

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-23798

Exam Date: 10/14/2020

1. Current Owner:
RCG INC PO BOX 220 NEW PLYMOUTH ID 83655 AND/OR
AUSSIE ACRES SUBDIVISION HOMEOWNERS ASSOC, INC PO BOX 220 NEW PLYMOUTH ID 83655
2. Accompanied by: Bob Goodwin
Phone No: (208) 440-4463
Address: 3942 Vista Ridge Ln, New Plymouth, 83655
Relationship to permit Holder: HOA rep.

3. SOURCE:
GROUND WATER

Method of Determination: Well log, site visit

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: Black Canyon Irr. Dist. water rights overlap the place of use. There is no overlap for fire protection uses.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: No overlap present.

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER NE¼ SW¼, Sec. 31, Twp 07N, Rge 03W, B.M. PAYETTE County

Method of Determination: Well GPS'd at 43° 54' 2" N, 116° 44' 43" W.

PLACE OF USE: FIRE PROTECTION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
07N	03W	31									X	X L3	X L4	X		X	X		

PLACE OF USE: FIRE PROTECTION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
07N	03W	31									X								

Method of Determination: Site visit, aerial imagery, digital PLSS system.

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.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
452772	n/a	1	n/a	n/a	n/a

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
n/a	n/a	n/a	n/a	n/a	n/a	n/a

2. Measurements: The pump was not working during the field exam so no measurements were taken.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretical

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}} = \frac{8.8 * 7 * 1}{122 + 2.31 * 20} = 0.04 \text{ cfs}$$

Permit	0.04 cfs
B.U. Standard	N/A
B.U. Fee Paid	GW less than 0.04 cfs, no fee req.
Theoretical	0.04 cfs

License Recommendation 0.04 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: None

2. Volume Calculations for Other Uses:

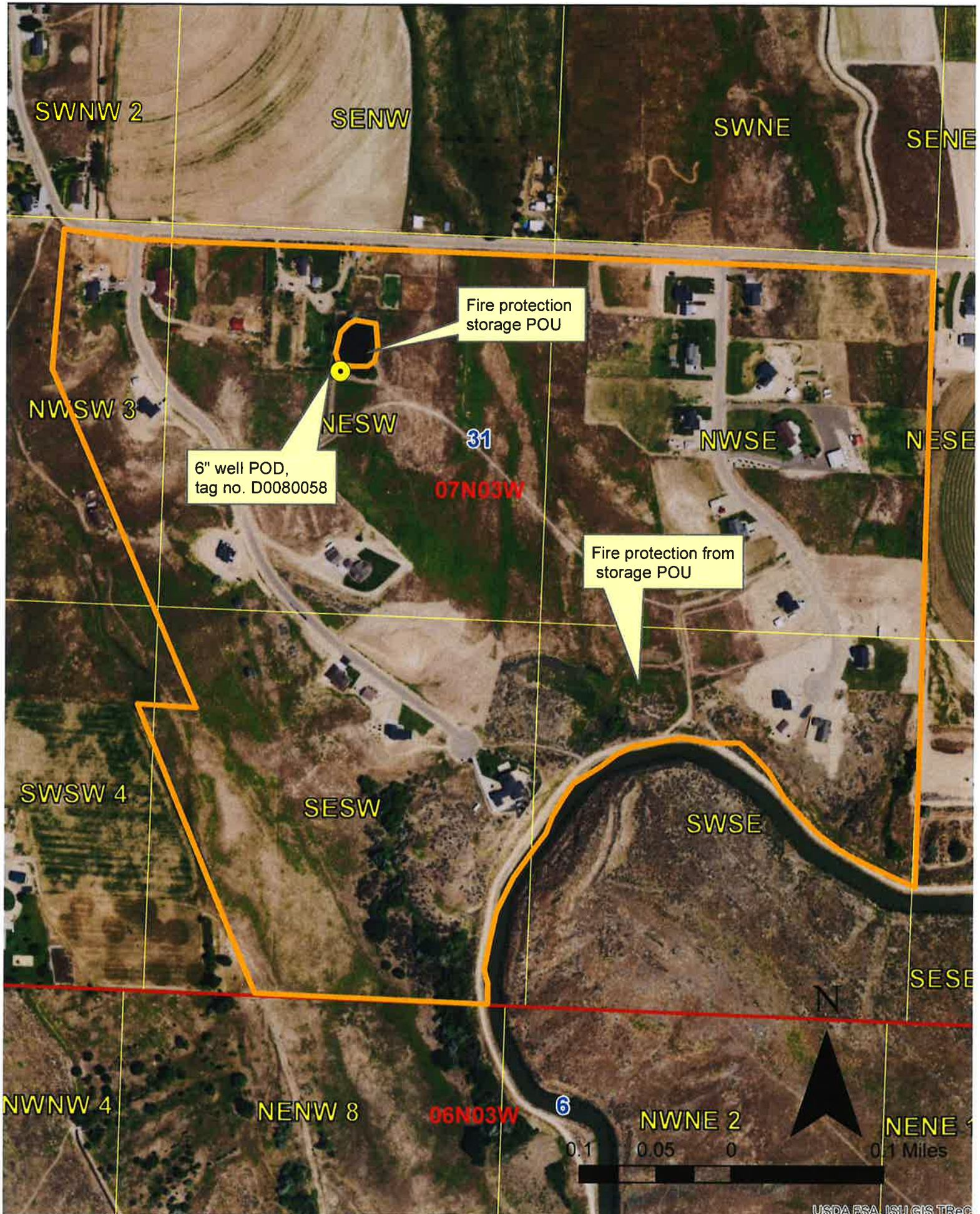
Irrigation water from Black Canyon Irrigation District is used to maintain the pond during the irrigation season. Groundwater from the well is used to fill the pond during the non-irrigation season. Therefore, the pond's capacity + seepage during the non-irrigation season was used to calculate the total yearly volume below. See the attached pond spreadsheet for pond analysis.

