

MONEY SLIP

DATE: <u>12-20-2021</u>	RECEIPT #: <u>137133</u>
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RECEIVED FROM: Pore Plant Research

APPLICATION	
PERMIT	
TRANSFER	

CASH ☐ CHECK # 1114 OTHER (IDENTIFY) ☐

TOTAL REC'D \$ 230.00

1083 TREASURY	4170 MISC CASH ACCT.
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0407 COPIES \$
 OTHER: (IDENTIFY) \$

0243 Instream Lease 0244 Muni Water Mgmt. Plan 0245 Cons. Water

1083 TREASURY	4270 WRD OPERATING ACCT.
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MISCELLANEOUS

0407 COPY & TAPE FEES \$
 0410 RESEARCH FEES \$
 0408 MISC REVENUE (IDENTIFY) \$
 TC162 DEPOSIT LIAB. (IDENTIFY) \$
 0240 EXTENSION OF TIME \$

WATER RIGHTS

EXAM FEE		RECORD FEE
0201 SURFACE WATER \$	0202	\$
0203 GROUND WATER \$	0204	\$
0205 TRANSFER \$		

WELL CONSTRUCTION

EXAM FEE		RECORD FEE
0218 WELL DRILL CONSTRUCTOR \$	0219	\$
LANDOWNER'S PERMIT	0220	\$
OTHER (IDENTIFY)		

0607 TREASURY	0467 HYDROELECTRIC
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LIC NUMBER	
0233 POWER LICENSE FEE (FW/WRD)	\$
0231 HYDRO LICENSE FEE (FW/WRD)	\$
HYDRO APPLICATION	\$

SPECIAL INSTRUCTIONS:

☐ RETURN TO APPLICANT -- LETTER ATTACHED

MONEY SLIP

DATE:	RECEIPT #:
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RECEIVED FROM: _____

APPLICATION	
PERMIT	
TRANSFER	

CASH CHECK # OTHER (IDENTIFY)
☐ ☐ ☐

TOTAL REC'D	\$
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1083 TREASURY	4170 MISC CASH ACCT.
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0407 COPIES		\$
OTHER: (IDENTIFY)		\$

0243 Instream Lease 0244 Muni Water Mgmt. Plan 0245 Cons. Water

1083 TREASURY	4270 WRD OPERATING ACCT.
----------------------	---------------------------------

MISCELLANEOUS

0407 COPY & TAPE FEES		\$
0410 RESEARCH FEES		\$
0408 MISC REVENUE (IDENTIFY)		\$
TC162 DEPOSIT LIAB. (IDENTIFY)		\$
0240 EXTENSION OF TIME		\$

WATER RIGHTS

0201 SURFACE WATER	EXAM FEE	
0203 GROUND WATER	\$	0202 \$
0205 TRANSFER	\$	0204 \$

WELL CONSTRUCTION

0218 WELL DRILL CONSTRUCTOR	EXAM FEE	
LANDOWNER'S PERMIT	\$	0219 \$
OTHER (IDENTIFY)		0220 \$

0607 TREASURY	0467 HYDROELECTRIC
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0233 POWER LICENSE FEE (FW/WRD)		\$
0231 HYDRO LICENSE FEE (FW/WRD)		\$
HYDRO APPLICATION		\$

SPECIAL INSTRUCTIONS:

☐ RETURN TO APPLICANT -- LETTER ATTACHED

2nd

**CLAIM OF
BENEFICIAL USE
for Reservoirs storing less than
9.2 acre-feet permitted under
ORS 537.409**



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.oregon.gov/OWRD

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**A fee of \$230 must accompany this form.
The Claim will be returned if the fee is not included.**

This form may be completed by the permit holder of record if:

- 1) The permit was issued under the authority of ORS 537.409; and
- 2) No secondary permit exists for the use of water stored in the reservoir; and
- 3) The developed capacity of the reservoir is less than 9.2 acre-feet; and
- 4) The water was stored by the date required in the permit; and

A separate form shall be completed for each permit.

This form must be submitted to the Water Resources Department within one year of storage of water in the reservoir.

Please type or print in dark ink. If the data provided is found to contain errors or omissions, it may be returned. The Department may require the submittal of additional information.

If you have questions regarding the completion of this form, please call 503-979-9103.

