

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12251

Exam Date:
8/21/2013

1. Current Owner: MERIDIAN HEIGHTS WATER & SEWER DISTRICT
PO BOX 472
MERIDIAN ID 83680
(208)887-1052
2. Accompanied by: Ken Acuff
Phone No: 860-2050
Address:
Relationship to Permit Holder: EMPLOYEE -- OPERATIONS AND MAINTENANCE
3. SOURCE TRIBUTARY
WASTE WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: none
2. Other water rights with the same point of diversion: none

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

WASTE WATER NE1/4NW1/4NE1/4 Sec. 25, Twp 03N, Rge 01W, B.M.
ADA County

Method of Determination: aerial photograph

2.

PLACE OF USE: IRRIGATION FROM STORAGE

TwpRgeSec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N01W25			18.0														18.0

Total Acres: 18

PLACE OF USE: IRRIGATION STORAGE

TwpRgeSec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N01W25		X															

Method of Determination:

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

☐ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ Photo of Diversion and System Attached

4.

<u>Well or Diversion</u>					<u>Pump Serial No. or Discharge</u>
<u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Size</u>
_POD	BALDOUR	25	JM25L6F	GOULD	SN2397050

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement</u>							<u>Calib. Date</u>
<u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>		

2. Measurements: NONE TAKEN

E. FLOW CALCULATIONS _____ Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 18 \text{ acres} \times 4.5 \text{ af/acre} = 81 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = .36 \times 260 \times 1.9835 = 185.66 \text{ af}$$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 81 \text{ but limited to 54 af by the permit, which states 27 af of the capacity is dedicated to irrigation storage. Pond fills twice so } 27 \text{ irr storage} \times 2 = 54 \text{ total af for irrigation.}$

2. Volume Calculations for Other Uses:

The surface area of the small pond is approximately 1.2 acres and of the large pond, 4.2 acres for an approximately total of 5.4 acres $\times 10' = \text{total storage volume} = 54 \text{ af}$.

G. NARRATIVE/REMARKS/COMMENTS

The permit was issued for diversion to storage, irrigation storage, irrigation and irrigation from storage from 2 wastewater ponds. The source of the wastewater is the sewer system of 2 subdivisions, so there is no tributary entered in the Department workflow database. The irrigation from storage is for the supplemental irrigation of 18 acres about 0.14 miles southwest of the ponds. Ken Acuff, who is in charge of operations and maintenance for the district, accompanied me on the exam.

In aerial photographs, there is often a third, smaller pond seen, south of the 2 larger ponds. This pond collects stormwater runoff and is not part of the wastewater system. Wastewater is collected from the Kentucky Ridge Estates and the Meridian Heights Subdivisions via an 8" PVC pipe to the smaller south pond which is the treatment pond. Treated water flows through a screened weir into the large pond. Both ponds are lined and tested each year. From the large pond, the water is diverted to a chlorination station, and then to the pump station, and then either back to the large pond or to the field for irrigation of the 18-acre field southwest of the ponds.

The field is also irrigated with surface water from the Nampa Meridian Irrigation District. Water is pumped from the large pump via a 25 hp pump and 8" PVC pipe to gated pipe that runs along the east edge of the field.

Mr. Acuff reported that the flow into the wastewater ponds is 400 gpm to 420 gpm which calculates to 0.89 cfs to 0.94 cfs. There is also a totalizing meter that measures the inflow to the large pond. Mr. Acuff takes daily readings. On June 16, 2013, for a 12 hours time period, the meter indicated that 240200 gallons were pumped into the treatment ponds. The calculated diversion rate for this time period is 0.74 cfs which is not the maximum rate. I recommend for licensing the permitted rate of 0.85 cfs, which I believe is lower than the actual maximum rate that wastewater is pumped into the ponds.

Mr. Acuff stated that the pond capacity was 16,000,000 gallons or 49.1 af. My volume calculation result was 54 af. I recommend for licensing 54 af.

