

MEMORANDUM

Date: November 10, 2009
To: Water Right File 25-7583
From: Michele Edl
Re: license review

Applicant

Permit 25-7583 was held by Melvin Fielding and lapsed on April 1, 1994. The current owner of the permitted place-of-use is Township Park Estates Water Association Inc. Rob Harris, attorney with Holden Kidwell, Hahn & Crapo was hired to collect and submit the documentation necessary for reinstating the permit. I was assigned to review that documentation for completeness, reinstate the permit if appropriate and finally, to issue a license.

The documentation provided by Mr. Harris was sufficient to prove beneficial, domestic and irrigation use of water had occurred within the development period and the permit was reinstated to Melvin Fielding on April 28, 2009. Although Melvin Fielding was deceased, an assignment of the permit from his estate to the water association was accomplished on May 13, 2009.

No onsite water right licensing examination was conducted. The foundation for this license is the Beneficial Use Field Report which I completed and which was based a desktop review of available documents. In addition to Mr. Harris submittals, I requested documentation from the Idaho Falls Regional Office of IDEQ. In response, I received electronic copies of a report and photos from a May 12, 2006 field inspection which was conducted by Mr. R. John Moss, Senior REHS with Public Health District 7.

Source and POD

The points-of-diversion associated with this right are two wells located less than 50 feet apart within the well lot (lot 8 block1) of the Township Park Estates subdivision. Only one point of diversion was authorized by the permit so an amendment will be needed before licensing.

Although there is reference to identifying tags for these wells in the 2006 IDEQ sanitary survey, I was not able to find GPS coordinates for either well. Electronic POU shapes were provided to me, but the POD shapes were not. I digitized the two points of diversion based on a combination of ground and aerial photos and IDWRs taxlot layer.

Both wells were drilled to nearly the same depth ~250 ft by the same company in June of 1991. The only significant difference between them is the depth and size of casing. Well 25-91-E067 had 8-inch diameter casing down to 37 ft. Well 25-91-E068 had 8 inch casing down to 37 ft and 6 inch casing down to 203 ft. Based on that difference, I made the most likely parings of the wells with the two initially, mixed-sized pumps.

The wells are located within Ground Water District 120 but were drilled before the district was empowered.

Water Use

No measuring device was required by the permit but the Benton Engineering drawings (exhibits A & B) include specs for a 3 inch McCrometer model MZ500 flowmeter. The PHD7 examiner found a flowmeter in place and it is shown in inspection photos, but no measurement records were submitted either with the PHD7 sanitary survey report or with the documents submitted by Mr. Harris.

Domestic Use

IDEQ recognized that the Township Park Estates subdivision had a public water supply system

and has given it PWS identification # ID 7100155. In 9/11/2007 IDEQ listed this public water supply system as Township Park Water Company having a population of 43. Mr. Ross the PHD7 examiner states that there are 15 connections on the system. The permit authorized 12 domestic uses and I found a total of 12 lots, either built upon or stubbed in by the proof due date.

Irrigation Use

The permit authorized 72 cfs for use on 36 acres in an irrigation season listed as 04/01-11/01. This season does not match current Department standard and a change to the season can be done without correspondence with the permit holder. The season has been adjusted to 04/01-10/31 for the license.

Mr. Harris provided a spreadsheet summarizing the irrigation that was developed while the permit was in effect (see exhibit K). Given that the documented developed irrigation is less than the permit had authorized and that the Departments stub-in guidance is silent about irrigation associated with the stub-in domestic use, I am adding 2 additional acres ($\frac{1}{2}$ acre for each of 4 stub-in) to the irrigation use for this license.

The platted lot sizes in the Township Park Estates subdivision are more than $\frac{1}{2}$ acre and additional acres have been brought into irrigation since the proof due date.

The subdivision appears to be within the service area of the Idaho Irrigation District. Mr. Harris mentions that surface water has been in irrigation use on Fielding property outside of the subdivision but the Township Park Estates homeowners did not have access to surface water. An additional permit will be required to cover the additional irrigation use.

Ten, 75-gallon storage tanks are located in a utility building adjacent to the wells. They are connected to the supply system and they would supply water during peak demand.

Place of Use

The subdivision was not completely built out in 1994. For the four lots without above ground construction by the proof due date, I found stub-in locations. See Benton Engineering drawings exhibits A and B.

Mr. Harris had created irrigation place-of-use shape files and offered to share them. I accepted his offer and he provided them to me in a email. To his irrigation shapes I added $\frac{1}{2}$ acre shapes for the irrigation associated with stub-in domestic use.

I also created 12 domestic shapes based on 2004 aerial photography of the subdivision.

Other wells may be located within this subdivision. Mr. Harris states that at least one neighbor, Casperson, has been attached to this water supply system after their domestic well collapsed. Department database shows a domestic well (decreed right 25-13359 in the name of Gary R Henning) with the Casperson taxlot as the place-of-use.

Calculations

The pumps associated with this system have been replaced several times which complicated the system capacity and flow rate determinations. Two, mixed-power pumps: a 7.5 hp and a 15 hp, were initially installed. After much searching and some false leads, the original pump makes and models were provided by the same company that had drilled the wells. I was successful soliciting necessary pump curves from an internet contact.

My estimate of potential max flow was the most conservative and was based on Department theoretical pump operation equation, with a pressure of 60 psi and an estimate of lift which included a drawdown similar to that which was listed on other well logs for wells drilled in the vicinity.

In addition to my estimate of flow, I requested an estimate from Mat Weaver. The system capacity is based on Mat Weavers calculation, which I believe to be more accurate because it is more system specific than my more generic estimate.

Dennis Dunn also provided me his rate recommendation for each use. All of the estimates or recommendations of flow for these well-pump pairs are less than the full rate authorized by the permit.

Even with the added acres for stub-in domestic use, the total irrigation developed during the time that the permit was active is less than what was authorized. At the statutory 0.02 cfs per acre, 17.9 acres gives an irrigation rate = 0.36 cfs (17.9×0.02) and is the irrigation rate that I can confirm through this license.

After consulting with my supervisor, Shelley Keen, we determined that a portion of the authorized, but undeveloped irrigation rate could be converted into additional rate for domestic use. We were handicapped by the lack of flow measurements but reasoned that the minimum rate could be set by the smallest pump operating alone. Referring to Mat Weavers flow calculation for the 7.5 hp pump, the domestic rate could be no smaller than 0.21 cfs (or the storage tanks would come online). This rate is not significantly higher than rate provided by the Departments domestic curve and is the rate I am recommending for domestic use through this license.