**SECTION 1
GENERAL INFORMATION**

File Information:

APPLICATION # R- 80575	PERMIT # R- 14348
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Applicant Information:

APPLICANT NAME Burl Mostul	PHONE NO. 503-740-6200	ADDITIONAL CONTACT NO.
ADDRESS 11900 S-Critcher Rd.		
CITY Oregon City	STATE OR	ZIP 97045
E-MAIL rareplant@gmail.com		

SECTION 2

RESERVOIR INFORMATION

Reservoir Dimensions and Capacity:

AVERAGE LENGTH	AVERAGE WIDTH	AVERAGE DEPTH	MAXIMUM CAPACITY IN ACRE-FEET
See attached		12'	3

To determine capacity in acre-feet use for the above table, use the following calculation:

$$\text{Acre-feet} = \frac{(\text{Average Length})(\text{Average Width})(\text{Average Depth})}{43,560}$$

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SECTION 3

MAP

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Attach a map identifying the reservoir location. If the water right application map accurately reflects the location of the reservoir, you may attach a copy of it. Otherwise, you must submit a map meeting the standards of OAR 690-310-0050, which are attached.

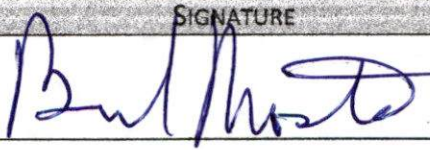
Preparation of the map by a Certified Water Rights Examiner is **not** required for this type of permit, but may be submitted.

SECTION 4

SIGNATURE

This Claim of Beneficial Use must be signed by each permit holder of record.

By my signature, I certify that the information contained herein is true and correct to the best of my knowledge.

SIGNATURE	PRINT OR TYPE NAME	TITLE	DATE
	Burk Mostel	Owner	12-17-21

Form using compass and ruler to a triangle.

Trigonometric proof

Have a look at the picture - a ,

b , c are the sides of the

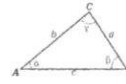
triangle and α , β , γ are the

angles opposing these sides. To find the

proof of Heron's formula with

trigonometry, we need to use another

triangle area formula - given two sides and angle between them:



$$\text{area} = 0.5 * a * b * \sin(\gamma)$$

1. To derive the proof for Heron's formula in this case, we need to express sine of the angle in terms of the triangle sides. We can use the law of cosines:

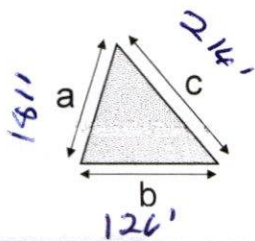
$$c^2 = a^2 + b^2 - 2 * a * b * \cos(\gamma)$$

2. Thanks to this law we get the side-dependent cosine. But how to find the formula for the sine? That's easy, just use the basic relation between the sine and cosine functions - Pythagorean trigonometric identity: $\sin^2(\gamma) + \cos^2(\gamma) = 1$, so the formula for cosine is

$$\sin(\gamma) = \sqrt{1 - \cos^2(\gamma)} = \sqrt{(4 * a^2 * b^2 - (a^2 + b^2 - c^2)^2) / (2 * a * b)}$$