1.6 AF (pond capacity)

Seepage for 105 days = 3,258 gpd X 105 days = 342,090 gallons = 1.05 AF

Total = 1.6 AF + 1.05 AF = 2.65 AF or **2.7 AF** (Dept. standard)

Delivery System Diagram 05-23798



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 65-23798
 Reviewer: Tyler Smith
 Date of Review: 10/28/2020

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	1	1	1
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	122	122	122
DISCHARGE PRESSURE	15	20	25
RATE OF FLOW (cfs)	0.04	0.04	0.03 0.04

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

Field exam reports a 1 hp pump. A screen is installed from 127 to 132 ft. and pumps are typically set 5 ft. above screens. A range of discharge pressures were used base on expected system pressures (15-25 psi). Theoretical average flow rate is 0.04 cfs.

Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	65-23798
REVIEWER	Tyler Smith
DATE	10/26/2020

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	0.5	AC.
-------------------------	-----	-----

Pond Surface Area (SQ. FT.)	21780	SQ. FT.
-----------------------------	-------	---------

I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	ML	
Suggested Seepage Rate (FT./DAY)	0.0200	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
--

Convert to GPD	3258	GPD
----------------	------	-----

Total Seepage Loss (AFA)	3.6	AFA
--------------------------	-----	-----

Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:

GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = **0.2 ft per day**

OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = **0.02 ft per day**

SC (clayey sands, sand clay mixtures) = **0.007 ft per day**

CL (Low to medium plasticity clays) = **0.003 ft per day**

MH, OH, PT and CH (high plasticity clays) = **0.0003 ft per day**

LINED PONDS (liners can be chemical, fabric, or bentonite) = **0 ft per day**

Ponds Intercepting Groundwater (excavated ponds filled by ground water) = **0 ft per day**

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1939 Alabama Agricultural Experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	65-23798
REVIEWER	Tyler Smith
DATE	10/26/2020

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: Parma Exp. Stn. (NWS--USC00106844)

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.64	31	0.00
Feb	0.08	28	2.24
March	0.91	31	28.21
April	2.06	30	61.80
May	2.55	31	79.05
June	3.38	30	101.40
July	4.10	31	127.10
August	3.61	31	111.91
September	2.46	30	73.80
October	1.20	31	37.20
November	-0.15	30	0.00
December	-0.66	31	0.00

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

Total mm/year = **622.71**

$[(\text{mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

(**622.71**) \div (**304.8**) \times (**0.50**) = (**1.0 AFA**)

Total Storage Calculations

FILE NUMBER	65-23798
REVIEWER	Tyler Smith
DATE	10/26/2020

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.5	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	3.2	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	1.6	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	3.6	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	1.0	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	6.3	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

Max
depth
8 ft.

MEMORANDUM

TO: Water Right File No. 65-23798
FROM: Aaron Skinner – Water Resource Agent, SR.
DATE: December 12, 2018
SUBJECT: Annual Volume Calculations

The application for permit identified irrigation shares with Black Canyon Irrigation District that is understood to maintain the pond during the irrigation season. Because the applicant is required to have water in the pond year round for fire protection, a ground water application was submitted. As a result, 1/3* of the pond's capacity + seepage during the non-irrigation season was used to calculate the total yearly volume and is detailed below.

4.8 AF (pond capacity) X 0.33 = 1.58 AF; Seepage for 105 days = 1.47 AF (4,562 gpd X 105 days); together totaling 3.05 AF or 3.1 AF per Department standards.

*On 12/12/2018, a phone conversation with Robert suggested 1/3 of the pond's capacity would be sufficient water in the pond during the winter.

