property owner desires to subdivide their property the planning department shall conduct a review of the proposed subdivisions using a more limited approach that reflects the type of review conducted for a Planned Overlay Development. Such a review will consider the impact of the minor subdivision on the proposed development as well as the immediate area surrounding the development. The planning department will make a recommendation based upon their analysis as to whether the subdivision should be allowed and provide a rebuttable justification involving tangible considerations such as water availability, roads, or emergency services as to why the subdivision should be or should not be permitted.
    c. If the landowner can provide better evidence that the county's position for denying the subdivision or the standards set for the subdivision are incorrect, the information provided by the landowner will then be used as a basis for a new analysis by the planning department.
    d. The landowner has a right of appeal first to the planning board, then to the county commissioners, and ultimately a court of an applicable jurisdiction.
    e. To highlight how this process would work consider the follow examples using the same basic facts but given two different contexts.
    f. **Example #1:** A property owner with 10 acres desires to subdivide their property into five 2-acre lots. The property exists at the periphery of the Helena Valley planning area. There is little other developing occurring there, water availability is not an issue however roads and fire risk are relevant issues. After a review of the relevant considerations, the planning department approves the subdivision contingent upon a wild-fire risk mitigation strategy being develop and an impact fee being paid to improve roads and emergency services in the area.
    g. **Example #2** Using the same facts as Example #1, 10 acres five 2 acre lots, however this time the property is on the edge of the Helena Valley where water is scarce. After reviewing the application, the planning department concludes that due to water availability issues that only two five acre lots are permissible in that area. After further investigation, the property owner presents the argument that through requiring dry scaping and having a set-back around the property 3 lots of

three acres with an acre for open space in the center of the property will be acceptable.

2. A judicial right of appeal should be included for the Planned Overlay Development review process.

3. For residents of a rural area that desire large lot sizes, Part 1 zoning can be used to achieve that end.

4. Per John Rausch's comments about the ability to divide an 18-acre lot. Assuming a minimum lot size is adopted a policy should be also adopted that allows for a subdivision of lots one more than the whole multiple of the minimum lot size. For example, assuming a 10- acre lot size the land owner should be able to divide an 18-acre parcel into one 8 and one 10-acre parcel. Additionally, an averaging requirement should be included if the amount greater than the minimum multiple is small. For example, an individual with a 24-acre lot should be allowed to divide their property into three 8 acre lots.

5. Per Louis Steinbeck's comments regarding the cost of regulations as reflected in housing prices, Ms. Steinbeck noted that regulations add 5% to the cost of housing. What Ms. Steinbeck was referring to was the impact of regulations on an unregulated jurisdiction that is adjacent to a regulated one. To the findings, found on page 16, of Montana Bureau of Economic Research's study regulations have the following impacts on housing prices:

    - Minimum lot size restrictions in other parts of the country have reduced the number of residential building permits filed by as high as 40% and reduces the chance land will be converted to residential land uses by 4.4 to 6.4%
    - Minimum lot size restrictions in other parts of the country raised housing prices by 7 and 9%, and estimates of the effect over time reach as high as 20%.
    - Minimum lot size restrictions raised prices in nearby jurisdictions by 5%, as people may move into homes built in unregulated markets.

    Additionally, Ms. Steinbeck stated that there was pervasive support for the comprehensive plan and 10-acre minimum. Although there is a widespread acknowledgement that transparent regulation is necessary, having personally attended both in person planning meetings and having reviewed the numerous public comments submitted regarding the plan, there is no evidence that there was widespread support for the plan in its adopted state or the minimum lot size requirement.

6. Per Jacob Kuntz's comment regarding the 10-acre minimum lot size. Attached is an article from the Helena Independent Record, Dated February 20, 20202, detailing how

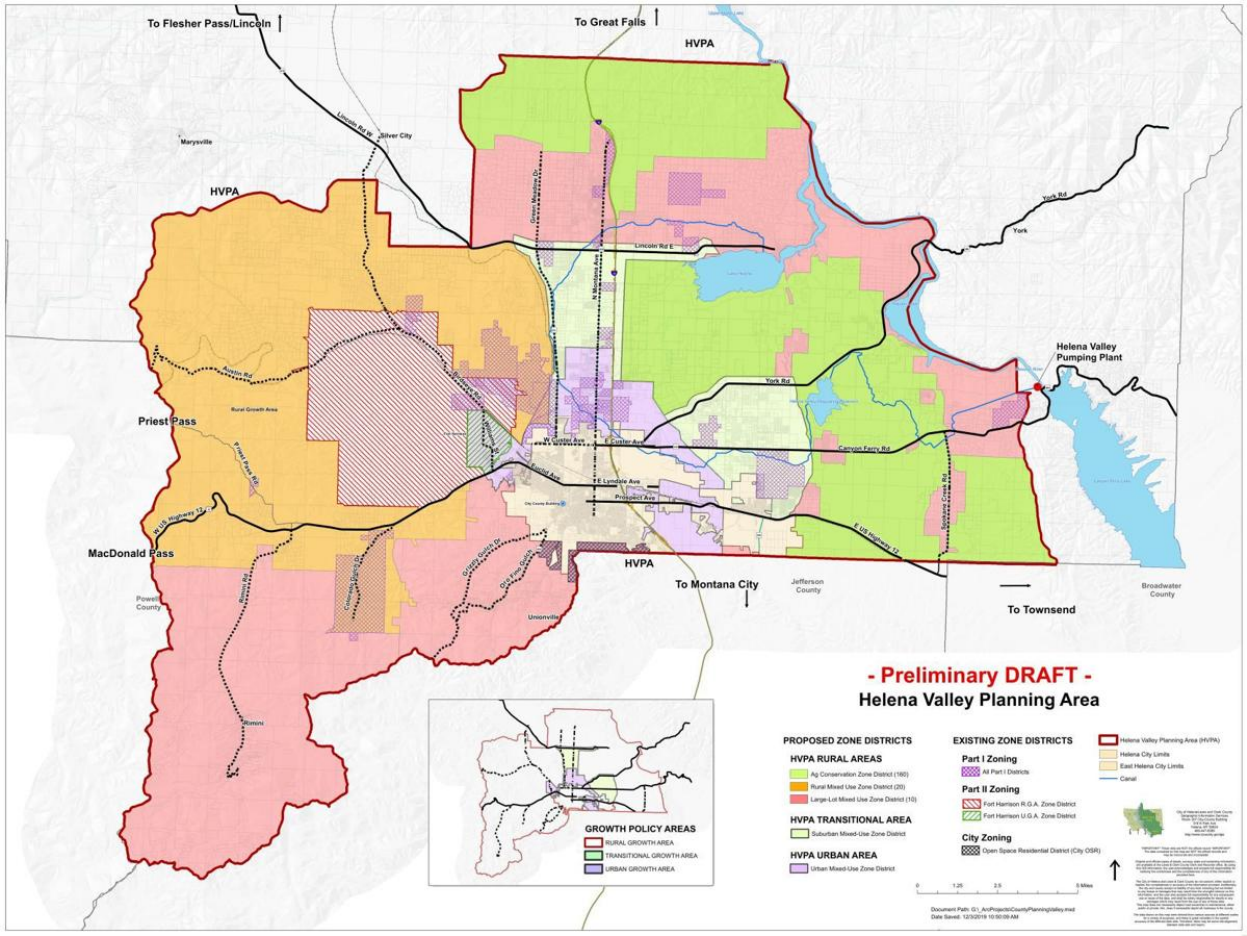
the original plan had proposed certain areas of the Helena Valley Planning area have 10, 20, or 160-acre minimum lot sizes.

https://helenair.com/news/local/residents-voice-concerns-about-lewis-and-clark-countys-proposed-zoning/article_4bca18e1-84cb-5a0c-8b4f-3a6cda42eb40.html#:~:text=The%20preliminary%20draft%20of%20the%20Helena%20Valley%20Zone,and%20a%20160-acre%20public%20land%20development%20reserve%20area

See Also: 160-acre minimums removed from draft Helena Valley zoning plan, Tyler Manning, February 25, 2020. , https://helenair.com/news/local/160-acre-minimums-removed-from-draft-helena-valley-zoning-plan/article_cc5297a2-bbbb-5173-b8dd-ff78b04987c6.html

Residents voice concerns about Lewis and Clark County's proposed zoning

- Tyler Manning



[Tyler Manning]

Helena-area residents gathered in the Lewis and Clark County Commission chamber this week to voice their concerns regarding proposed zoning for the Helena Valley.

