

A. GENERAL INFORMATION

Exam Date: 9/20/2007

- ## TRIBUTARY

B. OVERLAP REVIEW

- ### C. DIVERSION AND DELIVERY SYSTEM

Method of Determination: GPS

PLACE OF USE: DOMESTIC

[illegible]

Method of Determination: ArcView and Freemont County Tax Lot Data

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
A0018213		1.5			
A0018212		1.5			
A0018219		1.5			

*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

2. Measurements:

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Theoretical Pump Flow Calculations show:

Well #1 produces 0.09 CFS

Well #2 produces 0.10 CFS

Well #3 produces 0.09 CFS

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

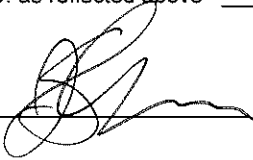
$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses:

$$0.06 \text{ AF/Home/Year} \times 70 \text{ Homes} = 4.2 \text{ AFA}$$

G. NARRATIVE/REMARKS/COMMENTSHave conditions of permit approval been met? ☒ Yes ☐ No**H. RECOMMENDATIONS****1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.280 CFS	4.2 AFA
<u>Totals:</u>		0.280 CFS	4.2 AFA

2. Recommended Amendments☐ Change P.D. as reflected above ☒ Add P.D. as reflected above ☐ None☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other**I. AUTHENTICATION**Field Examiner's Name Joseph Larsen  Date September 24, 2007

Reviewer _____ Date _____

Comment Report

21-7442

1. MEYER 2/18/1992 BUFFALO RIVER ESTATES

Comment: THIS WATER RIGHT IS FOR DOMESTIC USE AT THE BUFFALO RIVER ESTATES SUBDIVISION.

2. jlarsen 9/24/2007 Field Report Narrative

Comment: This system contains three wells. Currently wells #1 and #2 are tied together and deliver water to Subdivisions #1 and #2. The water mains in Subdivisions #1 and #2 are 2 inch and are buried along the edges of the roads. All lots are stubbed in. Conditions of Permit state that this Permit be limited to use by 70 homes. Subdivision 3 is not connected to the other two subdivisions. It receives its water from Well #3. The mainlines are 4 inch and the trunklines are 3 inch. They also run along the edges of the roads.

3. jlarsen 9/24/2007 POD

Comment: Updated shape

4. jlarsen 9/24/2007 POD

Comment: Updated shape

5. jlarsen 9/24/2007 POD

Comment: Updated shape

6. jlarsen 9/24/2007 POU

Comment: Updated Shape

7. jlarsen 9/24/2007 POU

Comment: Updated PLS

8. jlarsen 9/24/2007 POU Overlap Analysis

Comment: POUs that overlap QQs are:

21-128

21-129

21-4001

21-11289

21-11889

21-7583

21-10300

Theoretical Pump Flow Calculation	
$Q = [(Hp) \cdot (8.814) \cdot (eff)] / [Lift + (psi \cdot 2.308)]$	
Permit No. 21-7442 Well #1	
Hp = horsepower =	1.5
Eff = efficiency =	0.7
Lift =	11
PSI = Pressure =	40
Q =	0.09

Theoretical Pump Flow Calculation	
$Q = [(Hp) \cdot (8.814) \cdot (eff)] / [Lift + (psi \cdot 2.308)]$	
Permit No. 21-7442 Well #2	
Hp = horsepower =	1.5
Eff = efficiency =	0.7
Lift =	4
PSI = Pressure =	40
Q =	0.10

Theoretical Pump Flow Calculation	
$Q = [(Hp) \cdot (8.814) \cdot (eff)] / [Lift + (psi \cdot 2.308)]$	
Permit No. 21-7442 Well #3	
Hp = horsepower =	1.5
Eff = efficiency =	0.7
Lift =	7
PSI = Pressure =	40
Q =	0.09

Lift = Static water level + assumed draw down
or
Measured dynamic water level

Type	WR #	Owner	Source	TRS	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total
Permit	21 7442	BUFFALO RIVER WATER ASSN INC.	GROUND WATER	13N43E23 X	X	X	X	X				X	X					X			0
Permit	21 7583	BUFFALO RIVER WATER ASSN INC.	GROUND WATER	13N43E23 X	X	X	X	X				X	X					X			0
Right	21 10300	RALPH ELDON CULLUM	GROUND WATER	13N43E23 X	X																0
Right	21 11542	UNITED STATES OF AMERICA ACTING THROUGH	ELK CREEK	13N43E23					X	X	X			X	X						0

[illegible]

MEMORANDUM

To: Whom it May Concern
From: Joseph Larsen
Date: September 25, 2007
RE: Processing Field Reports for Permit Numbers 21-7442 and 21-7583

Permit Numbers 21-7442 and 21-7583 are for the same wells and same places of use. On the original Application for Permit for 21-7442 it was listed as only having one place of use however it stated that there were four existing wells. Permit 21-7583 requested four PODs. It was discovered during the Field Exam that there are only three wells currently in the system. Wells #1 and #2 are tied into the same system that delivers water to Subdivisions 1 and 2. Well #3 is the only supply for Subdivision 3.

