

MEMORANDUM

TO: File 65-13157 and 65-13896

FROM: Daniel Nelson – Staff Hydrologist

DATE: November 25, 2016

SUBJECT: Licensing Review for 65-13157 and 65-13896

This is the licensing review of the field exams submitted by Lori Graves formerly in our western region office. The field exams were done in 1999 and 2001. The system associated with this permit allowed water to be diverted directly from the wastewater tributary to the Payette River. The field exam has some issues that need to be addressed to prior to licensing of the permit.

History:

Permit 65-13157 was field examined in 1999, and during that field examination, it was discovered that the permit holder was actually irrigating an additional 10 acres not covered by a water right. Both of these permits were filed on wastewater. The point of diversion is located at the end of the Beutler-Bane Ditch. The ditch flows into a low swampy like area along with runoff from other local fields. From the point of diversion location, the water in the low swampy area flows back into the Payette River on the permit holder's property, so there are no downstream water users on the drain ditch.

The permit holder had been using this water to irrigate this property since 1960 under the assumption that the water use was decreed in the Payette River Basin Adjudication. It wasn't until the Snake River Basin Adjudication came along that he discovered that this land wasn't covered in the Payette River Basin Adjudication. Once he discovered the property didn't have water rights, he filed permit 65-13157 to cover his water use and subsequently filed 65-13896 when he discovered he didn't file for enough coverage in permit 65-13157.

Acres Irrigated:

During Ms. Graves' 1999 field examination of 65-13157, she found a total of 50 acres being irrigated. This prompted the permit holder to file 65-13896 to cover the additional acres. The place of use shown by Ms. Graves' field report didn't separate out the individual acres to be irrigated by each right. Ms. Graves' field report describes the entire 50 acres being irrigated by the system. The application for permit for 65-13896 has an aerial photo that clearly shows the acres to be irrigated under this permit is the 10 acres right below the Beutler-Bane ditch. The area being irrigated by 65-13157 is shown in red on the attached map, and the area being irrigated by 65-13896 is shown in purple on the attached map.

Diversion Rate:

Ms. Graves measured a diversion rate of 1.08 cfs at the time of the 1999 field exam. Permit 65-13157 allows up to 0.80 cfs and permit 65-13596 allows up to 0.20 cfs, so the system is more than capable of providing a full allocation of water for both permits. Ms. Graves also found that 50 acres were being irrigated. 50 acres times 0.02 cfs per acre equal 1.00 cfs, so I recommend that these licenses be issued with the diversion rates listed on the permits of 0.80 cfs and 0.20 cfs.

Diversion Volume:

Ms. Graves calculated a volume of 180 af for permit 65-13157 and 45 af for 65-13896. I agree with Ms. Graves' calculations. However, both of these rights are surface water rights, so no diversion volume is carried forward to licensing.

Points of Diversion:

Ms. Graves marked an approximate location of the point of diversion on the USGS Quadrangle map in the field exam report. Using current mapping tools, I was able to determine the approximate location of the point of diversion. There are 3 pumps used to supply water to this property. Permit 65-13896 stated that there were 3 points of diversion, but all three pumps divert water at the same location and through the same piping system. The pumps appear to have different intake pipes, but they are all within a few feet of each other (I am estimating that the 3 pump intakes are within a maximum of 10 feet from each other). This system is very similar to pumping stations for several canals, where there are several pumps used to pump water into a common mainline. The pumps cannot be moved without significant changes to the mainline system, so I recommend we license this permit with a single point of diversion.

Overlapping Analysis:

Please see the attached map and spreadsheet that will assist with the overlapping water right analysis. A review of the water rights is the 40 acre tracts for this property show several water rights that appear to overlap the place of use. The overlap analysis was different at the time of the field exam and permitting of the two water rights, because 65-8745 had not been claimed in the Snake River Basin Adjudication (SRBA) at the time, and the place of use for water right 65-8742B was not clearly identified. However, both rights have been decreed in the SRBA, and proper analysis can be done.

