

Re: Spring Water Diversion/Appropriations Permit
Application No. 96-9568
July 25, 2015

Dear Neighbors:

I have received your protests concerning my application for a water diversion permit and wanted to address your concerns.

The stream that is the subject of the diversion request is located on Lot 9 in Block 6 of Crawford's Second Addition to East Hope. Lot 9, which my wife and I own, is on the western boundary of the lot on which our home is located. Because there are multiple springs on Lot 9, I will refer to the one stream that I have diverted as the "subject stream" and I am going to refer to the property where the subject spring is located as Lot 9.

First, to be clear, I am not requesting any change to the system that has existed for years. The application for a permit was triggered by an article in the local newspaper about the permit process and not any change in my system or proposed increase in water usage.

Concerning your protests, I believe you have all made an incorrect assumption about the stream water diversion which has led to a misunderstanding of the impact of my irrigation system. That is what I wish to clarify.

The main error I believe you are making is to assume that the stream I am diverting is the only source, or even the main source, for the water that flows through the drainage culverts on or near your homes on Lakeview. I believe this has caused you to attribute the fluctuations in water flow that you may be experiencing downhill solely (or most significantly) to my irrigation system. I hope to explain to your satisfaction why this is not the case.

First, let me say that after receiving the protests I looked at the culvert near Pat Bistline's property and, without a doubt, there was much more water flowing through that culvert, specifically on Friday July 24th, than was flowing into my system from the subject stream at approximately the same time of day on the same day. I have made several subsequent observations that seem to confirm that this is typical.

My main point is that the estimated measurements of water running past your homes on Lakeview, regardless of how the measurements were taken, include water from multiple sources feeding the city street drainage system all over East Hope between Ellisport and Cedar Street.

It seems from the way your protests are written that you are assuming that all (or most) of the water that you see in the drainage ditches by your homes originates in the stream that I diverted years ago to irrigate my lawn. And so, you may have concluded that any changes in flow rates you observe relate to my irrigation system. I believe that is wrong and is causing you to inadvertently inflate the negative impact of my lawn irrigation system on the water flow in the culverts on Lakeview. And so I am writing to explain

what I believe is an accurate characterization of the relationship between my irrigation system and the water flow you observe on Lakeview.

The most important point I want to make is that water that feeds the culverts on Lakeview originates from multiple sources including:

1. The one stream on Lot 9 that I diverted years ago for irrigation.
2. At least two other percolating springs on Lot 9, the flow for which is not diverted and not affected by my irrigation system. All of the springs on Lot 9, including the unused outflow from the subject stream that feeds my irrigation system enter the city roadside drainage system at a culvert that passes under Spring Street in front of Lot 9.
3. The catch basin and drain line system installed by the City of East Hope to capture and divert an underground spring that had sufficient water volume to undermine the intersection of Spring St. and Cedar, even after multiple attempts at remediation of the problem when Cedar Street was resurfaced. The drain pipe from this catch basin runs in an easterly direction along the south side of Spring Street and discharges the substantial flow from that spring directly into the same drainage ditch that feeds the flow that you see at Lakeview. You can observe the out flow from this system, which is substantial, in the roadside drainage ditch at the northeast corner of 610 Spring Street. Marty Lowell and Paul Diefenbach can verify details about this underground spring water diversion.
4. The French drain installed at the 326 Cedar st. home several years ago directly above Lot 9. After the this home was built the owners had flooding in their basement from a spring on the hill directly above (to the north) of their property. The outlet from this French drain discharges into Lot 9 far from the subject spring where I divert water for my irrigation. The path of the water flowing from this French drain system does not converge with the subject spring above my catch basin.
5. I have installed four French drains that run east to west across the entire lawn area that I am irrigating. Those French drains run generally parallel to Spring Street and take substantial underground water, unrelated to the spring that I use to irrigate my lawn, and discharge that water into Lot 9 below the spring that I am diverting water from.
6. On Lakeview itself, you may know that there is the French drain installed on the North side of Lakeview in front of 550 Lakeview immediately next door to the Merica home. I do not know if that French drain discharges its outflow in an easterly direction or a westerly direction. Andy McChesney installed this French drain and can provide the details.
7. Finally, there is a French drain installed on the north side of 610 Spring Street to redirect underground water away from the basement of the home there. That French drain directs water to the south side of the home. That diverted water follows the natural grade directly eastward to the drainage channel that begins on

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the south side of Spring Street (at the low point of Spring street adjacent to Lot 9) that eventually flows in the direction of Lakeview.

Because of the multiple sources that feed the East Hope roadside drainage channel along Spring Street, I do not believe that my existing irrigation system has a significant impact on the net water flow measured in the drainage ditches on Lakeview. I believe this is true because the total diversion of water for my irrigation is but a small percentage of the total water flow into the drainage system that flows towards Lakeview.

I think that the outflow observed at the Bistline property proves this point. The outflow in the culver adjacent to the Bistline property is substantially greater than the outflow from the culvert on the south side of Lot 9 under Spring Street. This would make no sense unless that outflow adjacent to the Bistline property is from sources other than the subject spring on Lot 9.

Regarding the concerns of Ms. Merica, in fact the inflow rates at the one diverted stream Lot 9 average about .04 CFS. Ms. Merica refers to "rough measurements" of .03 CFS at Lakeview. In whatever manner that those rough measurements were done, they do not reflect outflow from the one diverted stream on Lot 9. Rather, the measurements reflect the outflow at Lakeview downhill from multiple streams, multiple percolation points on Lot 9 that are below the one diverted spring, multiple French drains that feed the city drainage system, a drain line installed by the city to divert a very active spring that surfaced at the intersection of Spring and Cedar and from all of the street-side drainage ditches throughout the City of East Hope that are above Lakeview, and generally west of Ellisport Street and east of Cedar Street.