Discussion of county zoning has been ongoing in recent weeks but Tuesday's meeting was the first to include all of the county administration. Residents raised several concerns but a single issue that rose above all others centered on the size of lots currently proposed. The preliminary draft of the Helena Valley Zone District has acreage requirements that include a 160-acre agriculture conservation zone, a 20-acre rural mixed use zone, a 10-acre large lot zone and a 160-acre public land development reserve area.

Tyrel Suzor-Hoy, who announced his candidacy for the commission this year, was the first to voice his opinion regarding the acreage requirements.

"Blanket requirements are not beneficial, but land use requirements are," Suzor-Hoy said. "Without the option to sell small parcels of land, landowners' livelihoods are at stake."

This argument was repeated multiple times as a few dozen individuals voiced their concerns over this proposed zoning area. Few comments dissented against the idea of land use requirements,

but there were some concerns regarding that as well. Specifically, regarding different kinds of agricultural use of the Helena Valley lands.

The land use requirements in the zoning proposal would prevent certain commercial and industrial uses of that land, such as a gravel pit proposed near homes in the Helena Valley off of McHugh Drive. The proposal has drawn opposition from a significant number of residents in the area.

According to Peter Italiano, the county's director of community development and planning, the acreage requirements were not something the county just pulled from a hat. The 10 and 20-acre limits were identified in the county's 2015 growth policy and 160 is the parcel limit under Montana law. Italiano specifically noted that these acreage limits are not mandated and therefore are not considered absolute.

Italiano also pointed out the zoning considerations come with the conversation as to whether or not it may be desirable to further reduce development intensity. This is largely regarding use of services such as roads and water, of which the valley can only maintain a limited number of individuals. Possible infrastructure deficiencies and adverse impacts are a major concern for the county, he said.

Although the preliminary draft denotes acreages there is "still a lot of discussion to be had about the degree of flexibility," said Italiano. In other words, nothing about the preliminary draft is finalized.

"As we've said repeatedly, the process is in its preliminary draft stages and is by design intended to be iterative," he said. "Not to sound like a broken record, but these efforts are a work in progress and subject to change. Inclusive of density discussions."

Italiano said he appreciates people bringing concerns to the county's attention, because public comment will help shape whatever the final zoned area looks like. At the meeting, residents were more than happy to voice their opinions on the proposed zoning.

Mike Magee, representing the Helena Building Industry Association, said the HBIA is concerned that the lot sizes will increase the overall cost of living in the valley. Historically the valley has been one of the less expensive places to live in Helena.

"Only the top 10% to 15% will be able to afford these 10 and 20-acre lots," he said.

According to Magee, this could cut out a significant portion of more affordable housing options in the Helena area. He said that other than the top income levels, those wanting to buy a home in the community will be told "Sorry, you're not wealthy enough."

Legislator Julie Dooling believes the restrictions will overly burden neighboring Jefferson and Broadwater counties by making it too difficult for farmers and ranchers to subdivide property for development.

Dooling said she and her husband purchased their 160-acre ranch under the impression that they could one day subdivide 20 acre lots to other individuals. However, the preliminary draft of the zoning plan would place more extensive and expensive procedures that would hinder their future plans.

Those opposed to the large lot size offered counter suggestions such as smaller 1 to 2-acre minimums. However, a large part of why the county went with 10 and 20-acre lots is due to a desire to preserve the large lot lifestyle in the Helena Valley and the valley infrastructure.

Not everyone was opposed to the zoning. Lois Steinback said she supports the acreage requirements in order to preserve the rural lifestyle valley life offers. She also specifically cited the county's growth policy, which she referred to as "forward thinking" and "helps to balance competing interests."

Balancing competing interests is at the heart of what Italiano and the zoning board are trying to do at this time.

"A balance is needed between density and future projected growth, but part of that balance is often geographically specific," Italiano said. "With the assumption that a projected 10,000 (resident)population growth number is correct, the real issue is not simply how to accommodate that, but also where to best accommodate it."

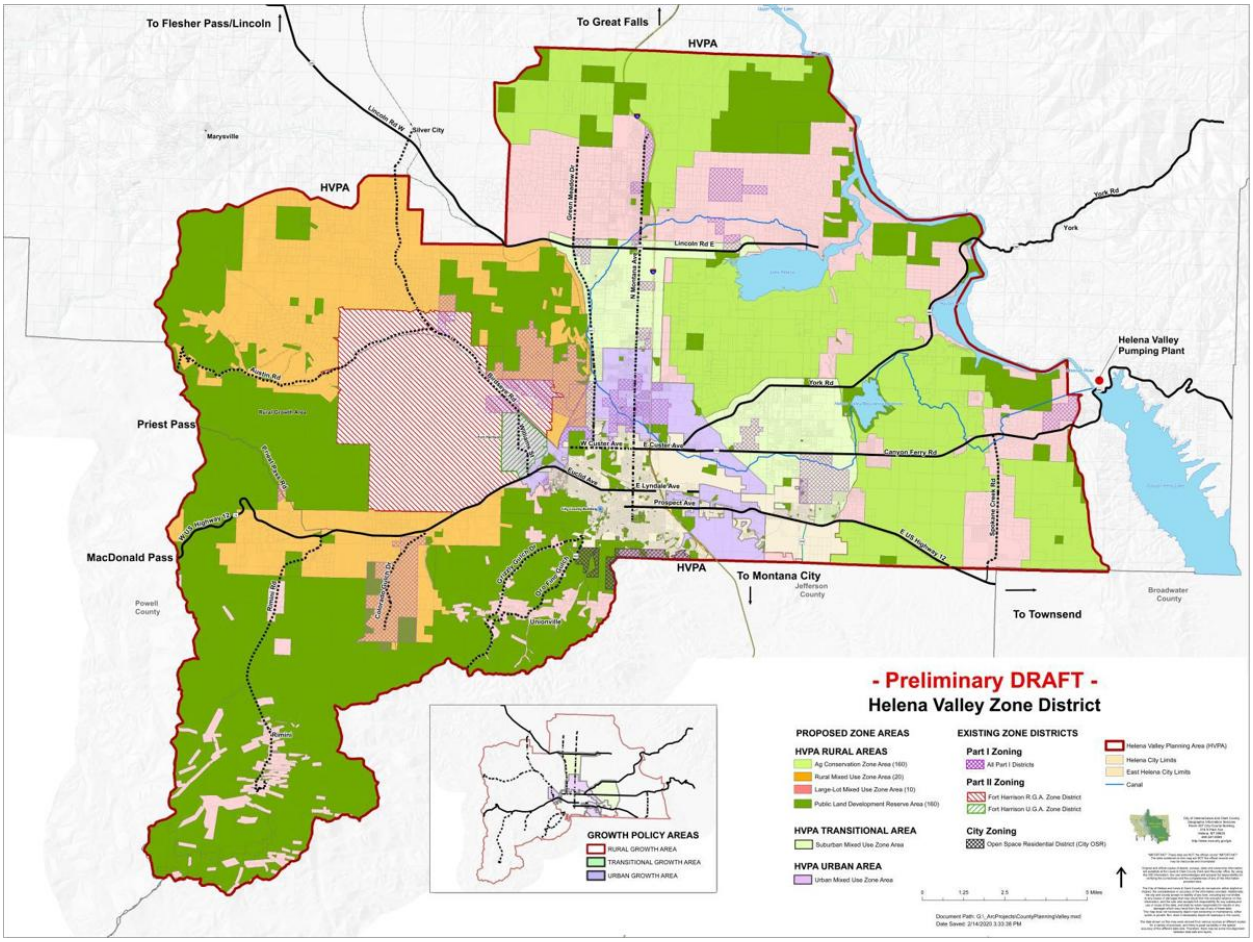
According to Italiano, the Rural Growth Area develops in a low-density scenario and the Urban Growth Area should develop in a complementary way at higher density levels. Italiano reiterated the importance of higher density areas being developed where infrastructure is most readily available.

