

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

MAR 29 2017

DEPARTMENT OF
WATER RESOURCES

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-323891. Owner Rustic Acres MHC LLCPhone No. 208-375-3043Current address 501 Greenleaf St., Boise, ID 837132. Examiner's name Terry ScanlanEXAM DATE 3/9/20173. Accompanied by (1) Rob Bishop and (2) Tom MiehlEmail rustic@ipgmhc.comAddress 501 Greenleaf St., Boise, ID 83713Relationship to permit holder (1) employee and (2) contract operatorPhone No. 208-375-30434. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use Municipal (Suez), Boise Project, Nampa & Meridian Irr. Dist.2. Other water rights with the same source and point of diversion 63-7674B**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			SW	NE	10	3N	1E	Ada	Aerial photo, exam

2. Place(s) of Use:

Method of determination Aerial photo, exam

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
3N	1E	10			D														

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Pump 1	submersible u/k	25	Submersible	Berkeley	GT25-275

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Flow meter	mag	Siemens	Sitrans FM	621709T354	4-inch	unknown

2. **Measurements:** _____

Measured for 10 minutes at 43 psi average pressure, 2400 gallons total; 240 gpm average and instantaneous; 60 hz.

Attempted measurement with ultrasonic flow meter but there was too much turbulence for reading. Measured flow was a combination of domestic use and flush to waste in order to get flow rate up during time of low domestic use.

E. NARRATIVE/REMARKS/COMMENTS

A single well with a 12" casing and supplies water to Rustic Acres Mobile Home Park distribution system. Rustic Acres water system serves 231 mobile homes and one office/clubhouse building. Decreed water right 63-7674B authorizes domestic use (1.33 cfs) from the well for 190 mobile homes, irrigation (0.04 cfs) of 2 acres of common area, and fire protection (1.13 cfs). This permit (63-32389) was filed proposing an additional well and 45 units added to the existing distribution system, with domestic use of 0.40 cfs. Total lawn and garden area for the 45 units is limited to 4 acres. The 45 units were served by United Water (municipal) prior to 2001.

There is currently a single well with a 25-hp variable speed submersible pump set at 84 feet on 4-inch pipe; cycling is controlled using the vfd and a 1500-gallon hydro-pneumatic tank. The pump was replaced in 2014. A new well was authorized by the permit but was not drilled.

There are 45 lots currently served within place of use that were not previously served by 63-7674B. A clubhouse is in the place of use but was served by 63-7674B. Irrigated area is 2.7 acres based on an average of 0.06 acres per lot and 45 residential lots. Clubhouse lawn is part of the 2 acres of common area authorized under water right 63-7674B.

Suez (municipal water) provides fire protection and backup supply. Wastewater is discharged to City of Boise municipal sewage treatment system.

Flow was measured at 0.53 cfs. Permit should be licensed for 0.40 cfs domestic use, not to exceed 1.33 cfs in combination with water right 63-7674B.

Exam Attachments

Attachment A: Field Exam Map

Attachment B: System Diagram

Attachment C: Flow Rate Calculations

Attachment D: Exam Photos

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

Water bearing zone to be appropriated is from 200 to 300 feet. The existing well is screened from 277 to 307 feet, and does not appear to meet this condition based on the well report. Permit should be amended to authorize water-bearing zone of 200 to 320 feet.

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Magnetic flow meter. 2400 gallons in 10 minutes = 240 gpm (0.53 cfs); discharge pressure ranged from 42 to 45 psi; pump was operating at 60 hz.

Pump curve suggests a pumping rate of approximately 350 gpm (0.78 cfs) at 200 feet TDH. TDH based on 80-foot pumping water level, 20 feet friction loss, and 100 feet (43 psi) discharge pressure (80+20+100= 200 feet). Pump may be worn.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____

 $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____

 $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

Domestic - 45 homes at 1.2 afa = 54.0afa

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Domestic	1/1	12/31	0.40	54.0
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Totals:			0.40 cfs	54.0 afa

Not to exceed 1.33 cfs in combination with 63-7674B

2. Recommended Amendments

☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☐ None☐ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☒ Other