Regarding the volume for irrigation, the volume / acre is this area is 4.5 af / acre, which yields a theoretical volume of 81 af. The ponds fill twice a year. The permit is confusing here because the permitted pond volume available for irrigation from storage of 27 af is one-half of the actual volume used for irrigation annually. The total irrigation storage is 27 af x 2 = 54 af, because the pond is depleted by the initial 27 af for irrigation during the beginning of the irrigation season, refills once so that irrigation can continue through the irrigation season, and then refills through the non-irrigation season.

The irrigation use should be deleted from the uses because there is no irrigation covered by this permit except irrigation from storage.

A permit amendment is needed to correct the place of use legal description for the diversion to storage and irrigation storage components, which are in the NWNE of Section 25. The permit legal states all uses are in the SWNE. However, only the irrigated field is in the SWNE.

Have conditions of permit approval been met? x Yes No

H. RECOMMENDATIONS

- 1) Permit amount 0.85 to storage cfs &/or 55 af total storage
2) Beneficial use limit cfs &/or 81 af storage for irrigation
3) System measurement 0.74 cfs &/or 54 af storage for irrigation
4) Proof fee amount 1 cfs &/or 100 af storage

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DIVERSION TO STORAGE	01/01 to 12/31	0.850 CFS	
IRRIGATION FROM STORAGE	03/01 to 11/15	54.00 AF	
IRRIGATION STORAGE	01/01 to 12/31		27.00 AF
	Totals:	0.850 CFS	54.00 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above None

 X Change P.U. as reflected above Add P.U. as reflected above Other

I. AUTHENTICATION

Field Examiner's Name [Signature] Date 7-7-19

Reviewer _____ Date _____

63-12251 – Meridian Heights Water & Sewer District Field Photographs



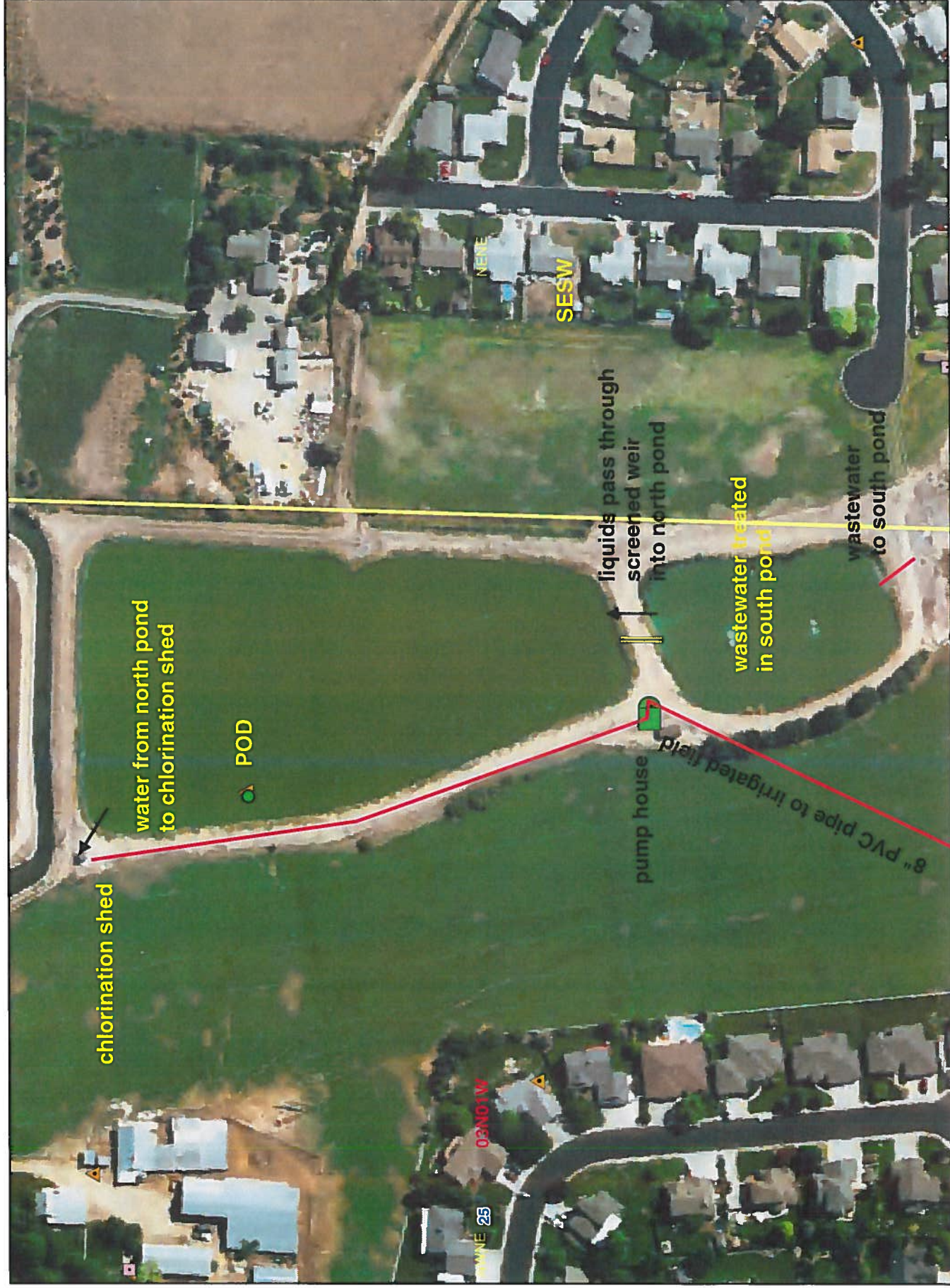
Looking north – south pond is a treatment pond. Water is diverted from the north pond for irrigation. Pump house seen middle left of photo.