Currently, the county is highly focused on the Rural Growth Area. Italiano said if zoning is ultimately brought to the valley, then the county would sit down with the City of Helena to discuss the urban area. As of now, the county is looking at its current growth policy, which reaches out to 2035.

Pending valley zoning, the next county program would look at tweaks to the subdivision regulations, which may need to be synced with the zoning, he said.

160-acre minimums removed from draft Helena Valley zoning plan

- Tyler Manning
- Feb 25, 2020



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[Tyler Manning]

Before advancing a preliminary [Helena Valley zoning] plan to the Consolidated City and County Planning Board on Tuesday, members of the Lewis and Clark County Commission backed off a proposal that would have established a minimum lot size of 160 acres in agricultural zones.

Commissioners Andy Hunthausen and Susan Good Geise both said they no longer support the proposed 160-acre requirement, which is the maximum allowed under state law.

"I think moving forward with 160 acres was a mistake," Geise said. "We heard loud and clear that it's not what people want."

Geise said she initially supported this part of the proposal because she wanted to let the ag community know they are valued.

Commissioner Jim McCormick didn't speak about the 160-acre requirement during Tuesday's meeting, but he didn't voice opposition to his fellow commissioners and voted with them to advance the overall zoning proposal to the planning board.

The primary argument against the 160-acre requirement was that it would limit landowners' ability to subdivide and sell of parcels of their own land. Much of the land in the Helena Valley is currently valued under the assumption that it is able to be subdivided. Zoning the land for strictly agricultural and not residential purposes could lead to the devaluation of that land.

McCormick said the overall goal of the zoning project has been to develop a growth management plan. County Planner Greg McNally explained that this is because further urbanization and suburbanization would make it more difficult for the county to address issues related to fire, water and roads in the future.

"It's about having a degree of predictability," McCormick said. "It's not about telling you how to live your life."

Hunthausen mentioned that a gravel pit has been proposed near hundreds of homes in one Helena Valley neighborhood due to a lack of zoning.

"The more density we put in these places with substandard roads, substandard fire protection and substandard water availability the more risk we take," Hunthausen said. "This provides a level of predictability."

Hunthausen said he has spoken with people who say they support a growth policy and planning without rules or regulations, but you can't have one without the other.

While the preliminary plan submitted to the planning board will not include the 160-acre minimums, it will include minimum lot sizes of 10 and 20 acres, depending on the zoning district.

Geise said it's the commission's job to balance everyone's property rights and that no individuals will get special treatment in this process.

The planning board consists of four individuals who live in the city of Helena and four individuals who live in Lewis and Clark County. The first meeting to discuss the proposed Helena Valley zoning is currently set for April 21, 2020.

From: Thomas, Andrew
To: County_Planning_Mail
Subject: Additional ZAP public comment.
Date: Wednesday, January 19, 2022 2:01:28 PM
Attachments: Zoning and Fire Hazard, 1.19.2022.pdf

Please see attached.

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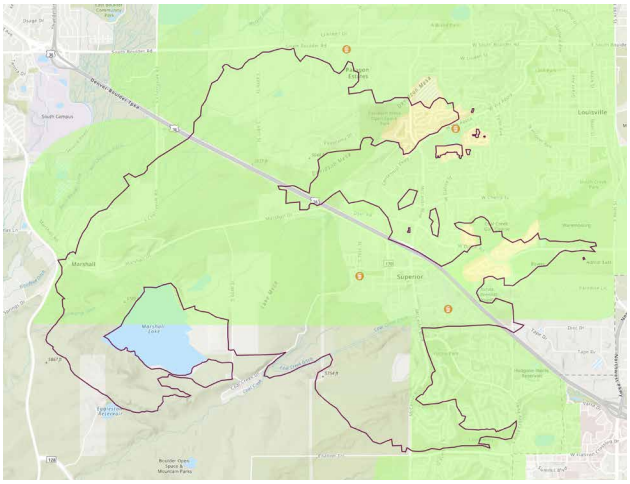
The Antiplanner
Dedicated to the sunset of government planning

Antiplanner Policy Brief Number 132 *January 18, 2022*

Boulder's Open Space and the Marshall Fire

At 11 am on December 30, 2021, a small fire was reported near the intersection of state highway 93 and Marshall Road in Boulder County, Colorado. Though driven by high winds, it took a full hour for the fire to creep across three miles of grasslands to the town of Superior, where it proceeded to burn 533 homes to the ground. It also crossed U.S. 36 into the city of Louisville where it burned another 332 homes, as well as 106 homes in unincorporated areas outside the two cities. In addition to killing at least one and possibly three people, the fire also destroyed about 100 other structures, including a hotel, and damaged 150 or so more. In all, it burned more than 6,000 acres in 30 or so hours before snowfall the evening of December 31 put it out.



The final perimeters of the Marshall Fire, which started at the left-most point on this map near the word "Marshall." Click here for an interactive and updated version of this map.

As it happens, I had given a presentation on wildfire to the Independence Institute, Colorado's free-market think tank, just two months before the fire. The presentation noted that state and local land-use regulations that require compact development make cities more vulnerable to fire. The Tubbs fire in 2017 destroyed nearly 3,000 homes in Santa Rosa, California and nearby communities while the Camp Fire in 2018 destroyed more than 14,000 homes in Paradise, California and nearby communities.

In both cases, the homes were built close to one another so that, if one house caught fire, the radiant heat from that fire would ignite its neighbors. For years, state and local fire officials have encouraged people who own homes near public lands to make their homes *firewise*, meaning the roof and certain other parts of the houses are nonflammable and vegetation and other materials that could generate enough radiant heat to ignite the wooden walls of the homes are kept more than 100 feet away.

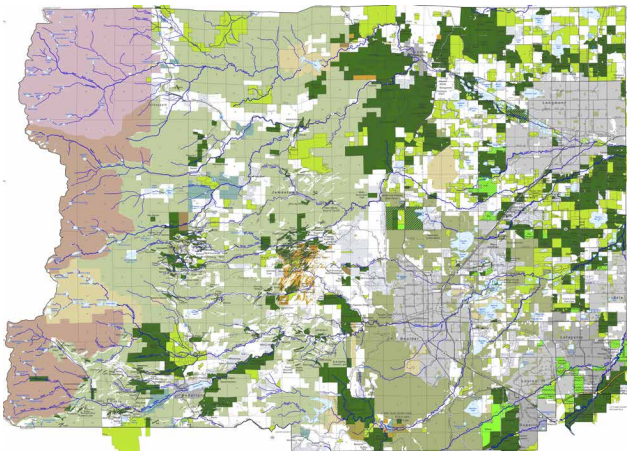
Firewise principles only work when homes and other structures are at least 100 feet apart. Otherwise, if one ignites, its neighbors are likely to catch fire as well. To protect against wildfire, I told the Independence Institute, cities should surround themselves with low-density development. Unfortunately, the anti-sprawl zoning codes in California and other cities do not allow for such low-density development. In guarding against sprawl, a problem I don't even think is real, planners have made their cities more vulnerable to the very real problem of wildfire.

