

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13986

Exam Date: 10/3/2011

1. Current Owner: CAROL LYNN MAC GREGOR
1109 WARM SPRINGS AVE
BOISE ID 83712
(208) 386-9494

2. Accompanied by: Carol Lynn Mac Gregor

Phone No: same as above

email: cmacgregorpd@gmail.com

Address: same as above

Relationship to Permit Holder: current owner

3. SOURCETRIBUTARY

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 65-1988, 65-1973 and 65-1972 are all domestic use and different sources; 65-13485 City of Cascade (no water from this water right is used on this property); 65-1979 MacGregor (from Brush Creek for irrigation of the same property; this creek is decreasing in production, and that is why the well was drilled to insure adequate water for irrigation).

2. Other water rights with the same point of diversion: None

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

GROUND WATER NE1/4SE1/4 Sec. 13, Twp 13N, Rge 03E, B.M. VALLEY County

Method of Determination: Garmin GPS map 76S, and 2009 and 2011 ArcMap

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13N	03E	13				7.2									18.0	11.0			36.2
13N	04E	18							10.0	6.3	13.0	18.0							47.3
									L 2			L 3							

Total Acres: 83.5

Method of Determination: Garmin GPS map 76S, 2009 and 2011 ArcMap

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>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge</u>
<u>ID No.*</u>					<u>Size</u>
D0052151	Grundfos	30	475S-30-4AB		8 inch discharge (system runs at 50 psi with just the wheel-line, and when the irripods are included the system runs at 40 psi)

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

D. FLOW MEASUREMENTS

1. Measurements:

Theoretical: $(8.8 \times 30 \text{ Hp} \times 0.70 \text{ eff}) / [46.5 + (40 \text{ psi} \times 2.31)] = 1.33 \text{ cfs}$

Driller's Report: $450 \text{ gpm} \times 0.00223 = 1.0 \text{ cfs}$

Performance Pump Curve (reviewed and approved by IDWR engineer Michele Edl): $475 \text{ gpm} \times 0.00223 = 1.06 \text{ cfs}$

RECOMMEND: 1.06 cfs

E. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 83.5 \times 3 = 250.5 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.06 \times 199 \times 1.9835 = 418.4 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 250.5 \text{ af}$$

F. NARRATIVE/REMARKS/COMMENTS

An 8 inch casing, 30 Hp Grundfos serial 475S-300-4AB, 8 inch discharge, 50psi, 170 ft deep, 10 ft static, 46 ft 7 inch drawn-down with a 2 1/2 hr pump test yielding 450 gpm; well is located west of Cascade, 1/2 mile south of West Mountain Rd and Cabarton Rd intersection, on the northeast corner of Cabarton Rd and Belidere Rd.. Running south to north along the fence line from the well is a buried main with hook-up for 4 inch wheel line; 30 ft sections, with 1/8 inch nozzles per section. On the field to the west, the buried main runs east to west along the north fence line with hookups for 2 inch poly pipe and 8 Irripods. Each Irripod has a Nelson No. 4 rotator 1/8 inch nozzle. When the wheel line and pods are running, at the same time, they run at 40psi. At the time of the field inspection the lines had all been blown out to prevent the lines from freezing, and all the wheel line had been grouped for winter storage. For this reason, no physical measurement was taken. A Theoretical on the well, the pumpers report, and pump curve were evaluated by IDWR engineer Michele Edl were reviewed and approved for determining the CFS.

Have conditions of permit approval been met? ☒ Yes ☐ No

G. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/15 to 10/31	1.060 CFS	250.50 AF
	<u>Totals:</u>	1.060 CFS	250.50 AF

2. Recommended Amendments

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

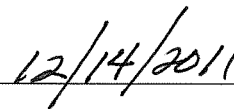
☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

H. AUTHENTICATION

Field Examiner's Name



Date



IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0052151
DRILLING PERMIT NO. 901158-84140
Water Right or Injection Well No. 65-13986

2. OWNER:

Name Carol Lynn McGregor
Address 1109 Warm Springs Av
City Boise State ID Zip 83712

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 13 North ☒ or South ☐
Rge. 3 East ☒ or West ☐
Sec. 13 1/4 N/E 1/4 S/E 1/4
Gov't Lot 13 To acres 1/4 No. 13 S. 1/4 S. 1/4

Lat: 43° 45' 00" N Long: 116° 15' 00" W
Address of Well Site 1/2 mile south of West Mountain Rd
& Cabarton Rd intersection City Cascade

Lt. 13 Blk. 13 Sub. Name Valley

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☒ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
bentonite chips	0	23	9 sks	poured