Based on Theoretical Pump Calculations the total flow rate of all three pumps is ~0.28 CFS. Thus I recommend that that both Permits be limited to 0.28 CFS. And because the total system cannot produce over 0.28 CFS a condition should be added that the combined usage between the two permits shall not exceed .28 CFS. Andrew Well Drilling of Idaho Falls, Idaho supplied parameters of wells.

The significant difference between the two permits is actual homes in the POU. Permit 21-7442 has a condition for 70 homes. And though not conditioned, Permit 21-7583 applied for 50 additional homes. This is concluded that these permits cover 120 homes of ~180 lots in Buffalo River Estates.



Joseph Larsen

Sept 1977

Andrew

WELL DRILLING SERVICES

"The Water Professionals"

Buffalo #1 - Drilled July 1971

Well Information

Well Depth 90 feet
Casing Size 6 inch
Casing Depth 51 feet
Static Water Level 11 feet

Pump Information

Pump 1-1/2HP 25GPM
Pressure Tank 302 Well-X-Trol
(2 each)
with Chlorinator
Drop Pipe
Size: 1-1/4 inch
To: 84 feet

0.09 cfs
40.3 gpm

Buffalo #2 - Drilled Sept 1973

Well Information

Well Depth 75 feet
Casing Size 6 inch
Casing Depth 44 feet
Overbore Size 8 inch
Overbore Depth 44 feet
Static Water Level 4 feet

Pump Information

Pump 1-1/2HP 25GPM
Pressure Tank 220 Gallon
(Galvanized)
Drop Pipe
Size: 1-1/4 inch
To: 21 feet

0.10 cfs
44.8 gpm

Buffalo #3 - Drilled Sept 1975

Well Information

Well Depth 67 feet
Casing Size 8 inch
Casing Depth 37 feet
Overbore Size 10 inch
Overbore Depth 37 feet
Static Water Level 7 feet

Pump Information

Pump 1-1/2HP 25GPM
Pressure Tank 440 Gallon
Style Buried
Drop Pipe
Size: 1-1/4 inch
To: 63 feet

