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Telephone  
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January 30, 2018

Ms. Nancy Manley  
Via email

Re: Water issues for subdivision

Dear Nancy:

As discussed, I am providing the following report of water resource options and requirements for your proposed subdivision.

Overview:

The purpose of this analysis and report is to evaluate the water and rights to water that you have or may have related to property that you own in El Paso County, CO and potential water requirements for a new subdivision of that property. The property is part of what used to be a 40-acre parcel in the SW1/4SW1/4 of Sec. 22, T.13S., R.64W, 6<sup>th</sup> P.M. In 2001 that 40-acre parcel was subdivided, creating Phase I Lots 1, 2, 3, and 4, and a 16.22-acre parcel just east of those lots. Your proposal is to resubdivide current Phase I Lot 2 and the current 16.22-acre parcel to create two lots: the first lot would consist of existing Phase I Lot 2 joined with the northern parcel of the 16.22 acres (a/k/a "lots 6 and 7") and would be renamed "Phase II lot 1"; and the second lot would consist of a little less than 5 acres in the southeast corner (a/k/a/ "lot 5") and would be renamed "Phase II Lot 2".

Surface and ground water in Colorado legally is considered a public resource, subject to use pursuant to water rights. Rights to appropriate water legally must be recognized in one or more of various ways described in this report. Water rights are real property in Colorado and should be conveyed by deed. The existence of water on or under your property does not necessarily entitle you to use it.

This property overlies the Denver Basin aquifers and the water is located in the Upper Black Squirrel Designated Groundwater Basin. Only groundwater

appears to be present and this report is limited to a discussion of the groundwater resources.

Facts:

1. The rights to water or water rights for the aquifers underlying the 40-acre tract were determined in a Colorado Ground Water Commission proceeding, resulting in "determinations of water rights" for the Denver, Arapahoe, and Laramie-Fox Hills aquifers (copies attached). These determinations were calculated based on the amount of overlying land, and an assumed aquifer life of 100 years. It appears that there is no Dawson aquifer water, or it legally is impossible to obtain the rights to water in the Dawson aquifer. These determinations of water rights are still valid and will be the basis of the water supply for any subdividing.

2. In 2001, the 40-acre parcel was subdivided. Although I do not have a copy of the final subdivision approval of the final plat as recorded, it appears from related documents that the original proposal was for seven lots, but the final result was five lots – Phase I Lots 1, 2, 3, and 4, and the 16.22-acre parcel being the fifth lot. (If this assumption of subdivision is not correct, please let me know immediately as it will impact the planned resubdivision.) It also appears that the following resulted from that subdivision:

- The anticipated water source for each lot was Arapahoe aquifer water, the water rights for which were determined in Determination 103-BD. The anticipation was that 0.7 acre-feet per year (70 a.f. total) was to be conveyed to the owner of each of Phase I Lots 1, 2, 3, and 4 as a source of supply for wells on each lot. Since the Arapahoe aquifer is nontributary water, no augmentation plan was required for such wells and well permits should have been available to each lot owner with proof of ownership of at least 0.7 a.f.y. of the Arapahoe aquifer water.

- Well permits were issued by the State Engineer for Phase I Lots 2 and 4. According to the State Engineer's well database, no well permits have been issued for Phase I Lots 1 or 3 yet.

- Well Permit 64427 was issued for Phase I Lot 4 (copy attached). This was issued based on proof of conveyance of 0.7 a.f.y. (70 a.f. total) of the 15.3 a.f.y. (1,530 a.f. total) of Arapahoe aquifer water that was subject to Determination 103-BD.