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 128

Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	+2	128	322	steel	☒	☐	☐	☐
6"	117'6"	128	250	steel	☐	☒	☐	☐

Length of Headpipe 10'6" Length of Tailpipe 0

Packer ☒ Y ☐ N Type figure K

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method

Screen Type & Method of Installation 304 vee wire Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
128	170	35		6"	stnls	☐	☒

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

10 ft. below ground Artesian pressure lb.
Depth flow encountered ft. Describe access port or control devices:

848140
Office Use Only
Well ID No. 418085
Inspected by
Twp. Rge. Sec.
1/4 1/4 1/4
Lat: : : Long: : :

12. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
162	15'7"	25'9"	45 min
230	25'	35'	45 min
450	46'7"	58'7"	2 1/2 hr

Water Temp. Bottom hole temp.

Water Quality test or comments:

Depth first Water Encounter

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
12	0	2	topsoil			X
	2	20	dark brown clay			X
	20	24	sand		X	
	24	40	tan clay			X
	40	48	tan sand		X	
	48	50	blue & brown clay			X
	50	52	grey sand		X	
	52	65	blue clay			X
	65	73	coarse to fine sand		X	
	73	75	silty clay			X
	75	82	coarse to fine sand		X	
	82	85	brown clay			X
	85	102	coarse to fine sand		X	
	102	108	clay			X
	108	111	coarse to fine sand		X	
	111	120	grey clay			X
	120	170	coarse sand w/ clay streaks		X	

RECEIVED

AUG 20 2007

WATER RESOURCES
WESTERN REGION

Completed Depth 170' (Measurable)

Date: Started 7/27/07 Completed 8/10/07

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Firm No. 153

Principal Driller [Signature] Date 8/14/07

Driller or Operator II [Signature] Date 8/14/07

Operator I Date

Principal Driller and Rig Operator Required.
Operator I must have signature of Driller/Operator II.

Valley Pump and Equipment Co. Inc.

Box 548
Emmett, ID 83617
208-365-2972

NAME / ADDRESS
Carol MacGregor

ITEM	QTY	DESCRIPTION
70-57	2	2ea. Wade Rain Wheel Lines with 64" Wheels
70-404	2	6hp for 64 wheel size powerroll
58-4fwtd	43	plastic engine cover for 70 series motor
58-5FWTD	30	58-4FWTD 4" 58 Series tooth/flange Band-Lock Powerroll Coupler
58-4-2s	2	58-5FWTD 5" 58 Series Tooth/Flange Band-Lock Powerroll Coupler
59-5prm	2	4" & 5" power roll band lock
58-5-4prf	2	wade powerroll end plug
70-11-5	2	4" x 5" female end adapter
49-20-4CX	2	5" powerroll double hub adapter for mover unit
27-5-64	28	49-20-4CX 20' Knob Style Powerroll Hose
27-4-64	55	27-5-64 64" Power Roll Wheel W/5" Hub
wr33f	74	64" powerroll wheels W/4" Hub
n3/4-5/32	74	Wade Rain 3/4" Brass Full Circle
L-75	74	5/32 nozzle for 3/4 bird
100wr75	74	wade self leveler
4tt	1,720	1" x 3/4" 90 riser elbow
5tt	1,200	feet of 4" torque tube
3-6-4eh	2	feet of 5" torque tubing
Labor/ Wheel	83	4" wade knob style valve opener
14a	79	Labor to build wheel line wheel
		Press Fee - New Pipe
P45-100-8H	1	Pipe Line
P22-100-8H	1	2914-0801 8" 100# pip hub x hub 45 elbow
P90-100-6H	2	2912-0801 8" 100# pip 22 1/2 degree elbow
7-4PT	42	6" 100# pip hub x hub 90 degree elbow
pr3x30	45	4" x 3" female thread hydrant (for Lever-Lock Valve Openers)
ts8100pip	1,140	3" x 30" poly risers
ts6100pip	2,710	feet of 8" 100 # pip pipe
PT-100-62H	1	feet of 6" 100# pip pipe
sw2s40	6	26-268 6" x 2" HxHxH Pip 100# Tee
436-020	2	feet of 2" sch 40 PVC solvent weld pipe
		2" male adapter
20% down, balance due upon completion of job.		TOTAL

SIGNATURE _____

Valley Pipe and Equipment Co. Inc.