As you may know, the City of East Hope is full of underground streams, some of which percolate at known points, others which fill the French drains owners have installed to keep their basements dry. These combined sources, generally between Ellisport and Cedar Street, are what reaches the culverts on Lakeview and this is why, for example, the flow observed at the Bistline property is greater than the flow through the culvert under Spring Street. So I believe your measurements and observations do not fairly reflect the impact of my irrigation system on the water flow at Lakeview.

I was surprised by the comments suggesting that the City of East Hope has installed a water system that is more than capable of providing irrigation water for homeowners. In truth, the City of East Hope water system is insufficient to meet the requirements of homeowners. The official report on the condition of the aging City of East Hope water system (completed in 2014) commented concerning water usage during the period from 2008 to 2012:

"maximum day flow was highest in 2009, with a peak day to average day peaking factor of 3.22. Peak hour demand cannot be identified as it is not tracked; however, it is likely higher than the plant capacity (171 gpm, 0.24 mgd).

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Maximum day water use was lower in the years following 2009 due to watering restrictions that were implemented by the City in an attempt to keep the maximum day flows below the capacity of the treatment facility.

In simple terms, the report shows that in 2009 the average daily use of water had reached 261,000 gallons per day against a maximum system capacity of 246,240 gallons per day. According to the report, the average use between 2008 and 2012 was 244,000 per day as the result of water restrictions implemented in 2009. The City of East Hope water system is beyond its capacity when water restrictions are not in place and is not capable of providing enough irrigation water. In fact, the City of E. Hope has known of my irrigation system for years and has strongly encouraged me to use diverted water from Lot 9 for my front lawn in order to take stress off of the city water system. While I receive the benefit of having a nice looking front lawn, taking the stress off of our water system is a benefit for all homeowners in East Hope.

Finally, if you look at the southern boundary of the lot on which my home is located, you can examine the roadside drainage system that includes a roadside ditch along the north side of Spring Street. The ditch runs east to west along the boundary of my front yard. That roadside ditch takes all of the runoff from my sprinkler system to the culvert under Spring Street. This is the same culvert that allows the flow from Lot 9, including the subject spring and the other springs on Lot 9, to pass under Spring Street. My front yard lawn is above Lot 9 and graded downwards in the direction of the roadside drainage ditch and culvert.

Also, my lawn area has multiple subsurface springs that had caused the area to be too soggy to maintain. As the result, years ago I installed four French drains running generally parallel to Spring Street the full width of the lawn. You can verify this with Chris, the owner of Aspen Ridge Landscaping. Those four French drains outflow into Lot 9. Thus, when I irrigate my front lawn, water that penetrates the soil meets with various subsurface flows and ends up in the French drains flowing into Lot 9. From there it moves into the culvert under Spring Street and eventually down to Lakeview. Water that does not penetrate the lawn surface either flows downhill into the roadside drainage ditch, and then into Lot 9 where it joins water from other springs in Lot 9 to continue its journey through the culvert under Spring Street, or is lost to evaporation. Water lost to evaporation is minimal because the sprinklers normally are run in the night time hours and the very early morning hours - specifically to avoid water lost to evaporation. So the water taken from the subject stream re-circulates back onto Lot 9 as the result of the French drains in the lawn and the grading of my front yard. It is most likely that only a miniscule amount of water, water lost through evaporation during pre-dawn sprinkling hours, is not recycled back onto Lot 9.

My irrigation system has been operational for 11 years and I am not requesting any increase in water usage from the Idaho Department of Water Resources. I filed for a diversion permit because of an article I read in the newspaper that made me aware of the

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state requirement for a permit. No change whatsoever is planned for my water usage from what it has been since the irrigation system was installed years ago.¹ Let me know of any additional information that you may need so that hopefully this matter can be resolved between us.

Sincerely,



Larry Greiber
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¹ As Pat Bistline mentioned in my conversation with him, my neighbor to the west, Tony Cormier, has a pond and water wheel that operate off of my system. However, and most importantly, the Cormier water features do not take any additional water from the subject spring and they do not divert water from other springs or water flows on Lot 9. The Cormier system runs off of the overflow from my cistern, which captures the water from the subject stream only. When, and only when, my cistern is filled by the subject stream water, water from the cistern overflow is directed back into Lot 9 through a 4" drain pipe. There is a 1 1/4" flexible pipe that is connected to that 4" cistern outflow pipe. The 1 1/4" pipe runs downward across Lot 9 to a sump basin. When there is overflow water, the sump pump in that basin pumps the overflow water back uphill to the Cormier pond waterfall feature. The overflow from the Cormier pond goes directly into a 4" drain line which goes back to Lot 9. There is a smaller diameter drain line connected to the 4" drain line that feeds the Cormier water wheel. Both the overflow from the Cormier pond and the outflow from the Cormier water wheel send the overflow from my cistern back onto Lot 9 where the water enters the culvert under Spring Street and flows in the direction of Lakeview. When there is no overflow from my cistern, the Cormier water features receive no water whatsoever. Also, the Cormier lot is sloped in the direction of Lot 9 and the roadside drainage system along Spring Street. All surface water from landscaping irrigation on the Cormier property and all subsurface water on the Cormier property flows into the culvert under Spring Street and down to Lakeview. Finally, the substantial water you can observe in the Cormier pond waterfall (which is fully visible from the street) is because the Cormier pond uses a recirculating pump to create the appearance of a substantial water flow over the waterfall regardless of whether there is overflow from my cistern.