- Well permit no. 16469 was originally issued for the 40-acre tract

for diversion of water from the Denver aquifer. That well permit was replaced by permit no. 56323 in 2001, presumably as a result of the 2001 subdivision. Permit no. 56323 is for a well on Phase I Lot 2, for the Arapahoe aquifer. The water for this well is part of the water that is subject to Determination 103-DB. The existing well permit is limited to the Arapahoe aquifer, for one single family dwelling located on Phase I lot 2, including domestic animal watering and some lawn and garden watering. Accordingly, well permit 16469 for a Denver well (and three houses) is no longer legally valid and the old well should have been plugged and replaced with a new well into the Arapahoe aquifer, or redrilled deeper so that it diverts only from the Arapahoe aquifer. Neither of these appear to have taken place and it appears that the existing well located on Phase I Lot 2 is in the Denver aquifer. This would mean that the current well is not operating pursuant to a valid permit and would be considered by the State Engineer as an illegal well subject to being shut down by the State. In addition, use of this well in more than one single family dwelling is no longer valid legally and such use would also make the well subject to being shut down by the State. Whether or not you pursue the new subdivision plans, this situation should be corrected. It is likely that as part of a correction process, the State will announce that the existing well permit no 56323 expired and is no longer in effect; and will require a new well permit. A new well permit is likely to be similar to permit no. 56323 except that it might contain a 0.5 a.f.y. limitation given the existing Ground Water Management District rules.

- I have not confirmed that any water rights were conveyed to the owners of Phase I Lots 1 and 3 but presume that such conveyances exist. Of the 15.3 a.f.y. (1,530 a.f. total) of Arapahoe aquifer water rights subject to Determination 103-BD, I presume that the Manleys still own 13.2 a.f.y. (1,320 a.f. total), after a reduction of 0.7 a.f.y. for each of Lots 1, 3, and 4. This 13.2 a.f.y. includes any water (up to 0.7 a.f.y.) allocated to the well on Lot 4. This water should be available to supply the new Phase II lots, along with the Denver water that is subject to Determination 104-BD and the Laramie-Fox Hills water that is subject to Determination 102-BD.

#### LEGAL REQUIREMENTS:

There are both El Paso County Planning requirements and State of

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Colorado water requirements that run concurrently regarding water requirements for a subdivision of land. For your reference, I have attached copies of the relative documents that I refer to in this report.

In general, since you plan to subdivide Phase I Lot 2 and the 16.22-acre lot a/k/a lots 5,6, and 7 into fewer than 4 lots, I assume you are planning to request a "minor subdivision" approval from the County. This is important because a minor subdivision has fewer water supply requirements. The County requires a homeowners' association be in place to handle the water supply requirements if the subdivision results in four or more lots but does not usually require an association if the subdivision results in three or fewer lots. County Code, 8.4.7 (B) (4) (e) (iii), page 8-31. I presume that the County will consider the "new subdivision" to involve only Phase I Lot 2 and the 16.22-acre parcel and not Phase I Lots 1, 3, and 4. I suggest you confirm this with the County, however, because if the new subdivision process will effectively "resubdivide" Lots 1, 3, and 4, it may not qualify as a "minor subdivision" and the County will require that the water be administered by a homeowners' association and will require a more formal and detailed water rights report from a water consultant. Assuming the County will consider this as only impacting two lots, I suggest that the water supply report specify that the water supply for Phase I, including Lot 2 which will be part of Phase II, is not "substantially changing". See County Code 8.4.7. 9 (A) (2), page 8-21. For purposes of this report, I am assuming a new subdivision resulting in just two new lots.

As an initial requirement before consideration of a preliminary plat, the County requires proof of a sufficient water supply for 300 years for all lots in the new subdivision, in terms of quantity, quality, and dependability. County Code 7.2 (2) (e), page 7-7. The County usually requires a "water resources report" be submitted for consideration with the preliminary plan (going directly to a preliminary plan without sketch plan is assuming a minor subdivision that doesn't require a sketch plan first). With subdivision of four or fewer lots, however, a "complete" water resources report isn't required. County Code, 8.4.7 (b) (2) (d), page 8-24. Instead, a report that addresses the requirements of the State Engineer is all that is required. A list of the State Engineer requirements is on page 8-27 of the Code. Essentially, the State Engineer will require a Water Supply Information Summary Form, a copy of which is attached. This form requires a calculation of water demands for each new lot as well as the new subdivision as a whole, and a comparison of the demand to the amount of water that has been declared available by the Determinations of Water Rights. Although these estimates and the supply form could be done without the assistance of a water resources consultant, for the reasons stated below I recommend retaining one to assist in some determinations. You might as well

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have that consultant calculate and verify the information for the form "report" and/or prepare a short more detailed report, as that might make the subdivision approval process easier.