Beneficial Use Field Exam

Basin Sequence	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE
65-21510	MOORE, CHERYL; MOORE, MICHAEL	GROUND WATER							X										
65-22124	PUENTES, SAM; PUENTES, SUSAN	GROUND WATER							X										
65-22363	BUFFINGTON, DENISE; CLAUNCH JR, JOHN ; CLAUNCH, JOHN G; HATFIELD, SHANE	GROUND WATER												X					
65-23798	AUSSIE ACRES SUBDIVISION HOMEOWNERS ASSOC. INC; RCG INC	GROUND WATER										X							
65-3687	MOSS, CARL B; MOSS, LOIS C; TRENT, GENEVA; TRENT, ROBERT	GROUND WATER					X												
65-4680	RODMAN, WILLIAM H	GROUND WATER												X					
65-4872	VAN DE BOGART, JAMES D	GROUND WATER										X							
65-5896	HOWARD, ARNOLD R	GROUND WATER									X								
65-6320	LITTLE, MARY K; LITTLE, W ROBERT; LITTLE, WALTER E	GROUND WATER		X															
65-6667	VAN DE BOGART, JAMES D; VAN DE BOGART, TRUDY	GROUND WATER										X							

= this right

= overlap

Beneficial Use Field Exam

BasinSequence	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE
63-2322	UNITED STATES OF AMERICA ACTIN	ELIJAH SLOUGH	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
63-2322	UNITED STATES OF AMERICA ACTIN	WILSON SLOUGH	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
63-2878	BLACK CANYON IRRIGATION DIST	ELIJAH DRAIN	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
63-2878	BLACK CANYON IRRIGATION DIST	WILSON DRAIN	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65-21510	MOORE, CHERYL; MOORE, MICHAEL	GROUND WATER	DOMESTIC						X										
65-22124	PUENTES, SAM; PUENTES, SUSAN	GROUND WATER	DOMESTIC						X										
65-22363	BUFFINGTON, DENISE; CLAUNCH JR	GROUND WATER	DOMESTIC											X					
65-23798	AUSSIE ACRES SUBDIVISION HOME	GROUND WATER	FIRE PROTECTION									X	X	X	X	X	X	X	X
65-23798	AUSSIE ACRES SUBDIVISION HOME	GROUND WATER	FIRE PROTECTION FROM STORAGE									X	X	X	X	X	X	X	X
65-23798	AUSSIE ACRES SUBDIVISION HOME	GROUND WATER	FIRE PROTECTION STORAGE									X	X	X	X	X	X	X	X
65-2433	UNITED STATES OF AMERICA ACTIN	PAYETTE RIVER	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65-2900	BLACK CANYON IRRIGATION DIST	TUNNEL NO 2 DRAIN	IRRIGATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65-3687	MOSS, CARL B; MOSS, LOIS C; TREN	GROUND WATER	DOMESTIC				X												
65-4680	RODMAN, WILLIAM H	GROUND WATER	DOMESTIC											X					
65-4680	RODMAN, WILLIAM H	GROUND WATER	STOCKWATER											X					
65-4872	VAN DE BOGART, JAMES D	GROUND WATER	DOMESTIC								X								
65-5896	HOWARD, ARNOLD R	GROUND WATER	DOMESTIC								X								
65-6320	LITTLE, MARY K; LITTLE, W ROBERT	GROUND WATER	DOMESTIC	X															
65-6320	LITTLE, MARY K; LITTLE, W ROBERT	GROUND WATER	STOCKWATER	X															
65-6667	VAN DE BOGART, JAMES D; VAN DE	GROUND WATER	DOMESTIC									X							

= this right

= overlap



Fig. 1 – Well
POD used to fill
fire protection
storage pond
GPS'd at:

43° 54' 2" N

116° 44' 43" W



Fig. 2 – Well
drilling permit
tag ID:

D0080058



Fig. 3 – Groundwater is pumped into pond via this pipe and then flows down the natural slope into the pond.



Fig. 4 – View of the discharge pipe from the well. Pond is seen in the background. View is from the south side of the pond looking north.



Fig. 5 – View of the storage pond from the SW corner looking NE. Surface area of pond is roughly half an acre.



Fig. 6 – Overflow pipe in the NW corner of storage pond flows into retention pond north of this pond.



Fig. 7 – Retention pond for overflow of storage pond. This pond was dry and had a chicken coop in it, indicating there was not much overflow.



Fig. 8 – South of the storage pond is a large turn around for the fire department to access the pond in the event of a fire.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 W Airport Way • Boise ID 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348

Website: idwr.idaho.gov • Email: westerninfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

September 9, 2020

COPY

RCG INC/AUSSIE ACRES SUBDIVISION HOA, INC.
PO BOX 220
NEW PLYMOUTH, ID 83655

RE: Scheduling Field Exam for Water Right Permit No. 65-23798

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **this season**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes **0.04 CFS/3.1 AF** of **GROUNDWATER** for **FIRE PROTECTION/FIRE PROTECTION STORAGE/FIRE PROTECTION FROM STORAGE/DIVERSION TO STORAGE** use. **If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination.**

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If that use was developed, but have ceased using the water and you currently carry no interest in it, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Assignment of Permit form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days at (208) 334-2190 or tyler.smith@idwr.idaho.gov to either schedule an examination or submit a relinquishment or assignment form. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Sincerely,

Tyler Smith
Water Resource Agent

Enclosures: Relinquishment of Permit form
Assignment of Permit form
Proof Report and Map