Boulder's Anti-Sprawl Policies

In the interior West, no place has enacted more stringent anti-sprawl policies than Boulder County. Rather than use urban-growth boundaries, Boulder County, the city of Boulder, and other cities in the county have purchased land or easements on well over 150,000 acres. Sometimes known as the Boulder Greenbelt, this land is supposed to provide hiking and other recreation opportunities, but mainly what it does it limit the opportunities for new home construction. Many of the open spaces are not even open to public recreation as they are still being farmed by their owners (in the case of easements) or former owners.

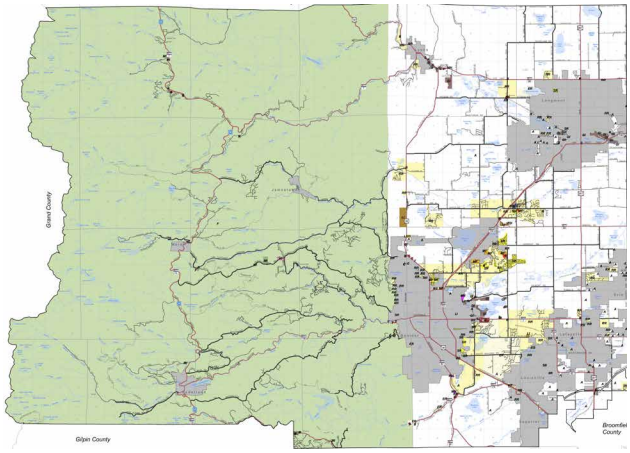
Boulder County already had plenty of public lands before it began buying the Greenbelt. Out of the 473,600 acres in the county, more than 138,000 are in the Roosevelt National Forest, which directly abuts the city of Boulder. More than 27,000 acres are in Rocky Mountain National Park. The Bureau of Land Management has several thousand acres and the state of Colorado owns at least

2,000 acres. Before the cities or county bought a single acre of open space, well over a third of the land in the county was federal or state land and nearly all of it was open to recreation.



Map of public lands and open spaces in Boulder County. Grey areas are cities, outside of which the only private lands not protected as open spaces are white. Click here to download a PDF of this map.

In addition to buying open space and easements, Boulder County has zoned much of the remaining private land outside of city limits for non-residential uses. Ten incorporated cities in Boulder County occupy about 12 percent of the county's area but house 87 percent of the county's population, with the other 13 percent being mostly in rural residential zones.



Boulder County zoning map: grey is cities; green is zoned Forestry; white is zoned Agricultural; nearly all of the yellow is Rural Residential with 1-acre lot sizes but a small portion of the yellow is Suburban Residential with 7,500-square-foot minimum lot sizes. Click here to download a PDF of this map.

Not counting the cities, 95.2 percent of the county is zoned Forestry, Agricultural, or another zone that has 35-acre minimum lot sizes. Around 4.2 percent is Rural Residential or another zone that has 1-acre minimum lot sizes. Less than 0.3 percent is zoned multifamily or another zone that allows more than one home per acre, averaging 7,800-square-foot minimum lot sizes. Slightly more than 0.3 percent is zoned for industry, commercial, or other non-residential uses. A comparison of the zoning map with the open space map reveals that at least some of the areas zoned residential are in open spaces, which means they will never be developed unless the city or county change their open-space policies.

These actions and policies have made Boulder County one of the most expensive housing markets in the nation. According to the Census Bureau, the county's median home value in 2019 was $592,000, more than any other county in the nation that is not in a coastal state. Only 16 counties in California, three in New York (all in New York City, whose five boroughs are also five counties), two in Hawaii, and one each in Massachusetts, Virginia, and Washington were more expensive.

According to Zillow, the median value of Boulder County homes had grown to $728,000 by November 2021. For comparison, the median value of homes in the United States as a whole was $240,500 in 2019 and $316,400 in November 2021.

Open Space and the Marshall Fire

The three miles of grasslands crossed by the Marshall Fire before it reached the town of Superior were almost all city or county open spaces. A small portion that was not was zoned agricultural. As noted, despite high winds, the fire moved across this area at a moderate pace of about 3 miles per hour.

The first homes to be burned by the fire were in northwest Superior. The land to the left of the homes is open space that is closed to public recreation; the land to the right is the shopping mall with Target.

The first homes to be reached by the fire were in northwest Superior. Due to the high cost of land, these homes were crammed together on 3,000- to 4,000-square-foot lots. Most of the houses ranged in size from 1,230 to 2,050 square feet, although a few were 2,550 and at least one was nearly 2,900 square feet. Zillow estimates that the homes were worth between $573,000 and $765,000. Since individual building lots in Superior sell for several hundred thousand dollars, perhaps half the value of those homes was in the land.

Fitting even two-story 2,000-square-foot homes on 3,000-square-foot lots doesn't leave a lot of land left over, especially considering the city appears to require 25-foot

setbacks from the street. Photographs show only about ten feet of spacing between the homes. This is not what Superior needed as its first line of defense against the fires. Not a single house in this neighborhood survived.

This image from Google streetview shows the narrow gaps between the homes in northwest Superior.

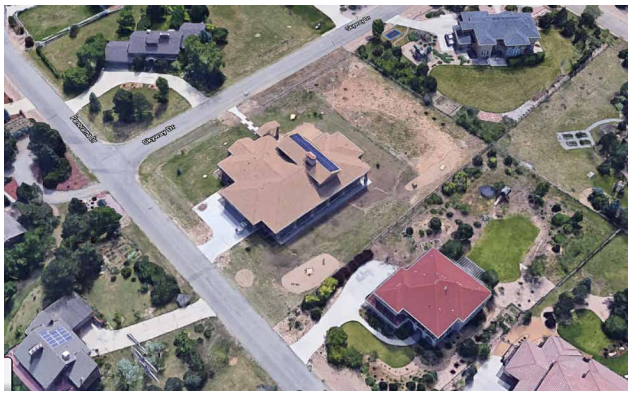
Having passed through these homes, the fire attacked a shopping center that included a Super Target and a Costco. Being surrounded by parking lots, these areas were the epitome of firewise. Aerial photos show that some of the solar panels on the roof of the Target caught fire, but the Costco and most other structures appear completely undamaged.

All of the homes in the previous two images were destroyed.

South of the shopping center, the fire passed through a neighborhood of homes that were not packed as densely as the first neighborhood. Many of these houses burned, but some that were on larger lots survived. Curiously, a Phillips 66 fuel station surrounded by asphalt survived while most of the homes around it did not. Gas stations are often thought to be vulnerable to fires, but they are apparently more firewise than most homes on smaller lots. At the same time, the fire crossed U.S. 36 to the north, entering a rural residential neighborhood called Paragon Estates. Many of these homes were built on 1-acre lots. Being on a large lot was no guarantee of safety. One home that appears to be built of stucco with a completely non-flammable roof survived, as did a new home that hadn't yet had landscaping installed. Other homes burned because they were surrounded by trees and other vegetation. But it is notable that firefighters were able to use the spaces between these homes as firebreaks and halt the northerly progress of the fire.

This gasoline station survived while nearby homes did not, demonstrating the value of firewise design.

East of Paragon Estates, the fire entered the town of Louisville. Many of the homes in the fire's path were built on 7,000-square-foot lots, but some rows of homes were separated from others by greenspaces. In one neighborhood, two homes built on 18,000-square-foot lots survived while nearly all of their neighbors on 7,000- to 8,000-square-foot lots did not. Once a row of homes caught fire, most of the houses in that row burned, but firefighters were able to use the greenspaces between the rows as firebreaks.



The center home in this photo was the newest in the neighborhood and was saved by the fact that the owners had not yet grown or installed any trees or shrubbery. All of its neighbors shown in this photo burned to the ground.

As in Superior, large buildings such as hospitals, retailers, and offices often survived, being surrounded by asphalt instead of flammable trees or nearby homes.

The trees and vegetation around this home, located not far from the one in the previous photo, were enough to ensure its destruction.