Change water-bearing zone

I. AUTHENTICATION

Field Examiner's Signature

Terry M. Scanlan

Date

3/27/2017

Reviewer

Date



ATTACHMENT A
FIELD EXAM MAP

Legend

 Developed POD

 Developed POU



Legend



Developed POD



Developed POU



Sample Lawn Area Calculations (in acres)
0.06 acre/lot average



ATTACHMENT B
SYSTEM DIAGRAM



Well

Existing
distribution
system for
63-7674B,
size and
location
unknown

6-inch(?) distribution piping for
additional units served by 63-32389

Robert P. Walker, LLC

August 27, 2001

Stephen H. Rae, E.I.T.
Associate Engineer
Idaho Department of Environmental Quality
1445 North Orchard Avenue
Boise, Idaho 83706

RE: Rustic Acres Mobile Home Park
Expansion of Existing Water System

Dear Mr. Rae:

Attached are two copies of the As Built for the expansion of the existing water system for the Rustic Acres Mobile Home Park. As you can see from the As-Built Drawing, the existing system that we interconnected with was not as indicated on the old system maps. The 8-inch main we were to interconnect with on Meadowland Drive was a 4-inch main. The 8-inch main we were to interconnect with on Greenleaf Street did not exist and we had to interconnect with a 4-inch main as shown. These changes did not effect the service to the customers formerly served by United Water and in fact, the pressure to these customers was improved.

Construction was completed the week of June 22, 2001. Upon completion of construction, coliform bacteria testing was performed on those sections of main effected. After receiving satisfactory test results, the 45 units formerly served by United Water were permanently cut over to the Rustic Acres Mobile Home Park water system. The connection to United Water Idaho is now valved off and will be maintained as an emergency interconnection and source of supply for the entire Rustic Acres Mobile Home Park.

We thank you for your assistance on this project. If you have any questions or need additional information, please let me know.

Sincerely,



Robert P. Walker, P.E.

cc: Gene Houst, Manager
Rustic Acres Mobile Home Park
Terry Scanlan, P.E., P.G.

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

Signature: [Signature]
Date: 8-13-74
Initials: D m

1. WELL OWNER
Name Rustic Acre's (Lee Rowe)
Address Route #2 - Meridian, Idaho 83642
Owner's Permit No. _____

2. NATURE OF WORK
☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE
☐ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type) _____
☒ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED
Reverse
☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION
Diameter of hole _____ inches Total depth 320 feet
Casing schedule: ☒ Steel ☐ Concrete
Thickness Diameter From To
.250 inches 12 inches + 2 feet 277 feet
.250 inches 12 inches 307 feet 313 feet
_____ inches _____ inches _____ feet _____ feet
_____ inches _____ inches _____ feet _____ feet
_____ inches _____ inches _____ feet _____ feet
+1 to 58" 24" surface pipe
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches
Number From To
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet
Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type Irrigator Model No. _____
Diameter 12 Slot size _____ Set from _____ feet to _____ feet
Diameter 12 Slot size 100 Set from 277 feet to 307 feet
Gravel packed? ☒ Yes ☐ No Size of gravel 3/8
Placed from 0 feet to 320 feet
Surface seal depth 58 Material used in seal ☒ Cement grout
☒ Pudding clay ☐ Well cuttings
Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing
☐ Overbore to seal depth

6. LOCATION OF WELL
Sketch map location must agree with written location.
Subdivision Name Rustic Acres
Lot No. _____ Block No. _____
County Ada
SW 1/4 NE 1/4 Sec. 10 T. 3 N. 1 E. 1

7. WATER LEVEL
Static water level 4 feet below land surface
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Temperature _____ ° F. Quality _____
Artesian closed-in pressure _____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA
☐ Pump ☐ Bailor ☐ Other
Discharge G.P.M. Draw Down Hours Pumped

9. LITHOLOGIC LOG
028042
Hole Diam. Depth Material Water
From To Yes No
0 12 Sand & gravel
12 32 Sand, Gravel & Nigger heads
32 37 Coarse sand/clay streaks
37 48 Fine white sand
48 84 Sand
84 90 Sand/clay/pea gravel
90 94 Sand
94 96 Brown clay
96 110 coarse gray sand
110 150 coarse brown sand/pea gravel
150 156 brown sand/clay streaks
156 212 brown & gray sand
212 216 brown sand/clay streaks
216 218 sand
218 220 brown clay
220 224 sand/clay streaks
224 292 Blue sand
292 294 blue clay
294 295 blue sand
295 302 blue clay
302 307 blue sand
307 320 blue clay