One of your preliminary questions is what type of water plan will require a replacement or augmentation plan and what type of water plan will not require a replacement or augmentation plan. Because the water is within a Designated Groundwater Basin, such a plan is called a replacement plan. A replacement plan must be approved by the Colorado Groundwater Commission as part of an administrative proceeding that is somewhat similar to a court proceeding. The following will trigger a replacement plan requirement:

- A water supply plan that involves any well that is not a "small capacity well". A small capacity well is defined by C.R.S. § 37-90-105 (copy attached) as limited by the Rule 3.b. of the Upper Black Squirrel Creek Groundwater Management District ("UBSGWMD") (copy attached) and the rules of the Colorado Groundwater Commission ("CGC") (copy attached). Essentially, for purposes of your subdivision each small capacity well would have to be limited to:

- 15 g.p.m. and 0.5 a.f.y. per residence, regardless of the amount available pursuant to Determinations of Water Rights. (Please note that this practically may limit each well to one single family dwelling, despite the fact that the rules and law allow for use of one well in up to 3 single family dwellings of which there can be no more than 2 on a single lot. The County Code contains a presumptive demand number of 0.26 a.f.y. for single-family residences without any outdoor uses, and an additional 0.0566 a.f.y. for 1000 square feet of lawn and garden landscaping. Using these presumptive numbers, two homes with indoor uses only would exceed the 0.5 a.f.y. limit on one well. While it may be possible to overcome this presumptive use number it would require an analysis by a water resources consultant and some limitations on each well that may be very restrictive in reality);

- A water supply plan that includes any supply from the Denver aquifer (including the current well on Lot 2), since it is "not nontributary" and considered to be tributary to and injurious to the alluvial aquifers, unless terms and conditions are included to replace depletions to avoid injury to other water rights. SEO letter 3/14/01. I cannot determine if it is possible to develop terms and conditions to prevent such injury in order to use such

water, but I doubt it. A water resources consultant should be consulted if you want to investigate this further;

- A water supply plan that includes any well that would supply more than three single family dwellings total or more than two-single family dwellings on a single lot, and limited lawn and garden irrigation. (See my note above, however, about practical restrictions for wells that serve more than one single family dwelling); or

- A water supply plan where the cumulative effect of all wells in the subdivision is injurious to other uses (this is unlikely with nontributary sources unless such sources are tributary to the alluvial aquifer). A water resources consultant can assist in confirming the State Engineer's previous determinations in this regard.

Analysis:

Your water supply plan for the subdivision will use the water rights that are the subject of Determinations 104-BD (Denver aquifer), 103-BD (Arapahoe aquifer), and 102-BD (Laramie-Fox Hills aquifer). In order to avoid a replacement plan requirement, I believe your water supply plan will have to be based on "small capacity wells" in the Arapahoe aquifer. Based on the past evaluation of the State Engineer, I believe such a plan could be done without a replacement plan, but that will ultimately depend on a new evaluation of injury by the State Engineer. Unless the water resources consultant can overcome the County's presumptive demand estimates, those estimates are likely to require a separate well for each or Phase II Lots 1 and 2 since more than one residence on a single well would exceed the 0.5 a.f.y. limitation on such wells. A well on Phase II Lot 1 should not also be a supply for Phase I Lots 1 or 3, because that would pull those lots into the new subdivision process and you would not qualify as a minor subdivision. The proposal should involve commitment of 0.5 a.f.y. of the Arapahoe water subject to Determination 103-BDA for each residence on each well, and ultimate conveyances of water rights to the owners of those lots. Although your water rights are determined to be available for domestic, livestock, and lawn irrigation, it does not appear that a livestock well of any kind is possible, since those are limited to parcels of 35 acres or more. USBGWMD Rule 3.B.iii.

The water supply plan will compare the water available for which you have determinations to the proposed demand, for each lot as well as for the subdivision as a whole. New determinations of water rights are not necessary for the new subdivision process and you may rely upon Determinations 102, 103 and 104-BD.