Considering that freak winds of 80 to 100 miles per hour were reported during the fire, it is a credit to firefighters that the fire claimed only 6,000 acres and under a thousand homes. But this is also due to the many greenspaces or large parking lots within the cities that firefighters were able to use as fire breaks. While those in-city greenspaces helped stop the fires, the county Greenbelt made the results of the fires worse by forcing high-density developments into the cities.

The two homes at the bottom of this photo are on 18,000-square-foot lots. They survived, while most of their neighbors on 7,000- to 8,000-square-foot lots did not.

Boulder's Greenbelt policy has the apparent virtue that it at least compensated many of the rural property owners for giving up their rights to develop their land, though owners of the remaining land zoned Forestry and Agriculture might disagree. However, however it was done, removing most of the land in the county from the possibility of development has completely warped the housing market. Existing homeowners were winners while anyone who bought homes in more recent years were losers. This system increases wealth inequality without notably improving the county's quality of life.

The Marshall Fire revealed one more problem with the policy: its lack of resiliency in the face of natural disasters. A close look at the county open space map reveals that the land immediately west of the Superior homes that burned is county owned but not open to the public, probably because the county bought it with the proviso that the previous owners are allowed to continue to farm it. There was no point in buying this land except to limit the amount of developable land in the county.

In this detail from the county open-space map, the area marked "S 76T" is where the first homes that burned were located. The greens are city or county open spaces and the diagonal lines indicate these particular open spaces were closed to the public. The purchasers of homes in this area may have thought the open spaces to be a plus; they turned out to be a minus.

To reduce fire hazards, Boulder county and cities within the county should sell or give up easements for all land within a two-mile strip around all cities in the county. All land within this strip should be rezoned to 1-acre minimum lot sizes with requirements that homeowners in this buffer strip manage their properties to firewise standards. Such land should be available to be annexed by the cities and as such annexations take place the two-mile buffer strip should be moved, rezoning land as needed. This will help alleviate housing affordability problems as well as make homes and other structures less vulnerable to wildfire.

Randal O'Toole, the Antiplanner, is a land-use and transportation policy analyst and author of The Best-Laid Plans: How Government Planning Harms Your Quality of Life, Your Pocketbook, and Your Future. *Masthead photo of homes burning in Louisville, Colorado is from a video courtesy of Centura Health Avista Adventist Hospital.*

From: DW Paulson
To: Greg McNally
Subject: attention ZAP
Date: Monday, January 17, 2022 6:30:45 PM
Attachments: ZAP letter 1-18-22.pdf
ZAP letter Oct 2021.pdf
6-24-20 Spokane Creek Neighbors2 Public Comment .pdf
2018 letter to planning.pdf
2015 letter to planning.pdf

Please accept the attached letter and attachments as public comment. Please acknowledge that the submittal was received.

The attachments were previously submitted to ZAP and are included here for easy reference.

Thank you

To: Community Development and Planning Department January 18, 2022
Attention Zoning Advisory Panel
From: Dale Paulson 2610 Three Bars Drive
East Helena Montana 59635

As you approach the time to submit your recommendations please revisit the Spokane Creek Neighbors letter of October 7, 2021 that expressed concern for the loss of water in the Spokane Creek area due to the proliferation of wells.

That letter along with attachments provides substantial information about the health of the aquifer in the Spokane Creek area and asks, “that you significantly restrict further subdivision in our area until a comprehensive transparent hydraulic study of the entire Spokane creek drainage area, not just the footprint of the proposed development, is completed.”

The words currently in the Draft PD section only relate to the subdivision itself. As noted in the October 7, 2021 letter, impacts to water resources reach far beyond the subdivision. The Draft PD also suggested that drawing water from the alluvial aquifer is a possibility. The October 7, 2021 letter clearly shows that the alluvial aquifer in the Spokane Creek area is distressed. Recharge is not keeping up with new development and hasn’t been for some time.

If you choose to recommend the approach in section 2108.01.06.1, 2109.01.06.1 and 2110.01.05.1 the required detailed information should come from a comprehensive and transparent hydraulic study completed by a reputable organization that ensures there is adequate water availability to meet the long term needs of the subdivision, existing water wells, agriculture, the environment and other existing uses that rely on the aquifer that may be impacted by the new subdivision. Approving a new subdivision is irrevocable and adds to the sustained pumping currently underway in the Spokane Creek area. Lacking such a study the 10- acre minimum approach is superior.

At your last meeting it was noted that all parts of the planning area are not the same, well logs don’t tell the whole story and water is an important element of property value.

USGS explains the groundwater decline and depletion this way in their Water Science School June 6, 2018

Excessive pumping can overdraw the groundwater "bank account"

The water stored in the ground can be compared to money kept in a bank account. If you withdraw money at a faster rate than you deposit new money you will eventually start having account-supply problems. Pumping water out of the ground faster than it is replenished over the long-term causes similar problems. The volume of groundwater in storage is decreasing in many areas of the United States in response to pumping. Groundwater depletion is primarily caused by sustained groundwater pumping. Some of the negative effects of groundwater depletion:

- drying up of wells
- reduction of water in streams and lakes
- deterioration of water quality
- increased pumping costs
- land subsidence

Dale Paulson

Attached letters for your ready reference.
10/ 7/, 21
4/8/15
3/30/18
6/24/20

October 7, 2021

To: Community Development and Planning Department
Attention Zoning Advisory Panel

From: Spokane Creek Neighbors

We appreciate the work you are doing and the opportunity to provide comments to the Zoning Advisory Panel (ZAP) on behalf of several Spokane Creek Neighbors. These comments are specific to the Spokane Creek Drainage area and as you consider your recommendations we ask that you protect the availability of water in the Spokane Creek area. Water is the life blood of our human and natural ecosystem that must be protected in order to sustain us and the Montana lifestyle that we all cherish. Of all the elements that you are considering water availability has to be number one for sustaining our life style, property values and the natural environment. You have discussed water issues in the North Hills but we want to make you aware that the Spokane Creek area is heading down the same path. The water issues here are not as visible as the North Hills but the problem is fast approaching and we have long been sounding the alarm.

Clearly as subdivision increases there is an increasing drawdown of the aquifer, existing wells and environmental degradation of the historically viable fresh water Spokane Creek and its ecosystem. In approximately 2008 Wheat Ridge Estates a large high density subdivision was beginning to be built and as it developed things started to change. By 2014 as the subdivision continued to grow Spokane Creek flow was noticeably decreasing each year as progressively longer and longer reaches were drying up. Concern for this development prompted a letter to Lewis and Clark County Community Development and Planning Department in April 2015 to make the Planning Department aware of the problem. By 2018 it became evident that in addition to decreasing flow our wells were also experiencing lower water levels. The decreasing flow and lower well levels prompted a second letter in March of 2018. As building continued ground water and creek flow continued

to decrease and we again addressed the problem in a June 24, 2020 letter, supported by data from the Montana Ground Water Information Center. All three of these letters are attached and they document the progressive and rapid loss of ground water over the past seven years.

Recharge is not keeping up with the drawdown from the increasing numbers of wells. Longtime residents of the area can attest to 40 years of history that Spokane Creek was a viable fresh water stream and ecosystem with the sole exception of the recent high development years. It was a typical fresh water creek with normal spring freshets preceding continuous summer flow and a groundwater ecosystem supporting abundant vegetation, wetlands, wildlife, birds, and aquatic life. And we are sure that this has been the history of this creek for a very long time.

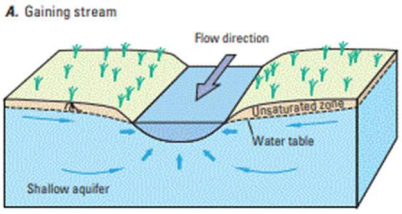
Now the water loss is aggravated by spring flooding which has no chance of recharging the aquafer. Flash floods, with substantial contribution from the subdivision, inundate a dry creek bed, last about a day and the creek is dry again the next day. The spring flood of 2016, was the first time that water overtopped Three Bars Road and the second time occurred in the spring of 2018. These two years are the only time we know of that water overtopped the road with the exception of the 2003 flood. This is called Flashing, the water is lost and there is no chance of aquifer recharge.