There are no overlapping water rights for the place of use for permit 65-13896, but permit 65-13157 does share the same point of diversion. The pump system can supply adequate water for both permits, so there would be no conditions limiting water right 65-13896 when combined with other water rights.

The place of use for water right 65-8742A share the same 6 acres with this water right in the NWNE tract. Therefore there will need to be combined limitation condition used when water rights 65-8742A and 65-13157 are combined.

The place of use for water right 65-8745 directly overlaps all of water right 65-7842B and 2.6 acres of permit 65-13157 in the NENE tract. Water right 65-8742B and permit 65-13157 do not irrigate any of the same ground, so there is no direct overlap between 65-8742B and 65-13157. Water right 65-8742A irrigates an additional 20 acres in the NENE tract, but 65-8742A does cover any of the ground described in water rights 65-7842B, 65-8745, and 65-13157. Although confusing, the only water right that actually overlaps with permit 65-13157 in the NENE tract is water right 65-8745. Therefore, there needs to be a condition that limits the diversion rate and number of acres that can be irrigated when water rights 65-8745 and 65-13157 are combined. As a side note, it was decided by staff that we could not include water right 65-8742B into the combined limitation for the lands irrigated in the NENE tract, because we didn't feel it was appropriate to create a restriction on 65-8742B when it doesn't directly overlap 65-13157.

The overlapping water rights for this permit are a bit confusing, but hopefully, the map and spreadsheet attachment to this memo will help clarify the overlapping water rights issues.

Conditions:

The license for permit 65-13157 should be licensed as follows:

Condition 1 (03A) should be changed to condition R65 and condition 2 (005) should be changed to condition R05 using Water District No. 65 as is standard. Condition F06 should be added to show 65-13147 and 65-13896 are diverted from the same point of diversion.

A request to waive the measurement device and lockable controlling works condition was made and approved by the watermaster of water district 65 as long as the watermaster had the discretion to require the devices in the future if necessary. Whereas this is a wastewater right and generally not regulated by the watermaster, I recommend we approve the waiver of the measurement device and lockable controlling works. However, I do agree with the watermaster that he should have the discretion to require the devices in the future if needed. The license can be used as the order officially waiving the measurement device and lockable controlling works condition. I recommend changing condition 3 (01J) to conditions 01R and 01P, will give the Department the ability to require the measurement device and lockable controlling works in the future.

The following two combined limitation conditions will need to be added to this permit to ensure that the diversion rate and acre limits are not exceed when the overlapping water rights are combined:

Rights 65-8742A and 65-13157 when combined shall not exceed an overall diversion rate of 1.90 cfs not to exceed a diversion rate of 1.56 cfs at the field headgate and the irrigation of 50 acres. (Please Note: Water right 65-8742A allows more than 0.02 cfs per acre at the field headgate.)

Rights 65-8745 and 65-13157 when combined shall not exceed a total diversion rate of 1.11cfs at the field headgate and the irrigation of 55.4 acres.

Rights 65-8742A, 65-8742B, 65-8745, and 65-13157 when combined shall not exceed the irrigation of 75.4 acres.

Water right 65-13896 is the only right that overlaps the point of diversion, but the pump station capacity is sufficient to deliver both water rights, so there should be no condition limiting these two water rights.