3. Now you can substitute the sine in triangle area formula:

$$\text{area} = 0.5 * a * b * \sin(\gamma)$$



$$A = \frac{1}{4} \sqrt{(a+b+c)(-a+b+c)(a-b+c)(a+b-c)}$$

Side a 181 ft▼

Side b 126 ft▼

Side c 214 ft▼

Perimeter 521 ft▼

Area 11,380.9 ft²▼

Reset defaults

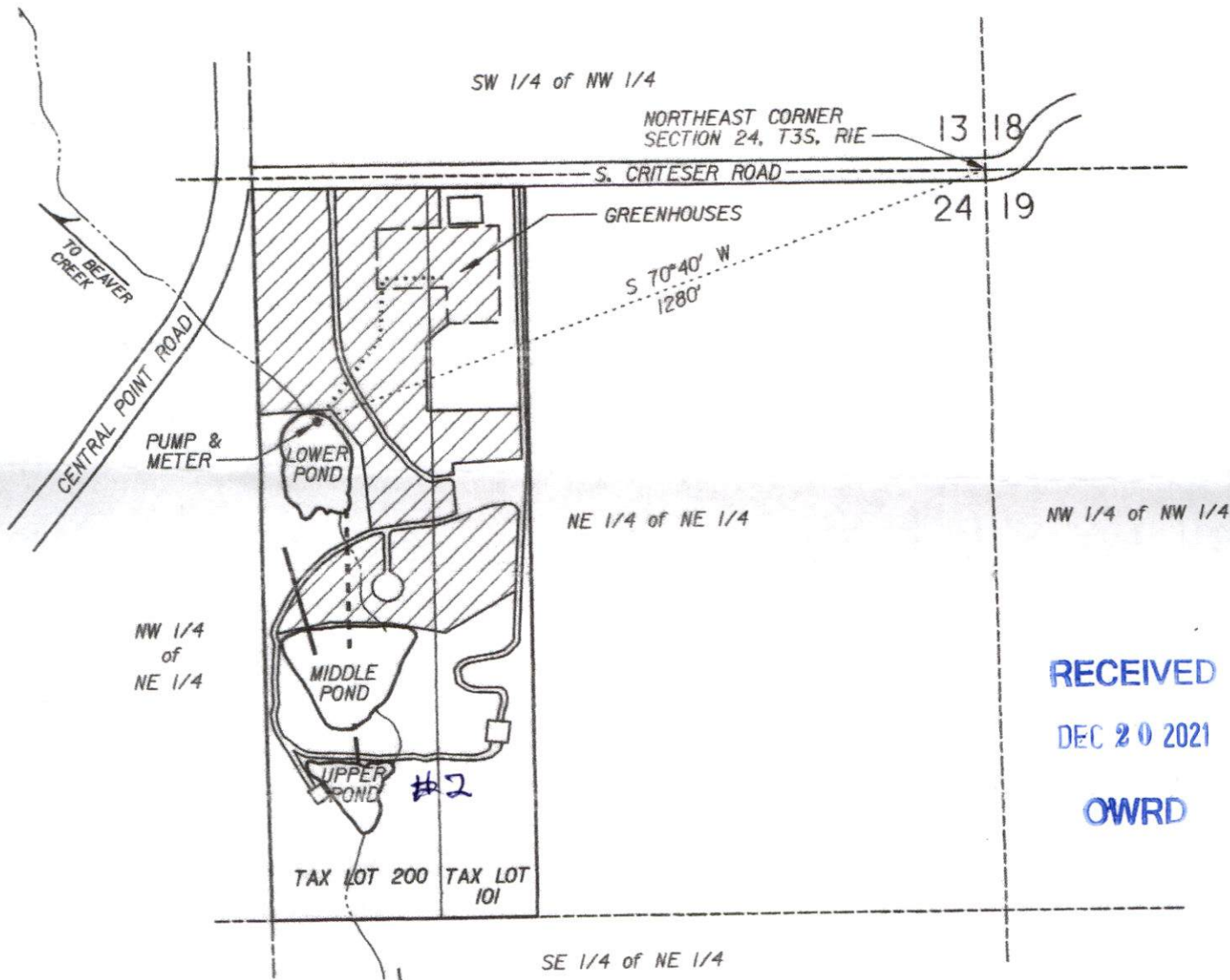


Send this result

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LEGEND:

- IRRIGATED LAND
- BURIED 10" ADS OVERFLOW
- BURIED 8" PVC MAINLINE
- BURIED 6" ADS MAINLINE
- BURIED 2" PVC MAINLINE
- STRUCTURES

NOTES:
THIS DRAWING IS A PROOF SURVEY FOR A CLAIM OF BENEFICIAL USE TO PERFECT A SURFACE WATER RIGHT. IT IS NOT A LAND SURVEY. PROPERTY LINES AND/OR OTHER LINES OF OCCUPATION SHOWN HEREON ARE NOT REPRESENTED BY THE UNDERSIGNED TO MEET ACCURACY STANDARDS OF LAND SURVEYS.

SCALE: 1" = 300'

NE 1/4, NE 1/4
SECTION 24, T.3S., R.1E., W.M.
CLACKAMAS COUNTY, OREGON

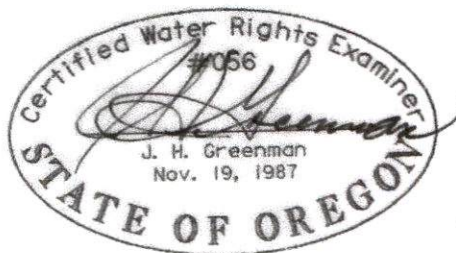
5.4 TOTAL ACRES OF PASTURE,
NURSERY STOCK, GREENHOUSES
& GRAPES UNDER IRRIGATION

APPLICATION No.

PERMIT No.

86575
S-
S-
14348

BURL MOSTUL
SURFACE WATER PROOF SURVEY



2018/05/14

H

R

S

**HANER, ROSS &
SPORSEEN, P.C.**
2895 Beaver Creek Road,
Oregon City, OR 97045