

MEMO

TO: Boulder Planning Commission; Michala Alldredge, Zoning Administrator; Peg Smith; Steve Cox, other interested parties
FROM: Lee Nellis, FAICP
DATE: August 1, 2021

RE: Boulder Build-Out – Water Supply

This memo provides information to support discussion of zoning districts and the subdivision regulations.

Build-Out

The purpose of a build-out study is to help a community understand the future consequences of its current zoning. I have used information provided by the Garfield County Recorder to calculate the number of additional homes that would be permitted by the current zoning.

This work required accounting for each parcel individually, determining its size, whether it is already occupied by a home (or in a few cases, homes), and how many additional homes it can accommodate. My calculations are subject to a bit of possible error.

It is possible that the tax roll on which I based my work is wrong in some way. That is unlikely, but can't be completely discounted.

I probably counted a commercial or farm building or two as a home, but it is equally likely that I made the opposite error.

I may have just missed a home or two. The imagery I worked from is not perfectly clear at the large magnifications needed to view the small lots.

Experience tells me that the potential errors in these studies tend to cancel each other out. I did come up with a handful more homes than the Census found in 2020, but not enough to change any of the conclusions one might reach from the data.

In offering conclusions, I focused on what might be changed.

That means I accepted platted subdivisions as they are. Many of those lots are already occupied. Some of the remaining platted lots may never be used, but the Town has no lawful means of erasing them. This means that there are at least 20 more homesites available for building.

There are also a few, about 30, nonconforming lots that are not occupied by homes. Most of those are odd shaped or used as part of existing residential premises and unlikely to become homesites. It is possible that the Town may be compelled to approve a home on a handful of these small lots to avoid takings claims.

I deducted the acreage occupied by existing homes. Addition of accessory dwelling units may increase the impact of the existing homes, but that is a possibility the Town has to accept.

I also eliminated the potential for homes to occupy lots used for the town buildings, the church, the school, and commercial uses.

After accounting for all that, I assumed that the remaining private land could be divided into the five-acre lots permitted by the current zoning. That yields 670 potential new lots. That needs to be adjusted downward though. The streets and miscellaneous utility lots needed to serve the new development, as well as the difficulty of dividing odd parcel shapes (and those do exist), the presence of existing utility rights-of-way, and similar realities, means that subdivision efficiency is going to be 80% or probably a little less. At 75% efficiency, the yield is 503 new residential lots. Given all the development there would also be a demand for commercial lots. It is impossible to accurately predict that demand, but let's deduct 53 commercial lots. **Is Boulder ready for 450 new residential lots, 91% of which would be from parcels that are at least partly irrigated?**

Boulder's current zoning permits a complete change in community character; not just the addition of hundreds of dwellings, but also the essential loss of the ranching heritage. If that's what you want, we just need to bring the Town's subdivision ordinance into compliance with state law and we're done. If that's not what you want, there needs to be some discussion.

I was going to start that discussion by suggesting ways the Town could address the situation. Upon reflection, however, I think it is best to just let the numbers sink in.

Water Supply

I asked the Utah Geological Survey for assistance in understanding the potential for more wells in Boulder, as well as the potential for groundwater contamination. My correspondence with UGS indicated that there are no geological studies specific enough to help answer these questions. There is also very little in the way of the long-term monitoring done by the US Geological Survey.

Given the build-out potential calculated above, I think it is important to understand the groundwater situation. I recommend that the Town add the following to the general plan, which provides no information about groundwater resources and barely mentions future water supply. What I propose here should be understood as interim language. There are at least three places in the general plan where this could be inserted. I recommend adding it at the end of Section 11-2 Future Growth, where it will stand out most.

The most fundamental question about future growth in Boulder is water supply. How much growth can the current surface and ground water resources support? There is no good answer to this question especially when it comes to groundwater and the impacts of climate change on surface water sources. We do know, as 12-8 later in this plan states, that there are physical limitations on the principal water distribution system.

Boulder Town should seek funding for a water supply study that assesses both surface and groundwater potential. That study should take the potential for groundwater contamination by on-site wastewater treatment systems into account as a limitation on supply. The Town should then promptly amend this

general plan and its land use regulations consistent with the results of the study.

I don't think it is possible to overemphasize the importance of understanding how much water is available and the potential impacts of a growing number of on-site wastewater systems. If groundwater pollution forces the construction of a central wastewater system, the character of the community will be changed forever.