The precise date of the 2016 flash flood is unknown but the 2018 flood which caused considerable damage and required expensive replacement of the culverts occurred in the March 22nd time frame. The creek was dry within a few hours and did not flow again until May 10, 2018. There was no continuous flow in 2017. In 2018 the flow started on May 10th and lasted until July 14, 2018. In 2019 the creek started flowing on March 26th and stopped on June 16$^{th.}$ There has been no flow since. The ground water elevation high enough to support a free flowing creek is now well below the creek bed. An eight foot ground water monitoring station near Three Bars Road indicated that ground water was at 7.7 feet below the creek bed in June of 2020. This year the monitoring station is dry showing the ground water level is in excess of eight feet below the creek bed.

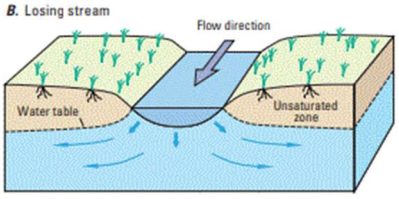
Summer 2010 photo showing typical flow and abundant grass fed by groundwater that was the norm until 2014 when flow was noticeably decreasing.

Summer 2020 photo of the dry creek bed. Recent flow has been short lived and weak. There has been no flow since June of 2019

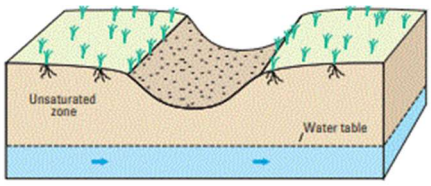
Summer 2020 photo of dead and dying trees. These trees area were still alive in 2014 even though the flow had started to decrease.



Freshwater creek and groundwater ecosystem supporting abundant vegetation, birds and aquatic life including frogs and small fish that was typical of Spokane creek for many years.



Water flowing from creek to aquifer. Noticeable drying of the creek affecting vegetation became noticeable and alarming in 2014 resulting in notification to the Lewis and Clark Planning of the impending problem in 2015.



Current dry creek bed with no recharge capabilities. June 16, 2019 was the last time there was flow in the creek. The water table is now in excess of 8 feet below the creek bed near Three Bars Road.

The Figures are from Streamflow Depletion by wells USGS Circular 1376 provide a visual depiction of the result of ground water depletion on streamflow and vegetation. Notably in the last figure ground recharge has ceased. Circular1376 also notes "… the effects of groundwater withdrawals can spread to distant connected streams, lakes, and wetlands through decreased rates of discharge from the aquifer to these surface-water systems."

Spokane Creek at Johnson Road August 2021

1980 Spokane Creek adjacent to Johnson Road

During your deliberations your members have highlighted many issues that are close to home for us. Issues like, consideration of impacts to current property owners, avoiding shifted costs, property values, life style, the natural environment, ensuring water availability and not impacting existing wells. These things are important for longtime residents, new residents, and those building now that have no knowledge of the stressed aquifer.

Water issues won't fix themselves and the longer they go unaddressed the worse it will get. It's not something to be kicked down the road. As you consider your recommendations we ask that you significantly restrict further subdivision in our area until a comprehensive transparent hydraulic study of the entire Spokane creek drainage area, not just the footprint of the proposed development, is completed. Subdivision density, and subsequent well water withdrawal, must be designed to match aquifer recharge. No other approach is sustainable, and decisions about subdivision density cannot be made without data obtained through such a comprehensive, transparent, hydraulic study.

The importance of your recommendations can not be overstated. Allowing new subdivisions is an irreversible commitment of existing water resources that can't be changed. The trend is clear. It's unmistakable, water availability in the Spokane Creek drainage area is decreasing. A complete understanding of water resources and ecosystem impacts now and into the future should be a prerequisite of new development.

Thank you

Spokane Creek Neighbors

Signatures are on the following pages

Attached letters

4/8/15

3/30/18

6/24/20

Name	Address	Signature
Rodger & Laura Nordahl	2735 Three Bars Dr. E. Helena MT 59635	
DAN & LORA MCDAID	5974 JOHNSON RD. EAST HELENA MT 59635	
Pattie + DAVE CAMERON	5945 Heartache Rd E. Helena MT. 59635	David Cameron Patricia Cameron
ROBERT & CECILLE GRAFFI	5996 N. THREE BARS RD. EAST HELENA, MT 59635	Robert Graffi Cécille Sanders Graffi
Dennis D. + Marie A. Haywood	2485 Three Bars Dr East Helena, MT 59635	Dennis D. Haywood
Ann Guerin	2515 Three Bars Dr E. Helena, MT 59635	Ann Guerin
Nat & Hillary Carter	00031 Johnson Rd E. Helena, MT 59635	Hillary Carter
JoANN MORRISEE	5949 HEARTACHE RD E. HELENA, MT 59635	

Name	Address	Signature
Dan Sloat Deb Sloat	5914 Johnson Rd	Dan Sloat Deb Sloat
Marty Van Slyke & Toni Van Slyke	5924 N. Three Bars East Helena	Toni Van Slyke
Drake Tummel & Joyce Tummel	2601 - Three Bars Dr. East Helena	Drake Tummel Joyce Tummel
Dale Paulson & Nancy Paulson	2610 Three Bars Drive East Helena	Nancy Paulson
Faydee Hamilton	5845 Johnson Rd. E. Helena, MT 59635	Faydee Hamilton
Dave Marlene	2645 Three Bars Dr E. Helena MT 59635	Marlene Lay David Lay
Jody McDaid	5946 Johnson Rd. E. Helena	Jody McDaid
Vicki McDaid	5900 Johnson E. Helena MT 59635	Vicki McDaid

Consolidated Helena & Lewis And Clark County Planning Board June 24, 2020
316 N. Park Ave. Room 230
Helena, MT 59623

Board Members:

This letter communicates concerns of several residents of the Spokane Creek Neighborhood centering near the intersection of Spokane Creek Road and Three Bars Road regarding the proposed Helena Valley Zoning Regulations. We wish to make three observations and one request of the Board.

Observations:

- Water withdrawal from certain aquifers within the Helena Valley Planning Area currently exceeds recharge, and as such, certain aquifer water supplies are already not sustainable. (Supporting information follows below).

- Aquifer boundaries and recharge characteristics within the Helena Valley Planning Area are highly variable and not well understood. While the general approach of limiting Rural Residential Mixed Use (RRMU) density to a minimum parcel size of 10 acres (assuming 1 well per 10 acres) is an approximation based on past research, the clustering concept described in Section 7 may not result in sustainable aquifer water supply for that cluster, and also may deprive adjacent clusters of water.

- Section 7, RRMU, paragraph 706.01.3 describes how rural 10 acre lots may be subdivided into clusters over a larger area in order to "reduce the potential for groundwater depletion". This is a very mechanistic approach and does not take into consideration research and data on actual aquifer boundaries and ground water recharge rates through hydrogeologic analysis of sustainable groundwater withdrawal. Completion of a hydrogeologic analysis and extensiveness of that analysis is key. Further, an analysis of just the footprint of a subdivision cluster is not an analysis of the entire impact area, which is defined by the aquifer perhaps covering a large area.

Our concern is simply that aquifer water withdrawal is not less than aquifer recharge. The amount of aquifer recharge is quite variable within RRMU areas, and the subdivision scenarios described in Section 7 Figure 1 cannot guarantee water withdrawal will be sustainable without scientific analysis.

Request:

- The Helena Valley Zoning Regulations should mandate that a comprehensive hydrogeologic sustainability analysis be conducted before RRMU subdivision or cluster decisions are made, or, financial and engineering provisions must be provided to detail how water will be provided from other sources (e.g. river or reservoir) should aquifers prove to be unsustainable.