Box 548

Emmett, ID 83617

208-365-2972

NAME / ADDRESS
Carol MacGregor

ITEM	QTY	DESCRIPTION
417-020	1	2" pvc 45 elbow
br2bu	1	2" buckner right angle star valve
PT-100-86H	1	8"x8"x6" 100# PIP Tee
PBR-100-86H	1	6" x 8" 100# pip hub x hub increaser coupling
854-060	2	854-060 6" flange Van Stone Style w/ring soc
b3/4x51/2	16	3/4" x 5 1/2" Bolts
n3/4	16	3/4" nut
BFV-6GO	1	B5-RWG6S 6" Matco Gear Operated 200 WOG Butterfly Valve W/Stainless disk
1	1	36" Extension for 6" B5 Butterfly Valve
PT-100-83HT	23	2901-580115 8"H x 8"H x 3" Fipt 100# PVC Tee
PT-100-63HT	20	2901-530115 6x3 Tee PIP 100 h x h x thread
AV-150-3	3	AV-150 3" Air Vent / Vacuum Relief
AA-60D	3	AA-60D 3" 41-120 PSI PRV
bi3t	3	3" black iron tee
bi3x4n	6	3" x 4" black iron nipple
bi3s90	6	3" Black Iron street 90
PBR-100-64H	1	2932-5321 4" x 6" 100# pip hub x hub increaser coupling
438-420	1	4" x 2" bushing s x th
887-040	1	2" x 4" sch 80 nipple
br2bu	1	2" buckner right angle star valve
labor 3	1	Labor - to dig trench, Lay Pipe, backfill, and install wheel lines
6	1	Travel & Delivery
3-6-3ehph		Pod Line 360' W/8 Pods & 20' Swing line
IP 2.0F 3LH	1	3-6-3 EHPH 4"x3" Wade Hook Style - Lever Lock - Outward Openin Valve Opening Elbow
IP 1.75 MA	1	2.0" FIPT x 3" OD With Long Hook Swivel
IP1.75300	1	IP 1.75 MA 1.75" Hansen Barb x 2" MPT
IP 1.75 Pod	360	Feet of 1.75" Poly Pipe for Irripods
IP TSTt 1.75-3/4	8	IP1.75POD Irripod for 1 1/2" & 1.75" Tube
IP Ram 0.75	8	IP TST 1.75-3/4 1.75" Saddle x 3/4" MPT
	8	IP RAM 0.75 3/4"MPT x 1/2" Male ACME Thread Riser Adapter
20% down, balance due upon completion of job.		TOTAL

SIGNATURE _____

Valley Pump and Equipment Co. Inc.
Box 548
Emmett, ID 83617
208-365-2972

NAME / ADDRESS
Carol MacGregor

ITEM	QTY	DESCRIPTION
IP MR40	8	IP MR40 40PSI Nelson Mini Pressure Regulator
IP R2000LP 2020	8	IP R2000LP 2020 Nelson Low Pressure Wind Fighter Rotater W/#20 Brown Plate & #20 Brown Nozzle
IP 1.75 C	1	IP 1.75 C 1.75" Hansen Barb x 1.75" Hansen Barb coupler
IP 1.75 THR	1	IP 1.75 THR 1.75" Hansen Barb x Tow Hook (includes 6' of Rope)
1	8	Labor to build Pods
20% down, balance due upon completion of job.		TOTAL
SIGNATURE _____		


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What Is Irripod Irrigation

Irripod Plus is a flexible, cost effective pipeline sprinkler irrigation system for pasture and forage crops.

Designed to operate at low pressure Irripod Plus distributes water on a slow absorption rate over a 12-24-hour period. This allows for effective absorption into the soil whilst eliminating pooling and run off. The system only requires movement once per 12-24 hour period.

Irripod Plus is a component system that is simple to install and manage. The system utilises protective Pod Skid covers over sprinklers that are attached to an irrigation pipeline. Irripod Plus can be configured to suit individual requirements dependant on application rates, the distance to be irrigated and the rotation intervals appropriate for the situation. Each Irripod irrigation line can be customised to suit varying paddock sizes and shapes while also accommodating existing obstructions.

Irripod irrigation lines are strong, lightweight and flexible, easily moved while the system is operating by attaching the lines to an ATV or farm vehicle.

The flexibility of Irripod Plus means the system can be configured for many different end uses in addition to traditional pasture and forage crop irrigation; these include orchards, golf courses, sports fields, race tracks, dust suppression in developing housing sub-divisions and bush fire protection.