10. Work started 7/30/74 finished 8/2/74

11. DRILLERS CERTIFICATION
Firm Name Pete Cope Drilling Firm No. 213
Address P.O. Box 561-Meridian, Ida Date _____
Signed by (Firm Official) Pete Cope
and Pete Cope
(Operator)

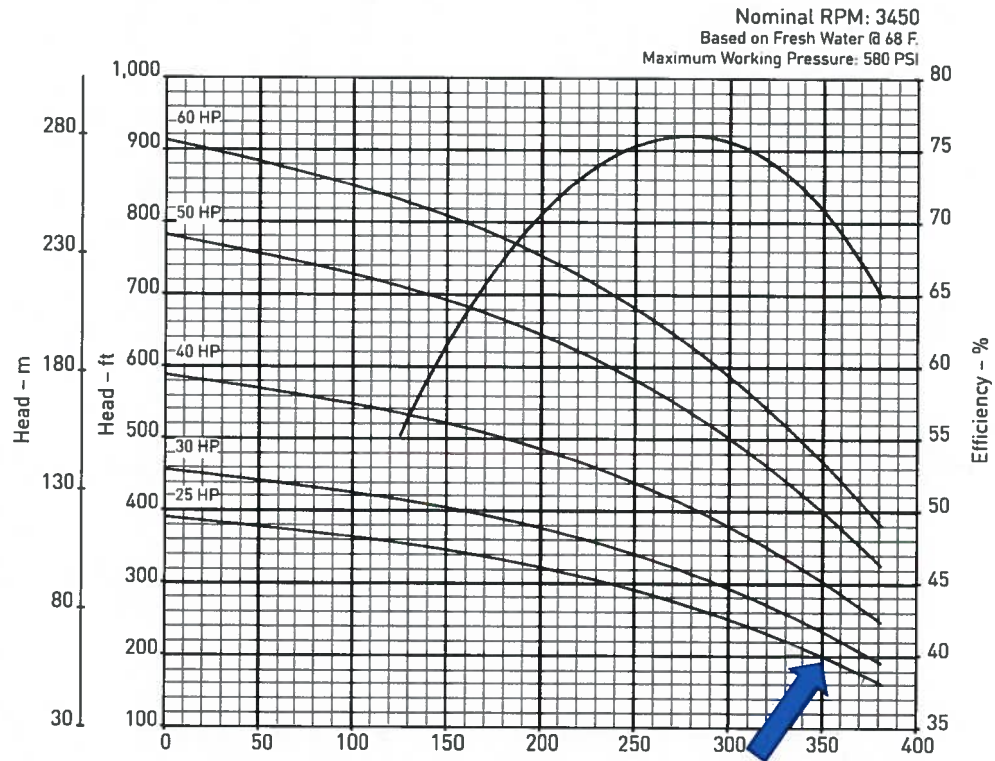
ATTACHMENT C
FLOW RATE CALCULATIONS

Flow Rate Measurements 3/9/2017

Time	Instantaneous (gpm)	Totalizer (Mgal)	Pressure (psi)	VFD Frequency (hz)	Remarks
10:29		438.80886			Begin flowing to waste
10:30	218			60	Unable to get ultrasonic measurement due to turbulence
10:35	239	438.80886	45	60	Begin 10 minute timed test.
10:37	240	438.80934	44	60	
10:40	240	438.81007	43	60	
10:43	240	438.81079	43	60	
10:45	240	438.81126	42	60	End 10 minute timed test
10 minute average		240 gpm			

BERKELEY® 6T-275

Submersible Turbine



TDH is 200 feet assuming 80-foot pumping water level (pump is set at 84 feet), 43 psi (100 feet) minimum discharge pressure, and 20 feet friction loss. Pump is rated for 350 gpm at 200 feet. Measured flow of 240 gpm suggests that pump was worn at time of exam.