To restate our request more simply, we ask that at a minimum, subdivision density be based on scientific measurement and analysis of water sustainability. Hydrogeologic studies must precede development.

Sincerely,

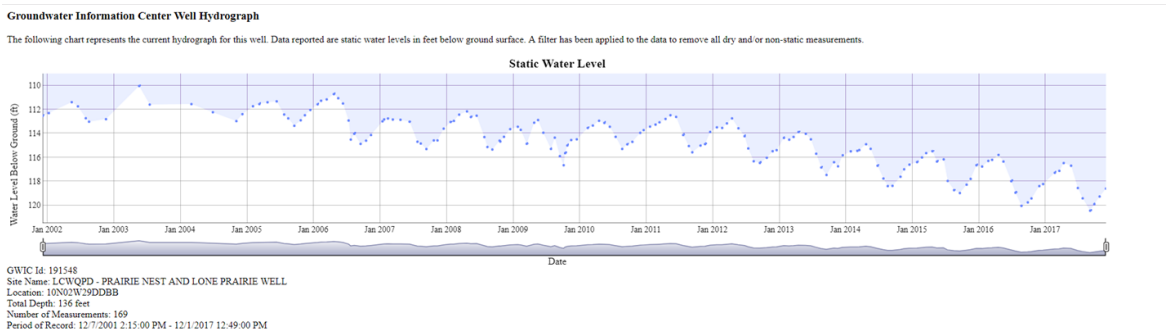
Spokane Creek Neighbors

Spokane Creek Neighbors Include the Following:

Nancy & Dale Paulson	2610 Three Bars Drive East Helena, MT 59635-9710
Joyce & Drake Tummel	2601 Three Bars Drive East Helena, MT 59635
Toni & Martin Van Slyke	5924 North Three Bars Road East Helena, MT 59635-9424
Marie and Denny Haywood	2485 Three Bars Drive East Helena, MT 59635-9709

Indications of Declining Aquifer Water Levels Within the Helena Valley Planning Area

1.) Montana Ground Water Information Center Data: Prairie Nest & Lone Prairie Well



This chart shows declining well levels from 2002 (110 feet) through 2017 (120 feet) near East Helena. This is but one example of long-term declining aquifer water levels within the Helena Valley Planning Area. Similar results can be observed for other wells.

2.) Two studies indicate that 1 well per 10 acres was sustainable there, while 1 well per acre was not.

a. Bobst, A.L., Waren, K.B., Ahern, J.A., Swierc, J.E., and Madison, J.D., 2012, Hydrogeologic Investigaton of the North Hills study area, Lewis and Clark County,Montana, Technical Report.
b. Bobst, A.L., Waren, K.B.,Butler, J.A., Swierc, J.E., and Madison, J.D., 2014, Hydrogeologic investigaton of the Scratchgravel Hills study area, Lewis and Clark County, Montana, TechnicalReport.

3.) Emerald Ridge Subdivision Aquifer Depletion

a. J. E. Swierc. 2014. Emerald Ridge Area Ground Water Resource Assessment. Lewis and Clark Water Quality Protection District

4.) Personal Observations of Spokane Creek Surface Flow:

Residents living here over 30 years note very infrequent flow in Spokane Creek, which used to run continually. Trees along the creek are stressed and a small wetland adjacent to the creek has dried. These observations did not correlate with annual rainfall, but were coincident with a large housing development nearby.

Dale W. Paulson
2610 Three Bars Drive
East Helena, MT 59635

March 30, 2018

Peter Italiano, Director
Lewis and Clark County Community Development and Planning Department
316 North Park Avenue
Helena, MT 59623

Subject: Concern for East Bench Water Aquifer Depletion

Mr. Italiano:

I am writing in representation of a number of neighbors in the Spokane Creek area to express our concerns related to reduced water levels in domestic wells which has recently come to our attention. This is also a follow up letter to a letter written to the planning department on April 8, 2015 by me. This letter is attached along with your Department's April 16, 2015 reply which was greatly appreciated.

The referenced 2015 letter expressed concern that rapidly decreasing ground water was clearly evident and the decrease had a clear correlation to the development of a high density subdivision located near the intersection of Highway 12 and 284. This was evidenced by increasing dry creek reaches along Spokane Creek. As an update no water has flowed through the Paulson property since the 2015 letter was written with the sole exception of the short duration spring runoff over frozen ground. This has not been the norm for the last 30 plus years.

With this as background our collective concern grew exponentially when it became clear that not only is Spokane Creek drying up but our wells are experiencing lower water levels that any of us can remember. We are providing a table of both quantitative and anecdotal observations by our neighbors that are cause for our concern (attached).

After reading the 2015 Growth Policy Update we are sure that none of this comes as a surprise but we believe it is important to document that the aquifer is clearly not recharging fast enough to maintain well levels in this area which substantially validates your prediction. As noted in Mr. Thebarge's April 16, 2015 letter, the agency already has evidence of groundwater withdrawals in subdivisions impacting wells and this letter provides additional information for your database related to the Spokane Creek area. In addition, it highlights the immediate need to obtain the data necessary to make necessary policy decisions, which could limit development to insure water availability into the future, again as noted in the attached CDP 2015 letter.

We are experiencing water depletion first hand and we compliment you for the work that went into developing the Key Points listed in Chapter Two – Water Availability of the Volume 1-Key Issues Report and many of the items in Volume Two - Helena Valley Area Plan Rural Growth Areas. We appreciate that DEQ and DNRC are partners in implementing this plan as the lowering the water table adversely impacts the total ecosystem including all forms of vegetation and wildlife in the area.

We also note the issuance of the Montana Climate Assessment carried out by the Montana University System's Institute on Ecosystems which predicts increasing drought conditions. This Assessment was written to help plan and adapt for future conditions.

Because of these concerns we ask that the CDP strongly take into consideration the following three requests.

- **Support immediate research on the condition of East Bench Aquifers.**
  - In support of Growth Policy Update 2015, RGA Performance Standards, Policy 1.6
  - Monitor wells in the Spokane Creek neighborhood as part of the L&C County Water Quality and Protection District program.
  - Provide a transducer to at least one well to monitor continuous water level fluctuations.
  - Prioritize in-depth East Bench research project in conjunction with Montana Bureau of Mines and Geology.
- **Support 2015 Growth Plan policies to limit RGA development density.**
  - Temporarily implement a moratorium on developments in the East Bench that are less than 10 Acre per lot until detailed aquifer analysis is complete. (Growth Policy Update 2015, RGA Density Control 1.2)
  - Your April 16, 2015 letter stated that "We will be drafting recommendations for enactment of large –lot zoning for that area unless and until a development proposal demonstrates how concerns for groundwater depletion, road conditions, and fire protection will be addressed to mitigate adverse impacts. At that point the burden of proof will be shifted from the public to the private development interests". We would like an update on that process.
- **Include our neighborhood in continued involvement in planning and zoning process.**
  - We wish to be involved in any extensive groundwater study of the East Bench Aquifer and any meetings related to this topic.
  - In addition we request an update on the progress that is being made in implementing the Helena Valley Area Plan Adopted March 3, 2016. In Particular we are interested in the status of the Water Quality Protection District's 2015 application noted in your April 16, 2015 letter.

We thank you for your attention to our requests and look forward to your reply and our continued involvement. Please find attached the list of neighbors expressing these concerns. Additionally, Marla Clark polled home owners in the Pine Hills area and their concerns are attached.