0.09 cfs
40.3 gpm

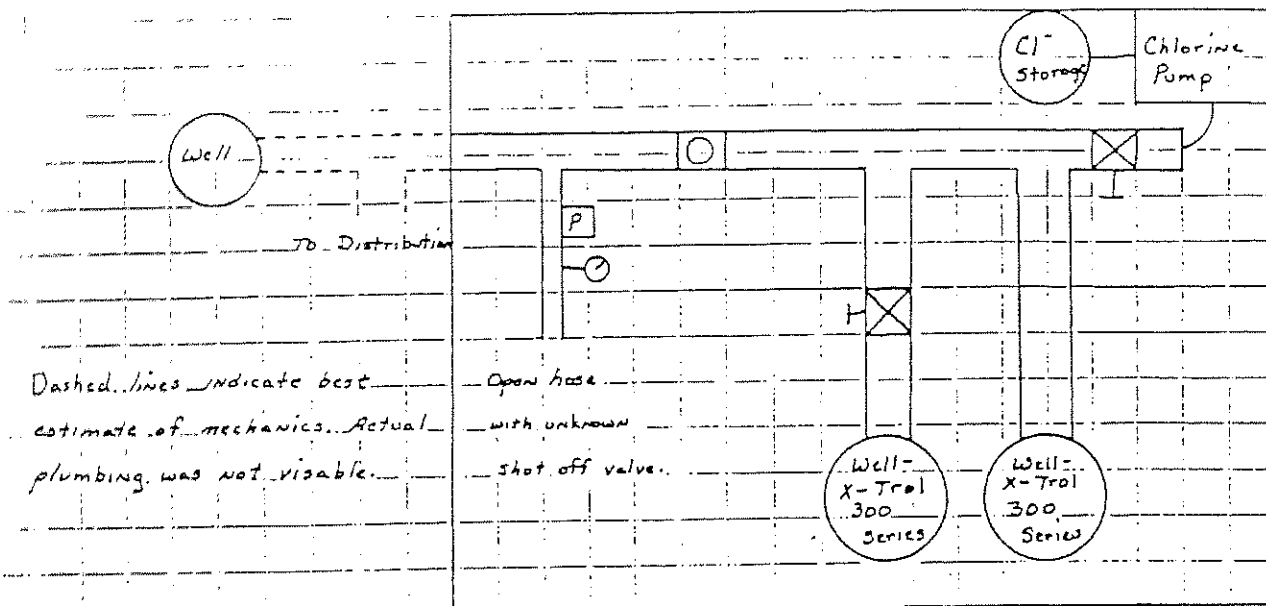
Total .28 cfs

MICROFILMED

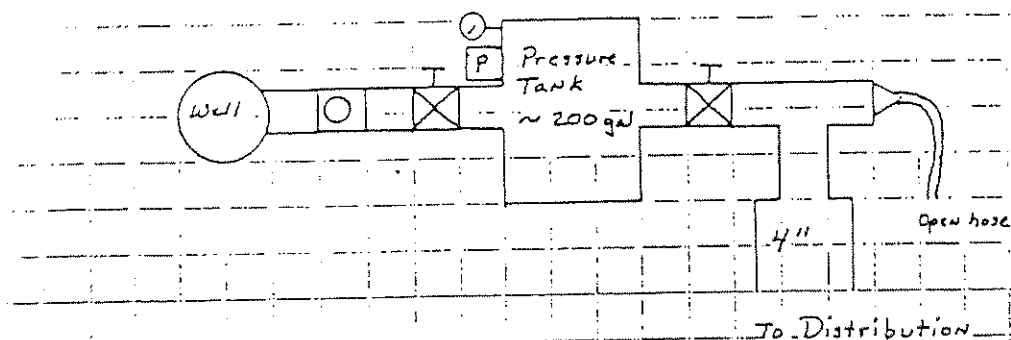
SEP 10 2004

Buffalo River Estates