INVOICE
MTK, INC.
Pump & Drilling
dba Knie Pump & Drilling
815 W. Plymouth · Caldwell, ID 83605
(208) 454-8114 Cell#371-8986

7308



Bill To: Rustic Acres Date: 07/09/2014
501 GREENLEAF DR # 870-8469
Boise, Idaho, 83713

Quantity	Description	Amount
2	GT25-275 Berkeley Pumps	\$5810.00
2	6" Sub motor 25 HP	8,774.00
120'	#4 Submersible cable	590.00
84'	4" Drop-pipe	2,010.00
1	4" Check-valve	490.00
2	2" pipe-wrap tape	23.00
	Heat shrink splice-kit	19.25
	Truck time & Labor	1,645.00
Thank You!		Sub Total \$19,361.25
		Total

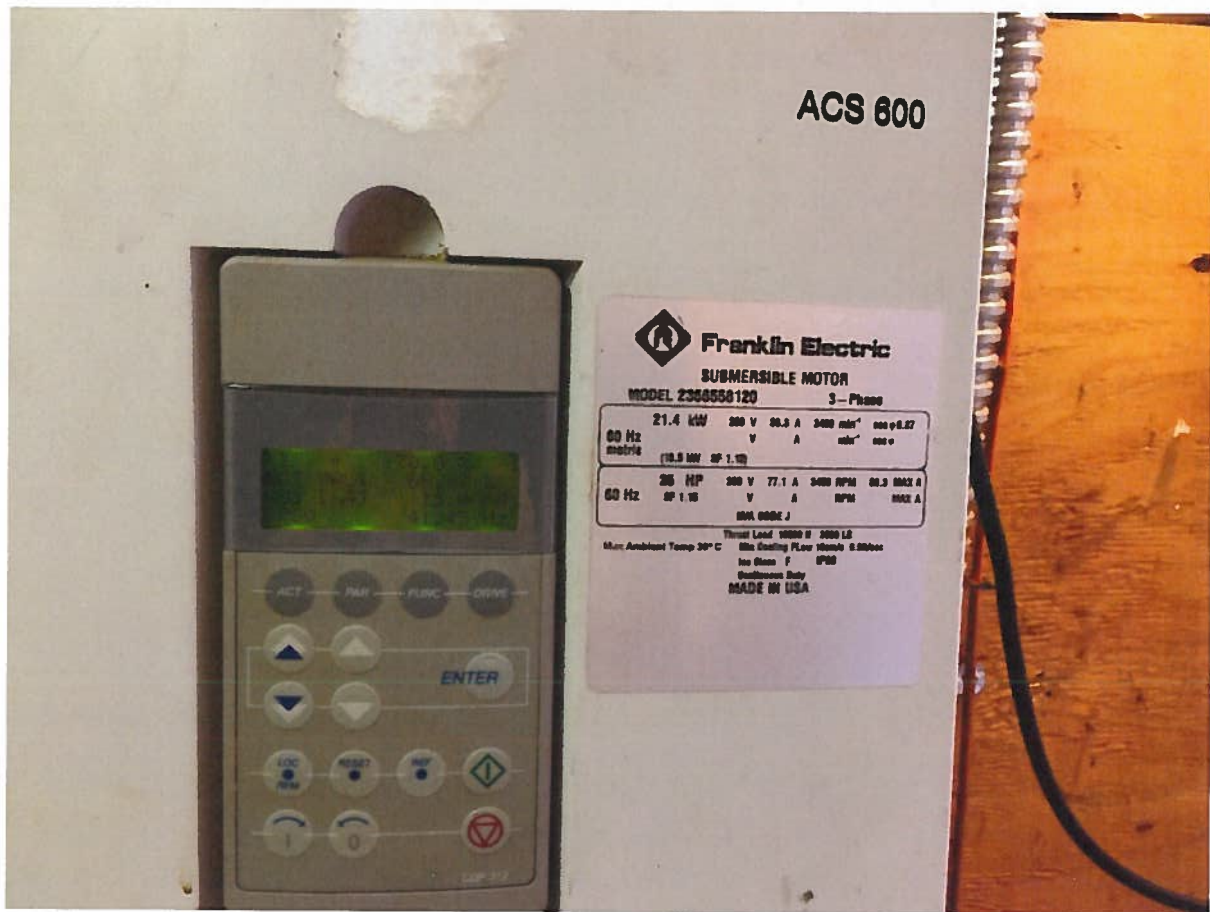
ATTACHMENT D
EXAM PHOTOS



1. Well house building exterior



2. Flush to waste during flow test at back of well house.



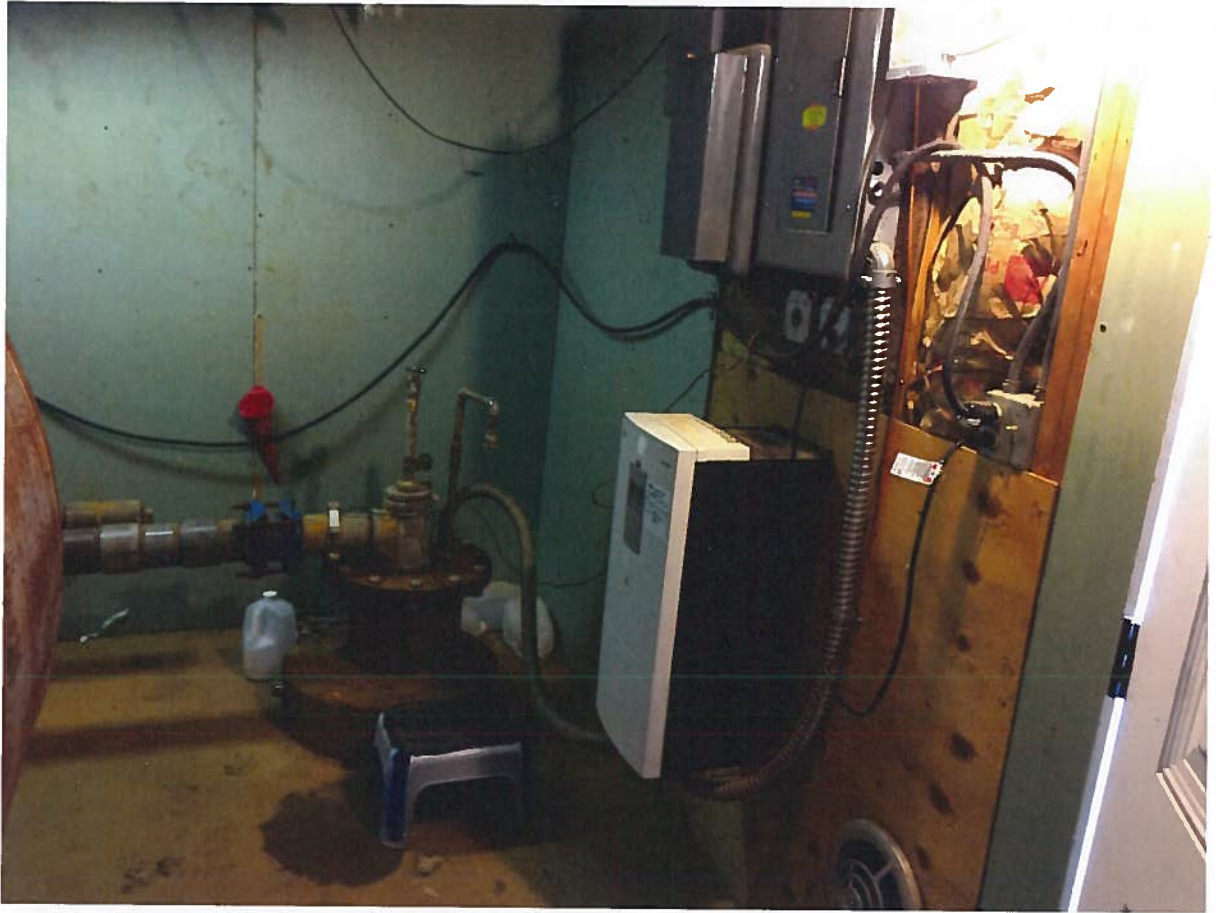
3. 25-hp variable speed drive.



4. Nominal 1500-gallon hydropneumatics tank (left) and well head (right).



5. Discharge piping from hydropneumatics tank to water system.



6. Well and motor controls.



7. Discharge piping from well with magnetic flow meter (foreground). White PVC pipe is flush to waste pipe. Capped 2-inch galvanized pipe with McCrometer propeller flow meter in background was connected to previous 7.5-hp well pump that was removed. Piping to left connects to hydropneumatics tank.



8. Same piping as photo No. 7, but different angle. Pipe in lower left is pressure relief. Tank on left.



9. Magnetic flow meter.



10. Pressure gage. Normal discharge pressure is 70 psi.



11. Flow meter reading (240 gpm) during 10-minute flow test.



12. Location for portable ultrasonic flow meter on flush-to-waste pipe during flow test. Turbulence downstream of ball valve was too great to allow for reading.