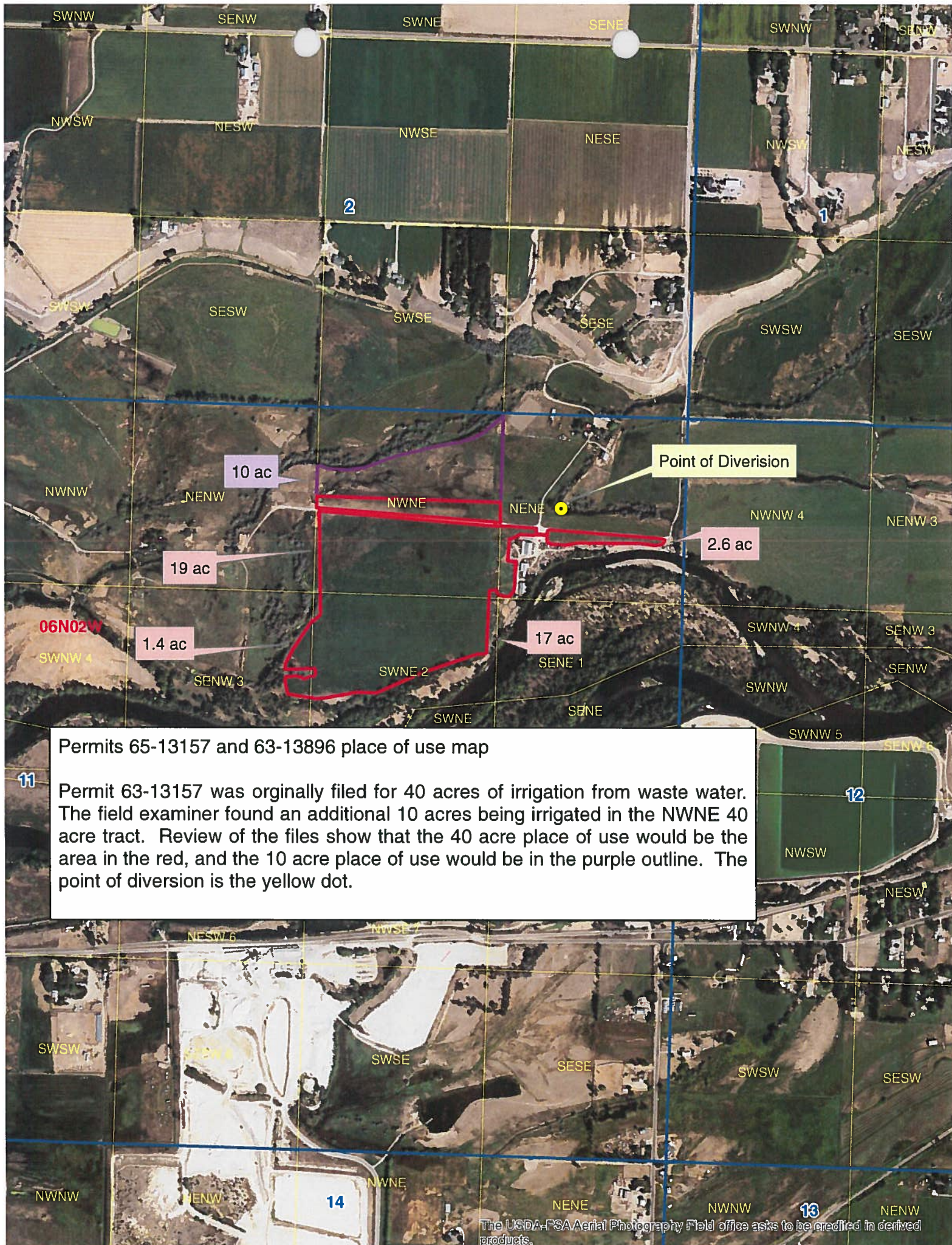
The license for permit 65-13896 should be licensed as follows:

Condition 1 (121) should be changed to condition 103 and condition 4 (R04) should be changed to condition R05 using Water District No. 65 as is standard. Condition 5 (R65) should be carried forward to licensing. Condition F06 should be added to show 65-13147 and 65-13896 are diverted from the same point of diversion.

There are 3 pumps used to supply water to this property. The permit stated in conditions that there were 3 points of diversion, but all three pumps divert water at the same location and through the same piping system. The pumps appear to have different intake pipes, but they are all within a few feet of each other. The pumps cannot be moved without significant changes to the mainline system, so I recommend we license this permit with a single point of diversion. Therefore, the condition that states there are three points of diversion should be removed.