Well # 1



Well # 2



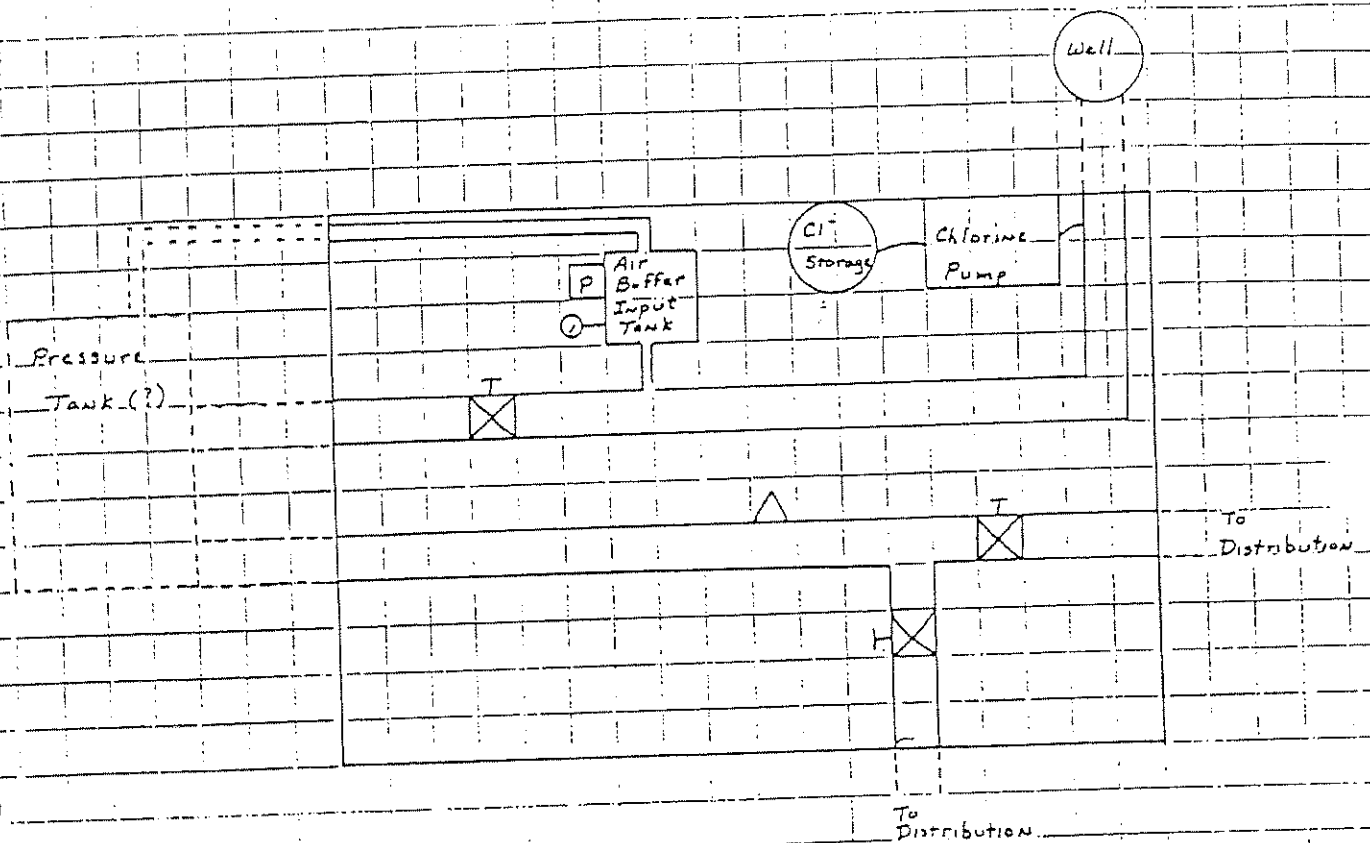
LEGEND

-  Ball valve
-  Gate valve
-  Pressure Switch
-  Sample Tap
-  Pressure Gauge