Based on these determinations, the amounts of water for which you have water rights and that are available to supply the new subdivision are:

- Denver aquifer water, not nontributary – 10.8 a.f.y. for a total supply of 1,088 a.f. (the (this amount was reduced to 9.8 a.f.y. for the small capacity well with permit 164691, but that well permit was canceled so assume there is still 10.8 a.f.y. or 1,088 a.f. total available);
- Arapahoe aquifer nontributary water – 15.3 a.f.y. or 1,530 a.f. total (this is effectively reduced by 0.7 a.f.y. conveyed to the each of the owners of Phase I lots 1, 3, and 4, resulting in 13.2 a.f.y. or 1,320 a.f. total remaining).
- Laramie-Fox Hills aquifer nontributary water – 13.2 a.f.y. or 1,320 a.f. total.

The water rights are limited by these Determinations to domestic, livestock and irrigation uses on what was originally the 40-acre parcel (further limitation to the individual lots and domestic uses inside one single family residence per lot and limited irrigation of lawns and gardens is likely pursuant to new well permits).

Based on Curt Wells' 2001 estimates and current presumptive use numbers in the County Code, a rough estimate of demand is as follows (this should be confirmed by a water resources consultant as my estimates are just for preliminary consideration):

- two wells, one for Phase II Lot 1 (replacing the current well) and one for Phase II Lot 2. Well permits will be obtained by the lot owners as needed (the current well on Lot 1 will likely have to be repermited immediately);
- 0.5 a.f.y. demand for each well/lot, assuming one single family dwelling on each well with some limited landscape irrigation; and
- total demand for the new subdivision as a whole: 1.0 a.f.y. or 100 a.f. for a 100-year supply or 300 a.f. for a 300-year supply as required by the County.

Since it appears that the Manleys still own or control 13.2 a.f.y. or 1,320 a.f. total of the Arapahoe aquifer rights, it appears that there is sufficient Arapahoe water to meet the State's 100-year supply requirement and the County's 300-year supply requirement. There also may be sufficient Denver

aquifer water available should you decide to pursue that option, depending on how much replacement water is required.

A replacement plan is not necessarily out of the question, especially if the cost of drilling into the Arapahoe aquifer outweighs the cost of a replacement plan. I recommend that we discuss this with a water resources consultant to determine how much replacement water would be required, from what source (it is possible that the source could be return flows from on-lot septic systems), and where it would have to be supplied. The cost for such a plan and the time requirement (at least three months and probably more likely a year) should be compared to the expected expense of drilling into the Arapahoe (a well driller can give an estimate of the cost; but I believe you have an estimate of \$70,000 per well).

Conclusion:

To move forward with your subdivision plan, from strictly a water resources perspective I believe these are the following steps:

1. Determine whether to proceed with the subdivision, given the requirements laid out in this letter;
2. Confirm whether or not it is economically feasible to drill a household well in the Arapahoe (or Laramie-Fox Hills) aquifer for purposes of the water supply. This should then be compared to the estimated cost and time involved with a replacement plan;
3. Determine what a replacement plan would require in terms of replacement amounts, source of supply, and other terms that may apply;
4. Hire a water resources consultant to assist with:
  - 1) calculation of water demands based on your anticipated uses;
  - 3) analysis and determination of replacement plan requirements in amount, location, and timing; and
  - 4) preparation of a water supply report and/or State Engineer's water supply form for submission to the County;
5. Prepare and file an application to the CGC for approval of a replacement plan if desired;
6. Submit the water supply plan to the County for consideration, which will send it to the State Engineer for an opinion of adequacy; and

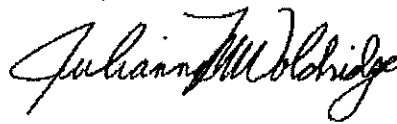


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7. Proceed with the subdivision approval process.

I hope this provides the answers to your preliminary questions about what may be required from a water supply perspective to proceed with the subdivision. If you have any questions, please feel free to contact me. If you wish to proceed, I recommend a conference call with you, me, and Dan to discuss some of the details. Assuming you are ready to proceed, I recommend retaining a water resources consultant to assist with the decisions regarding and preparation of the water supply plan. Unless you have one you wish to sue, I recommend Mark Palumbo of HRS Water Consultants in Denver. I can put you in touch with him when you are ready.

Sincerely,

A handwritten signature in black ink, appearing to read "Julian M. Woldridge". The signature is written in a cursive style with a large initial "J".

For the firm

JMW

Enc.

C. Dan Kupferer with enc.