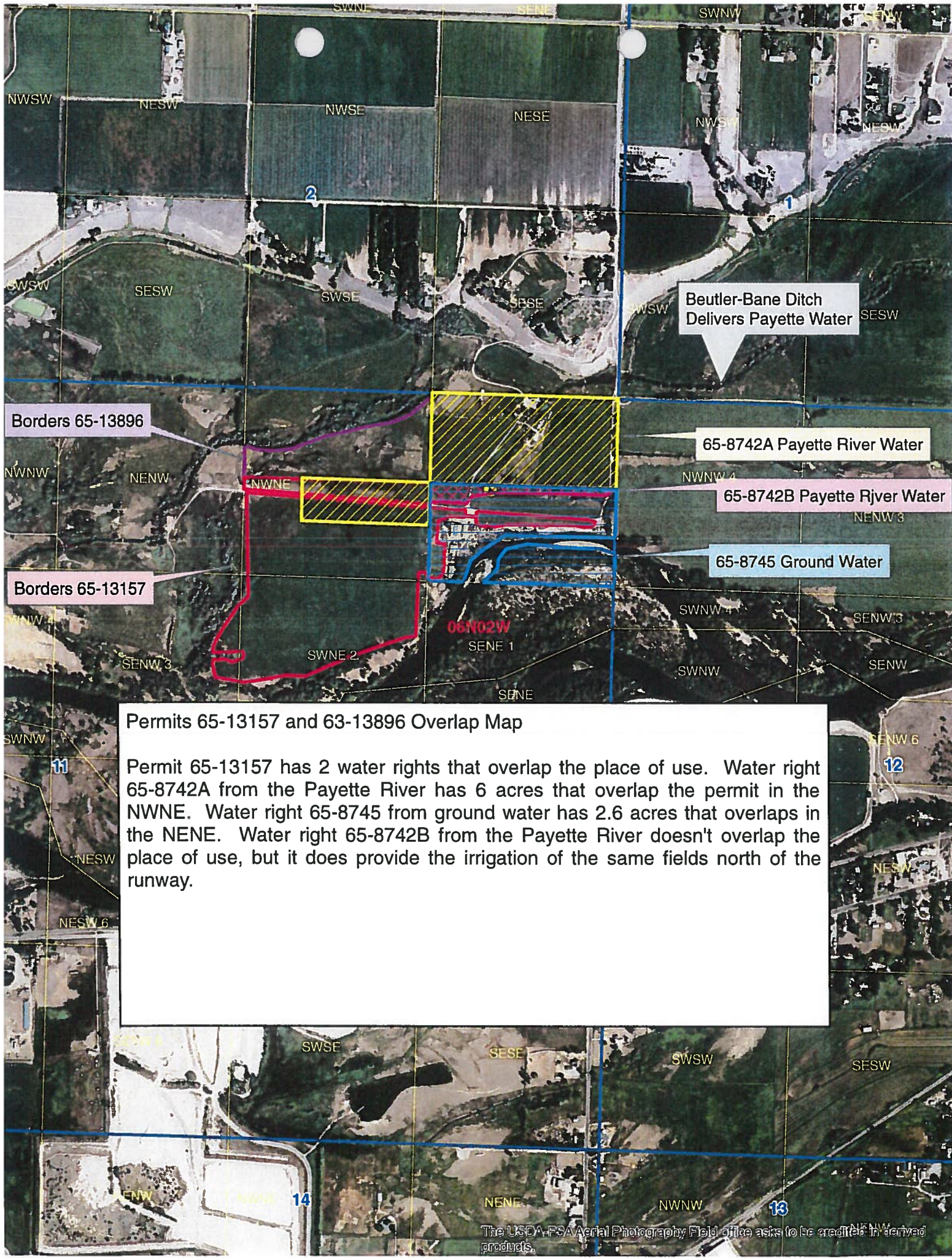
A request to waive the measurement device and lockable controlling works condition was made and approved by the watermaster of water district 65 as long as the watermaster had the discretion to require the devices in the future if necessary. Whereas this is a wastewater right and generally not regulated by the watermaster, I recommend we approve the waiver of the measurement device and lockable controlling works. However, I do agree with the watermaster that he should have the discretion to require the devices in the future if needed. The license can be used as the order officially waiving the measurement device and lockable controlling works condition. I recommend changing condition 3 (01J) to conditions 01R and 01P, will give the Department the ability to require the measurement device and lockable controlling works in the future.