MICROFILMED

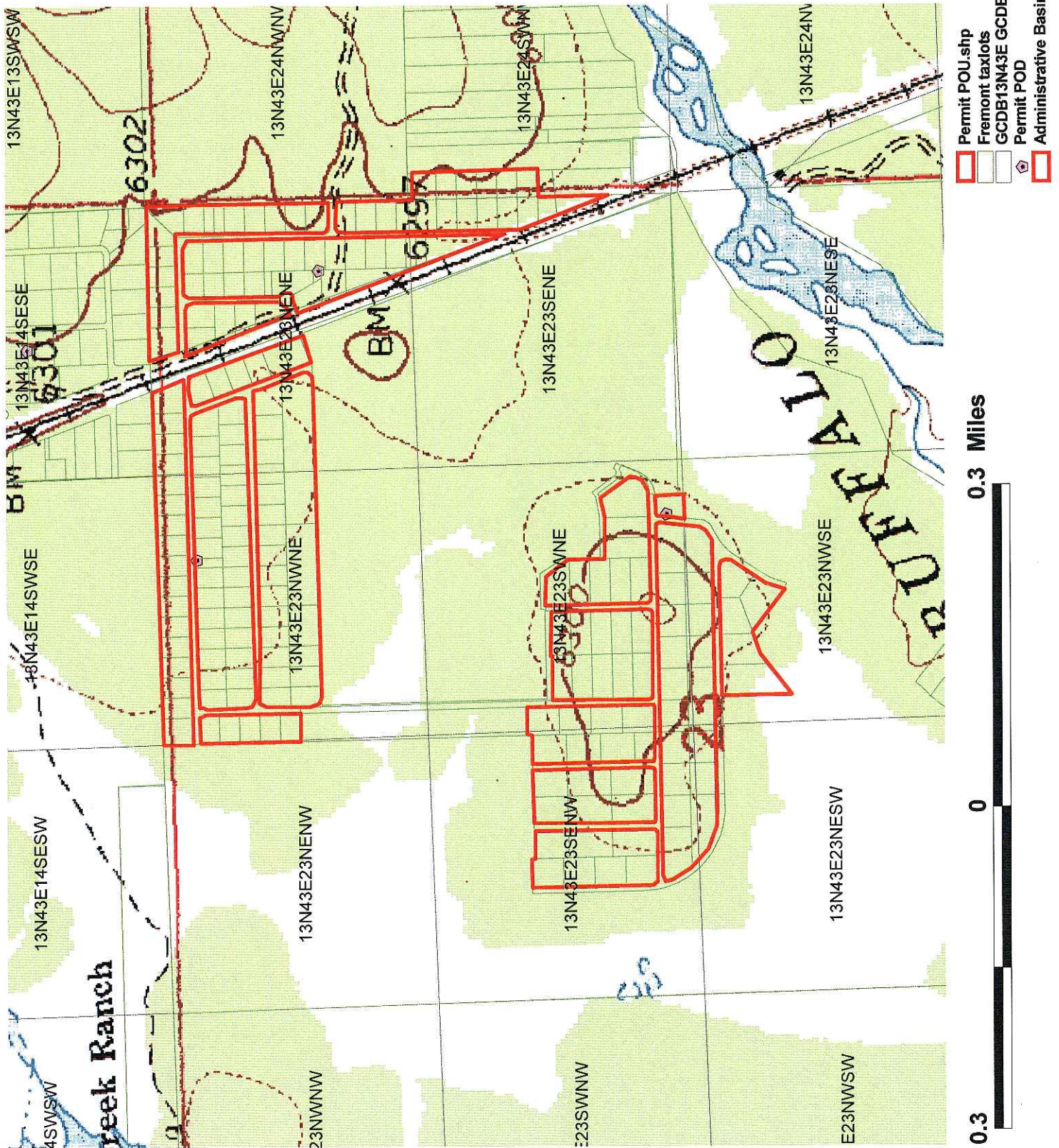
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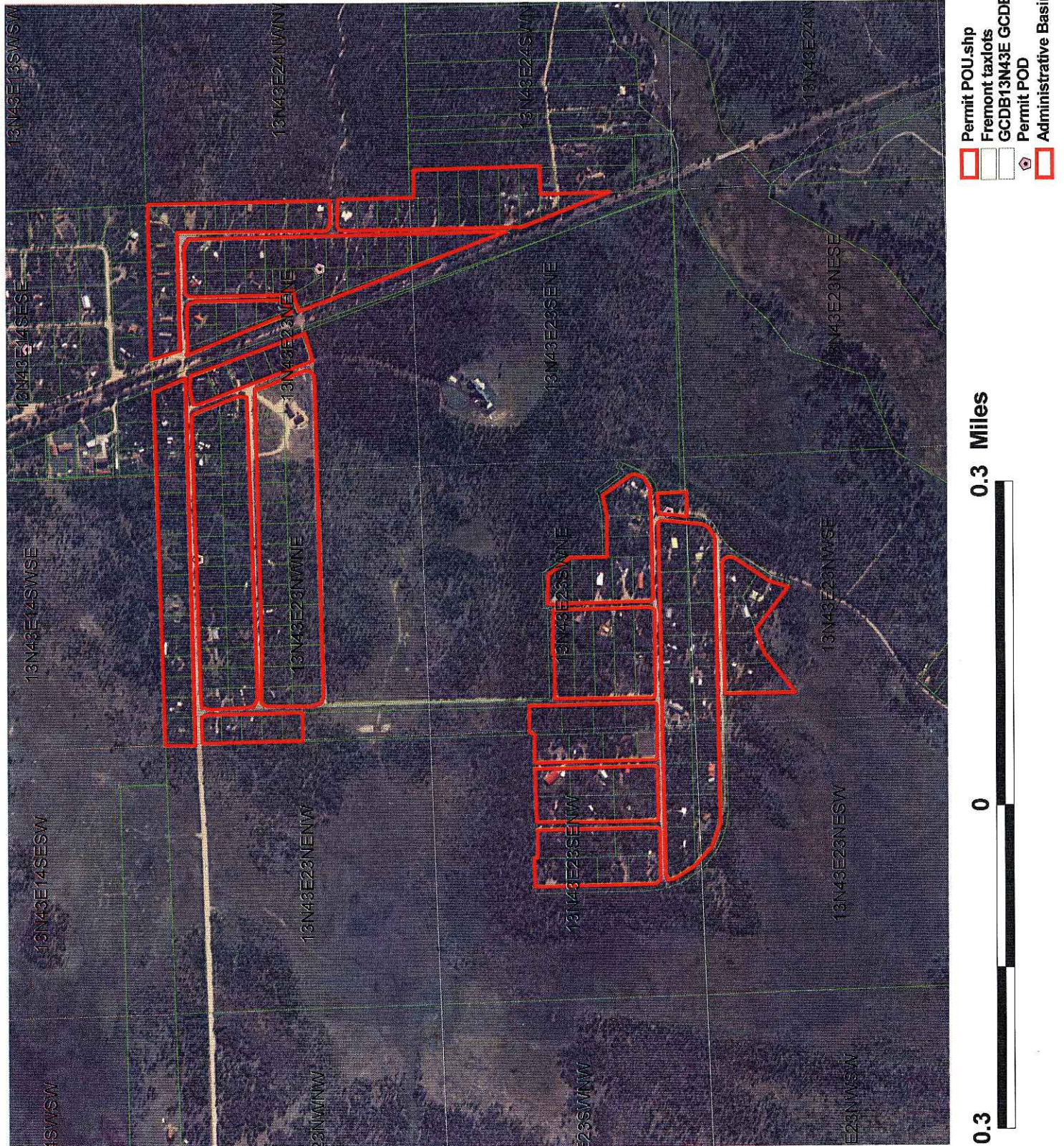
Well # 3