Sincerely,

Dale and Nancy Paulson

cc: Kathy Moore, Environmental Division Administrator

Spokane Creek Neighbors Expressing Concern for East Bench Aquifer Depletion

Name	Address	Signature
Dale and Nancy Paulson	2610 Three Bars Drive East Helena, MT 59635-9710	
Observations: The original well static elevation was 23 feet and 43 feet end of last summer, a drop of19 feet. I observed that dry reaches of the creek continue to expand.		
Toni and Martin Van Slyke	5924 North Three Bars Road East Helena, MT 59635-9424	Toni VanSlyke
Observations: The original well static elevation was 49 feet, but in October 2015, when putting in a hand pump, static level was 80 feet.		
Marie and Denny Haywood	2485 Three Bars ~~Road~~ Drive East Helena, MT 59635	
Observations: Original static water level was 21 feet (3-29-1977) and we hope to have it re-measured this summer. We have not yet experienced any observable change in water pressure or flow. However, our next door neighbor's well went dry this past summer and he had to drill a new and deeper well. We support the contents of the Paulson letter.		
Joyce & Drake Tummel	2601 Three Bars Drive East Helena, MT 59635	Drake Tummel
Observations: The original well static elevation was 17 feet, but in September 2015 the static elevation was 55 feet a drop of 36 feet.		
Pattie & Dave Cameron	5945 Heartache Road East Helena, MT 59635-9425	David Cameron
Observations: We have not experienced any changes in our water supply. Not sure if this would be helpful or not. But we would support the community by signing your letter.		
Faydee Hamilton	5845 Johnson Road East Helena, MT 59635	
Observations: I've lived here for 40 years and have ALWAYS had water running in the creek through my property until 4 years ago when it dried up completely. I'm not sure if someone dug an unauthorized pond upstream from me or if this is a result of all the new development and wells which are tapping into our aquifer. Whatever it is, it's a huge concern and needs to be addressed by the powers that be. I'm not sure what the static water level is on my well but hope to get that determined this summer. I DO however note that I've always had a strong well until last summer when my water pressure was markedly reduced. Sometimes to not much more than a weak stream in the shower and faucets.		

Marla & Jim Clark	3545 Pine Hills Drive Helena, MT 59602	See MARLA CLARK POLL

Observations:
Static water level is at 117ft., and the well depth is 195ft. The pumping level was at 160ft,. When we had a new pump head (1-1/2 horse) installed in August 2015, they installed 175ft of drop pipe and set the pump at 180ft, 20ft lower. Before we installed this pump the old one was cavitating. Also, we used to be able to string two rainbirds together to water the lawn, but cannot do that now. We haven't tested for the yield, but when the well was installed in 1975, the yield at 167ft was 2 GPM. The estimate in 1975 for yield at 175ft was 12-1/2 GPM.

GWIC ID#60510 (1983) well which belonged originally to Jim Gleich, no longer produced sufficiently. He had to drill a new well, #60516 in 1988.

Laura & Rodger Nordahl	2735 Three Bars Drive East Helena, MT	

Observations:
We haven't had water in our creek for several years and usually had some for part of the spring and early summer. Our well is down a little, but I not know if that is dry years or aquifer levels dropping. As I have mentioned in the past, Laura and I agree with what is in your letters and want to sign it.

Sandy & Richard Leyva	5890 Johnson Road East Helena, MT 59635	

Observations:
The original irrigation well was 22 feet deep with a static level of 15 feet around 1998. For the last two years the static level was about 20 feet except it didn't recharge in the spring. Consequently, we had to abandon that well and dig a new well, which went to 160 feet, with a static level of about 40 feet. We support the content of the Paulson letter.

Joann Koerber	5949 Heartache Road East Helena, MT 89131-1451	

Observations:
I've been here for 26 years the water pressure outside and inside is substantially lower within the last 10 years.

Ann & Mic Guerin	2515 Three Bars Drive East Helena, MT 59635	NOT HOME

Observations:

Dawn Rowling & Wynn Randall	2473 Spokane Creek Rd East Helena, MT 59635	

Observations:
We moved to the property about two years ago. The only noticeable observation that I've made is that of low water pressure. I support the proposal in the letter.

Name	Address	Signature
Hillary & Nat Carter	6031 Johnson Road East Helena, MT 59635	
Observations:		
Deb & Dan Sloat	5915 Johnson Road East Helena, MT 59635	Dan Sloat
Observations:		
[redacted]	[redacted]	
Observations:		
Cecille & Bob Graffi	5996 North Three Bars Road East Helena, MT 59635-9424	Robert W. Graffi
Observations:		
Observations:		
Observations:		
Observations:		

To: Lewis and Clark County Planning Department April 8, 2015

Subject: Key Issue Report

I understand how difficult it is for Planners to balance all of the competing needs when confronted by the diverse issues. The Key Issues Report is well done but the scope of the report is limited because the planning process focuses only on subdivisions. There is however the issue of secondary and cumulative effects that must also be considered in the planning process. I will focus on the continual lowering of groundwater outside the limits of the subdivision that affects the valley's ecosystem.

I have lived along Spokane Creek for more than thirty years and have watched the flow in the creek decrease to the point that a once continually flowing stream has perpetual dry reaches. This is because the level of the groundwater has been dropping. I have been aware of this phenomenon and in the past it was easy to equate intermittent dry reaches of Spokane creek to the lack of precipitation or limited snow pack. I did not directly equate the lowering of ground water with development that was taking place along the creek until a relatively high density subdivision located near the intersection of Highway 12 and 284 was developed. Dry creek reaches are increasing and there is a clear correlation between the continuing development and decreasing groundwater. Prior to this development the norm was 10 to 20 acre lots.

The impacts of this higher density development can easily be seen. The creek still flows when the ground is frozen and we have an early snow melt but when the melt is over it is clear that the dry reaches of the creek are increasing. On my property there is a pond that during most of my time here has contained water and supported normal wetland life including an abundance of frogs. With the advent of the aforementioned subdivision the pond is dry. The aquifer is clearly not recharging fast enough to maintain the pond or the flow in Spokane Creek. Now birds, deer, fox and other critters routinely use my stock watering tank as their water source. In addition the trees along the creek are being stressed. As noted in your key issues report Spokane Creek is located in an area defined by tertiary aquifers which are constrained by water availability.

It is also noted in the report that "County subdivision review is focused on individual impacts and not on the cumulative impacts of numerous developments over time. And the county relies heavily on reviews by DNRC and DEQ in making its determination that a proposed subdivision application includes substantial and credible evidence of adequate water availability". This acknowledgement that cumulative impacts have not been adequately considered is appreciated. But where the statements falls short is that the cumulative impact discussion is subdivision centric and doesn't consider subdivision impacts to the valleys ecosystem. The lowering of the water table to the point that streams and wetlands are affected is a harbinger of things to come and must have been overlooked in the adequate water availability determination.

The discussions in the IR raised my concerns when I read of incentivizing areas to be developed related to the availability of roads for transportation and fire suppression. I live in an area with good roads maintained by the state and if incentivizing leads to strip development along existing good roads without including a holistic look at environment and ecosystem impacts the planning process is falling short. This type of incentivizing could be a perfect storm for the Spokane Creek ecosystem. I will also note that incentivizing is a slippery slope for the County Planners because any resulting unanticipated impacts will be directly related to the planning process.

Below is part of the forward taken from *USGS Streamflow Depletion by Wells - Circular 1396*

"Groundwater discharge is a significant component of streamflow with groundwater contributing as much as 90 percent of annual streamflow volume in some parts of the country. In order to effectively manage the entire water resource for multiple competing uses hydrologists and resource managers must understand (magnitude, timing, and locations) of ground water pumping on rivers streams, springs, wetlands, and groundwater-dependent vegetation"

As an attachment I have also included a figure from the same the same circular depicting the relationship between groundwater and streamflow. The figure is instructive even though some reaches of Spokane Creek are already dry which is not shown.

This is intended to make you aware of something that may not have considered but I also intend this to be more than just a comment. I am requesting a response on how the issue I have outlined in this letter will be addressed.

Dale W Paulson

2610 Three Bars Drive

East Helena Montana 59635

(406) 475-3673

(A) Gaining stream reaches receive water from the groundwater system whereas (B) losing reaches lose water to the groundwater system.
USGS Streamflow Depletion by Wells - Circular 1396