This permit doesn't have any overlapping water rights for the place of use. Water right 65-13157 does overlap the point of diversion, but the two rights are not limited by the pumping plant capacity. Therefore, there is no need for a condition to limit the pumping plant capacity.



Permits 65-13157 and 63-13896 place of use map

Permit 63-13157 was originally filed for 40 acres of irrigation from waste water. The field examiner found an additional 10 acres being irrigated in the NWNE 40 acre tract. Review of the files show that the 40 acre place of use would be the area in the red, and the 10 acre place of use would be in the purple outline. The point of diversion is the yellow dot.



Beutler-Bane Ditch
Delivers Payette Water

Borders 65-13896

65-8742A Payette River Water

65-8742B Payette River Water

65-8745 Ground Water

Borders 65-13157

Permits 65-13157 and 63-13896 Overlap Map

Permit 65-13157 has 2 water rights that overlap the place of use. Water right 65-8742A from the Payette River has 6 acres that overlap the permit in the NWNE. Water right 65-8745 from ground water has 2.6 acres that overlaps in the NENE. Water right 65-8742B from the Payette River doesn't overlap the place of use, but it does provide the irrigation of the same fields north of the runway.

Permits 65-13157 and 65-13896 Overlap Analysis

Water Right	NWNE	SWNE LT 2	SENE LT 3	NENE	Totals	Diversion Rate Per Water Right in cfs
Permit 65-13896	10 ac				10	0.20
Permit 65-13157	19 ac	17 ac	1.4 ac	2.6 ac	40	0.80
Decree 65-8742A	6 ac			20 ac	26	1.216
Decree 65-8745				18 ac	18	0.36
Decree 65-8742B				2 ac	2	0.94
Actual Acres Irrigated When All The Rights Are Combined	29 ac	17ac	1.4 ac	38 ac	85.4 ac	
65-13157 and 65-8742A	19	17	1.4	22.6	60	
65-13157 and 65-8745	19	17	1.4	18	55.4	

Notes:

65-13157 and 65-8742A when combined should be limited to 60 acres. The diversion rate for 8742A has a diversion rate of 1.216 cfs of which 0.334 cfs is allocated to conveyance losses. The diversion allowed from 65-8742A at the field headgate would be 0.882 cfs. Water Right 65-13157 adds an additional 0.080 cfs, but 6 of those acres are already covered by water right 65-8724A. so water right 65-13571 can only provide an additional 0.68 cfs $[(0.80 \text{ cfs} / 40 \text{ acres} = 0.02 \text{ cfs}) \times 34 \text{ acres} = 0.68 \text{ cfs}]$. The total combined diversion rate for 65-13157 and 65-8742A would then be 1.90 cfs $(1.216 \text{ cfs} + 0.68 \text{ cfs} = 1.896 \text{ cfs})$. The field headgate requirement is 1.56 cfs $(0.88 \text{ cfs from } 65-8742A + 0.68 \text{ cfs from } 65-13157 = 1.56 \text{ cfs})$ when the two rights are combined.

The acres irrigated by 65-8742A in the NENE do not overlap any other water right.

65-13157 and 65-8742B do not overlap each other, but the 2 acres irrigated by 65-8724B are completely overlapped by 65-8745. However, since 65-13157 and 65-8742B do not overlap, it isn't prudent to include a diversion rate restriction on water right 65-8742B in a condition in 65-13157.

65-13157 and 65-8745 when combined should be limited to 55.4 acres. There is no conveyance losses accounted for in these two water rights, so they would need to be limited to a diversion rate of 1.11 cfs $(0.02 \text{ cfs} \times 55.4 \text{ acres} = 1.108 \text{ cfs})$.

A condition should be added to tie in all of the combined water rights. When water rights 65-8742A, 65-8742B, 65-8745, and 65-13157 are combined, they are limited to a total of 85.4 acres.