MICRO

FEB 2 2000







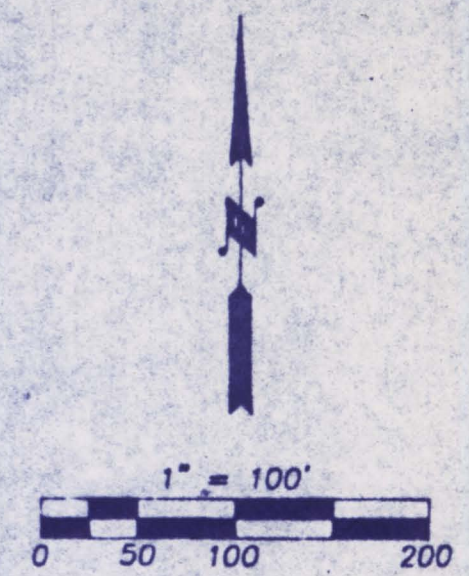
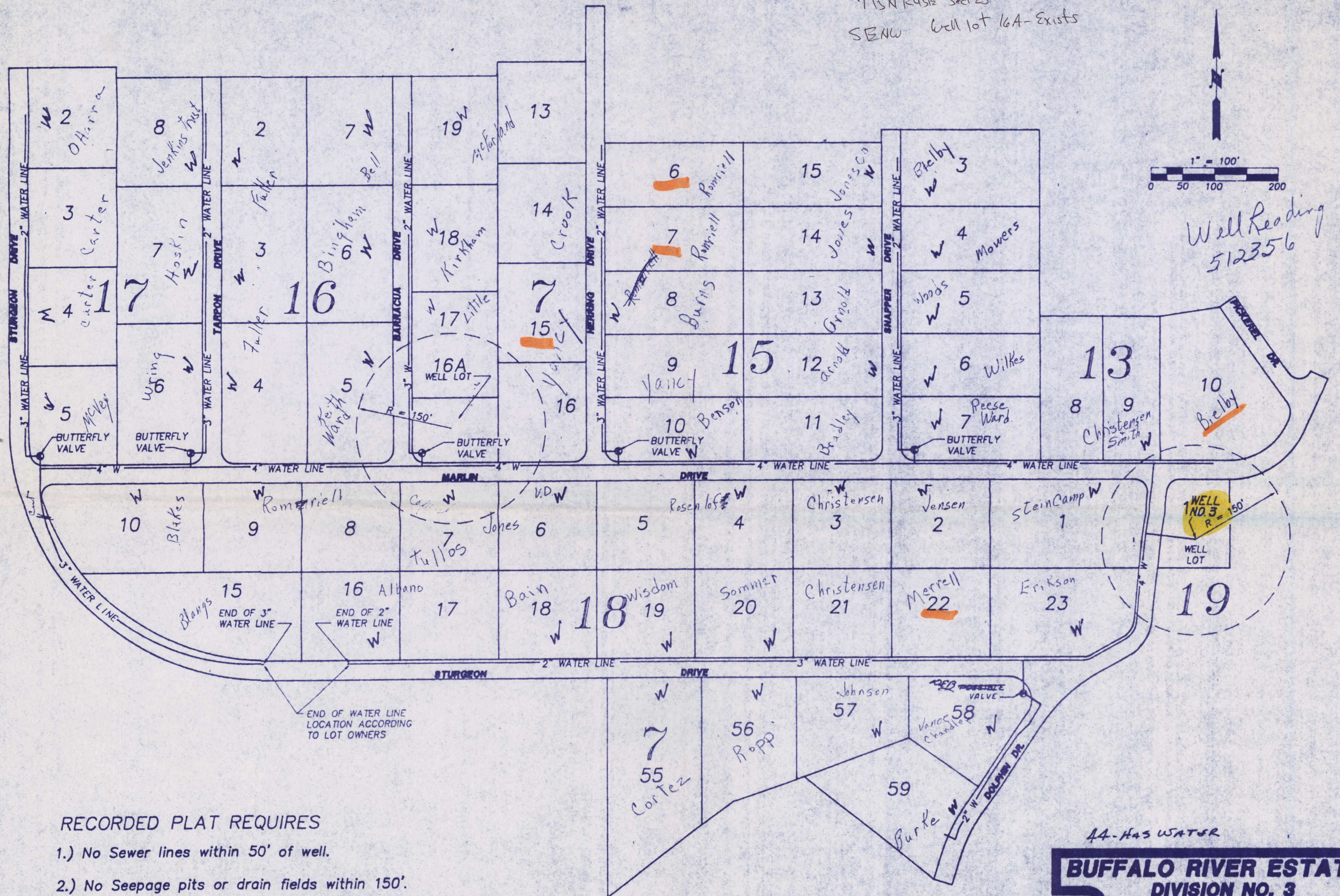








T13N R45E Sect 23
SE 1/4 Well lot 16A-Exists



Well Reading
512356

WELL NO. 5
R = 150'
WELL LOT

RECORDED PLAT REQUIRES

- 1.) No Sewer lines within 50' of well.
- 2.) No Seepage pits or drain fields within 150'.
- 3.) No Dwellings, Buildings or other possible contamination within an area 100 feet square surrounding the well.