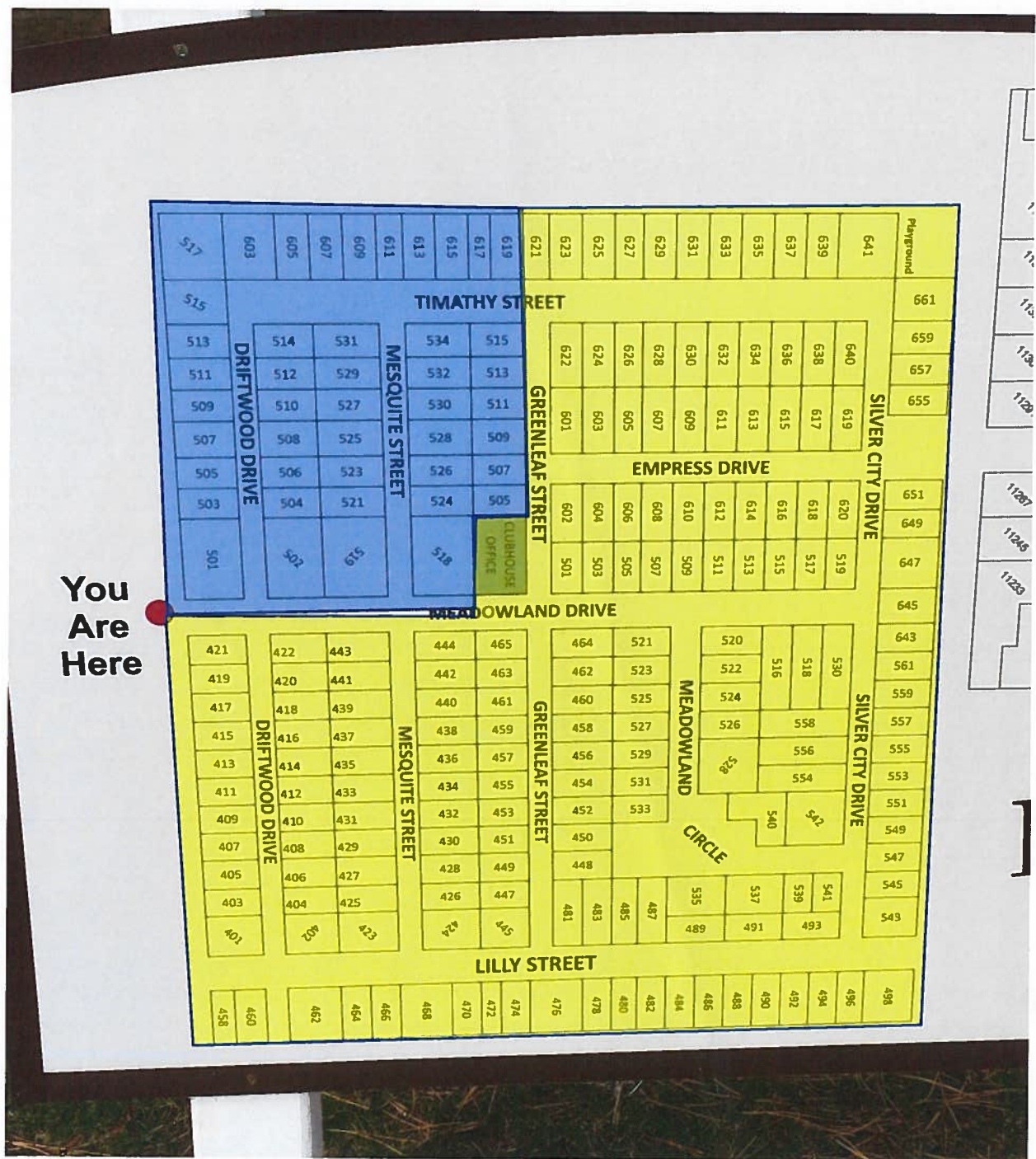
13. Place of use. Corner of Timothy and Mesquite Streets



14. Place of use. Looking west down Greenleaf Street.



15.Place of use looking south down Timothy Street.



16. Map of Rustic Acres at corner of Emerald Street and Meadowland Drive. Portion served by water right 63-7476B shaded yellow and portion served by permit 63-32389 shaded blue.