Looking northwest at the irrigation place of use. Gated pipe seen in photo on right.



63-12251 -- 2013 NAIP PHOTOGRAPHY. Diagram of places of use, storage, treatment and diversion of water from the waste ponds to irrigated field to the southwest.



63-12251 -- 2013 NAIP PHOTOGRAPHY. Diagram of storage, treatment and diversion of water from the waste ponds to irrigated field to the southwest.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

April 7, 2014

MERIDIAN HEIGHTS WATER & SEWER DISTRICT
PO BOX 472
MERIDIAN ID 83680

RE: Water Right Permit No. 63-12251

Dear Permit Holders:

The Department of Water Resources is reviewing the permit referenced above prior to issuing a water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit. The examiner who verified your water use reported that certain elements of the permit have been developed differently than described on your permit. Changes that do not increase the authorized use of water under the permit can be requested and approved in accordance with Section 42-211, Idaho Code. Before a license can be issued, your permit must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit:

✓ **Place of Use**

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when it is issued. Please review the amendment form carefully. If you concur with the information presented, please sign the form and return it with the \$100.00 filing fee within 14 days.

If you have any questions, please call me at 334-2190.

Sincerely,

KAY WALKER
Sr. Water Resource Agent

Enclosures – Amendment Application & Layouts



State of Idaho

DEPARTMENT OF WATER RESOURCES

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Phone: (208) 334-2190 • Fax: (208) 334-2348 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

July 9, 2013

MERIDIAN HEIGHTS WATER & SEWER ASSN
P O BOX 472
MERIDIAN, ID 83680

Re Permit To Appropriate Water No. 63-12251

Dear PERMITTEE:

The permit referenced above was issued for diversion to storage, irrigation storage and irrigation from storage uses from waste water. This letter is to request that you call me to schedule the field exam for this permit. A field exam is required by Idaho law before a license can be issued, at which time it becomes a water right. The license is the end product needed for continued water use.

Additionally, please have available at the exam someone familiar with the diversion to storage and irrigation system, as well as the pump and motor specs and pump curves.

I will be conducting exams in the area on Wednesday and Thursday, July 17 and 18, 2013. Please call me at 208.334.2190, **by July 12, 2013**, to set an appointment for the exam. Failure to respond to this letter request may result in the permit being voided or a license issued for less than the permitted amount. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Vicky Music'.

Vicky Music
Sr. Water Resource Agent