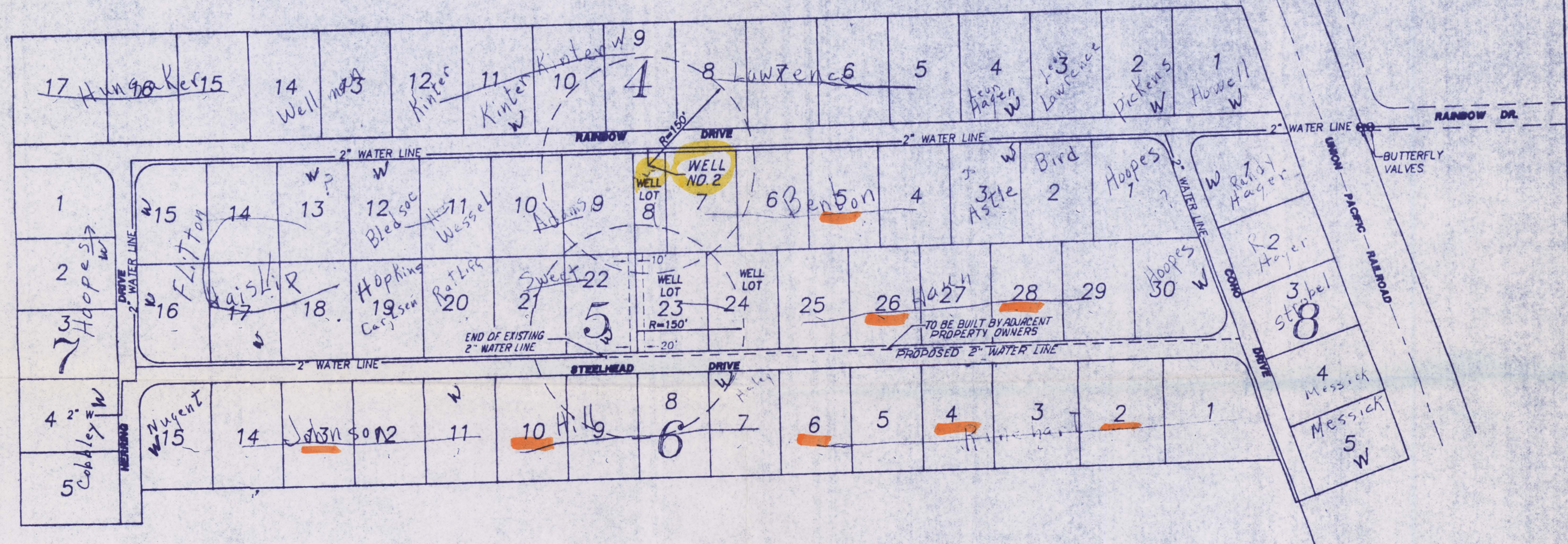
SEE RECORDED PLAT FOR ALL DIMENSIONS AND DETAILED REQUIREMENTS.

NOTE:

This Drawing shows location of existing Water System Improvements from the best information available as of this date.

44-HAS WATER

BUFFALO RIVER ESTATES	
DIVISION NO. 3	
RECORD DRAWING OF WATER SYSTEM	
FREMONT COUNTY, IDAHO	
BENTON	IDAHO FALLS IDAHO
DRAWN T.R.M. DATE 9-91 SCALE 1" = 100' JOB NO. 3054-B3	



RECORDED PLAT REQUIRES

- 1.) No Sewer lines within 50' of well.
- 2.) No Seepage pits or drain fields within 150'.
- 3.) No Dwellings, Buildings or other possible contamination within an area 100 feet square surrounding the well.

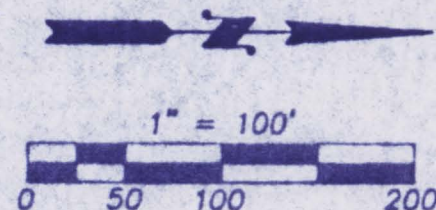
SEE RECORDED PLAT FOR ALL DIMENSIONS AND DETAILED REQUIREMENTS.

NOTE:

This Drawing shows location of existing Water System Improvements from the best information available as of this date.

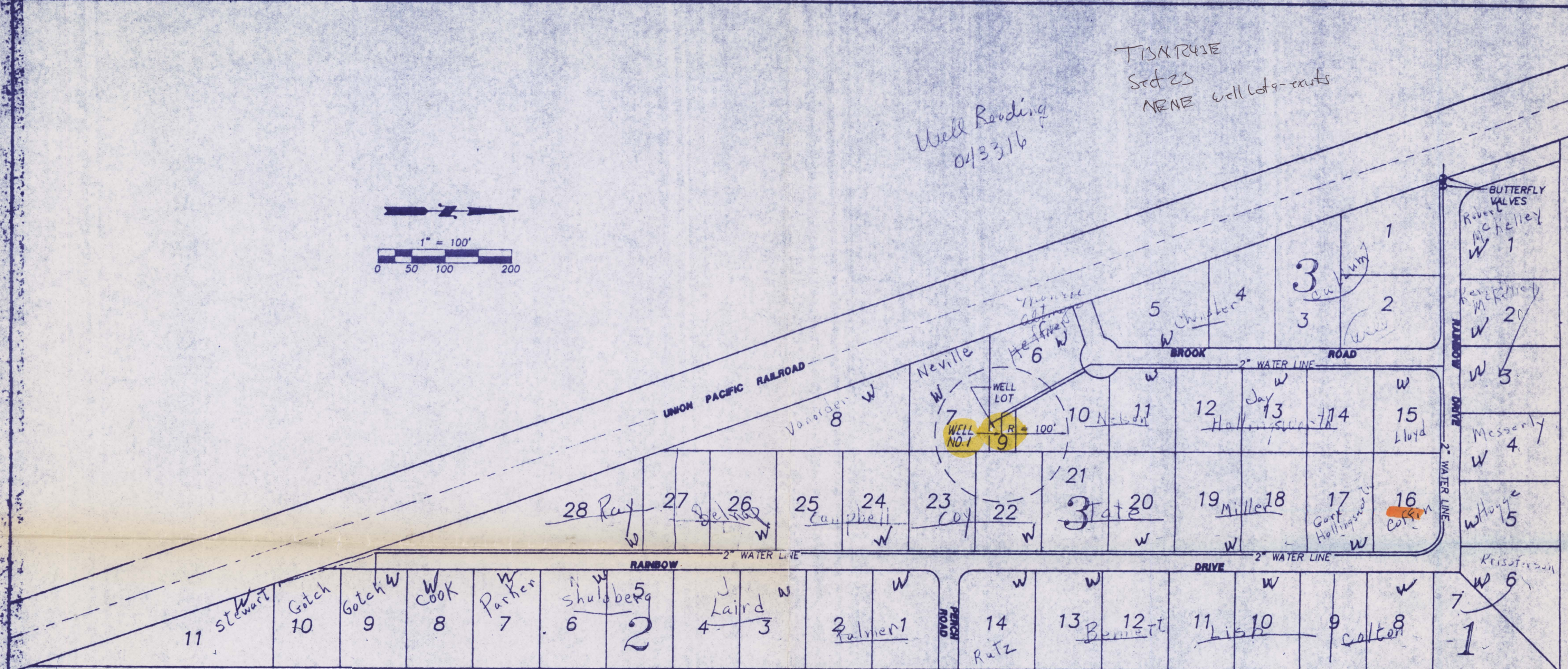
26-HA WATER

BUFFALO RIVER ESTATES	
DIVISION NO. 2	
RECORD DRAWING	DATE 9-91
OF	SCALE 1" = 100'
WATER SYSTEM	JOB NO. 3034-B2
FREMONT COUNTY, IDAHO	
BENTON	IDAHO FALLS IDAHO
engineering	



Well Reading
043316

T13N R41E
Sect 25
NENE well lot 9 - exists



RECORDED PLAT REQUIRES

- 1.) No Sewer lines within 50' of well.
- 2.) No Seepage pits or drain fields within 150'.
- 3.) No Dwellings, Buildings or other possible contamination within an area 100 feet square surrounding the well.

SEE RECORDED PLAT FOR ALL DIMENSIONS
AND DETAILED REQUIREMENTS.

NOTE:

This Drawing shows location of
existing Water System Improvements
from the best information available
as of this date.

32- HAS WATER

BUFFALO RIVER ESTATES	
DIVISION NO. 1	
RECORD DRAWING	
OF	
WATER SYSTEM	
FREMONT COUNTY, IDAHO	
BENTON	IDAHO FALLS
engineering	IDAHO

DATE	9-91
T.R.M.	
SCALE	1" = 100'
JOB NO.	3034-B1