A Flexible
Cost Effective
Pipeline Sprinkler
Irrigation System

Hemenway, Sandy

From: Terry Scanlan [TScanlan@spfwater.com]
Sent: Tuesday, December 13, 2011 11:08 AM
To: Hemenway, Sandy
Subject: Pump Curve
Attachments: 475S300.pdf

Sandy –

The installed pump is a 30 hp 475S300-4AB, rated to produce 550-600 gpm for flood irrigation and 400-450 gpm for sprinkler irrigation.

Terry M. Scanlan, P.E., P.G.
SPF Water Engineering, LLC
300 East Mallard Drive, Suite 350
Boise, ID 83706
208-383-4140 office
208-383-4156 fax

PERFORMANCE CURVES

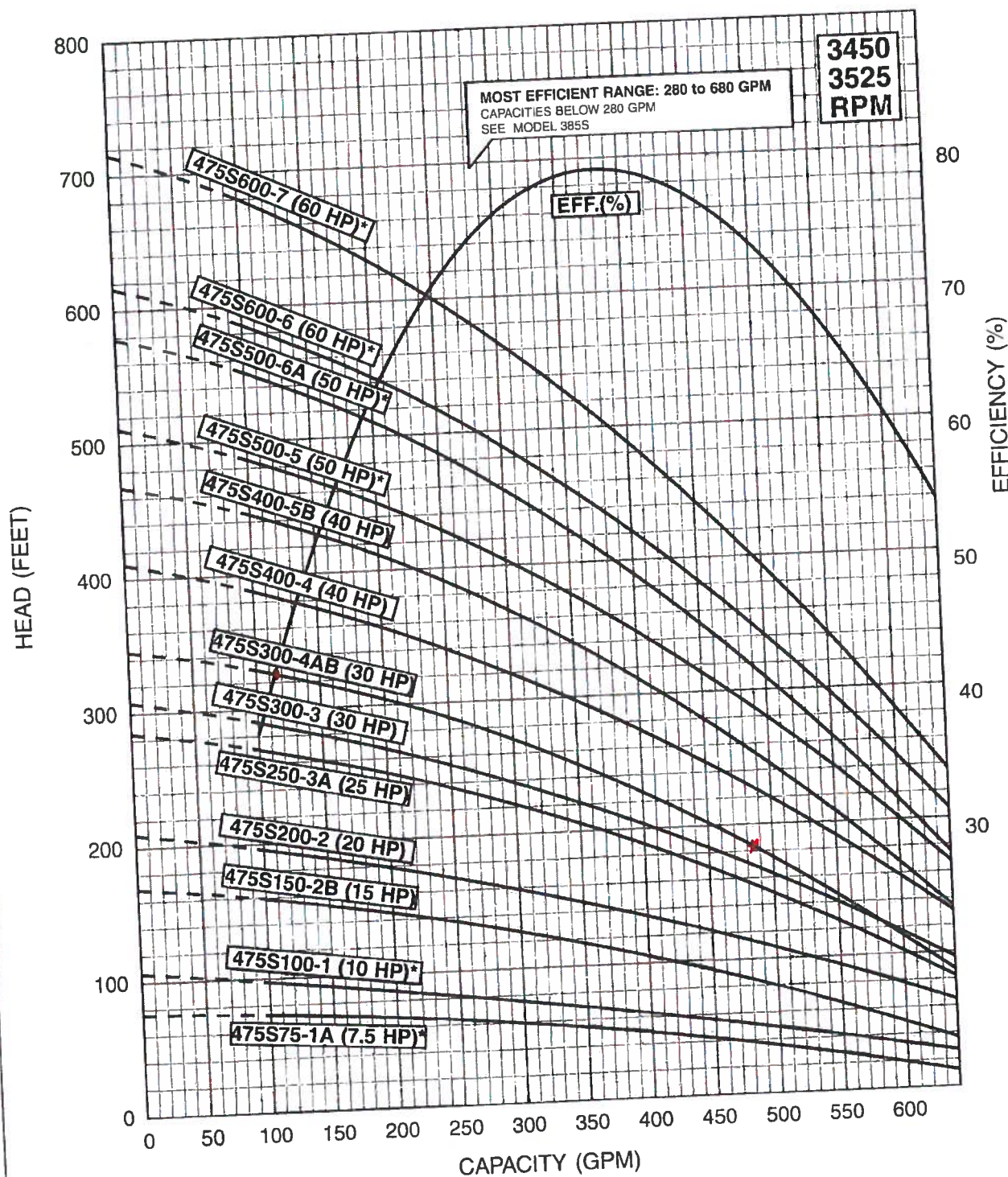
475 GPM

MODEL 475S

FLOW RANGE: 95 - 680 GPM

OUTLET SIZE: 6" NPT

NOMINAL DIA. 8"

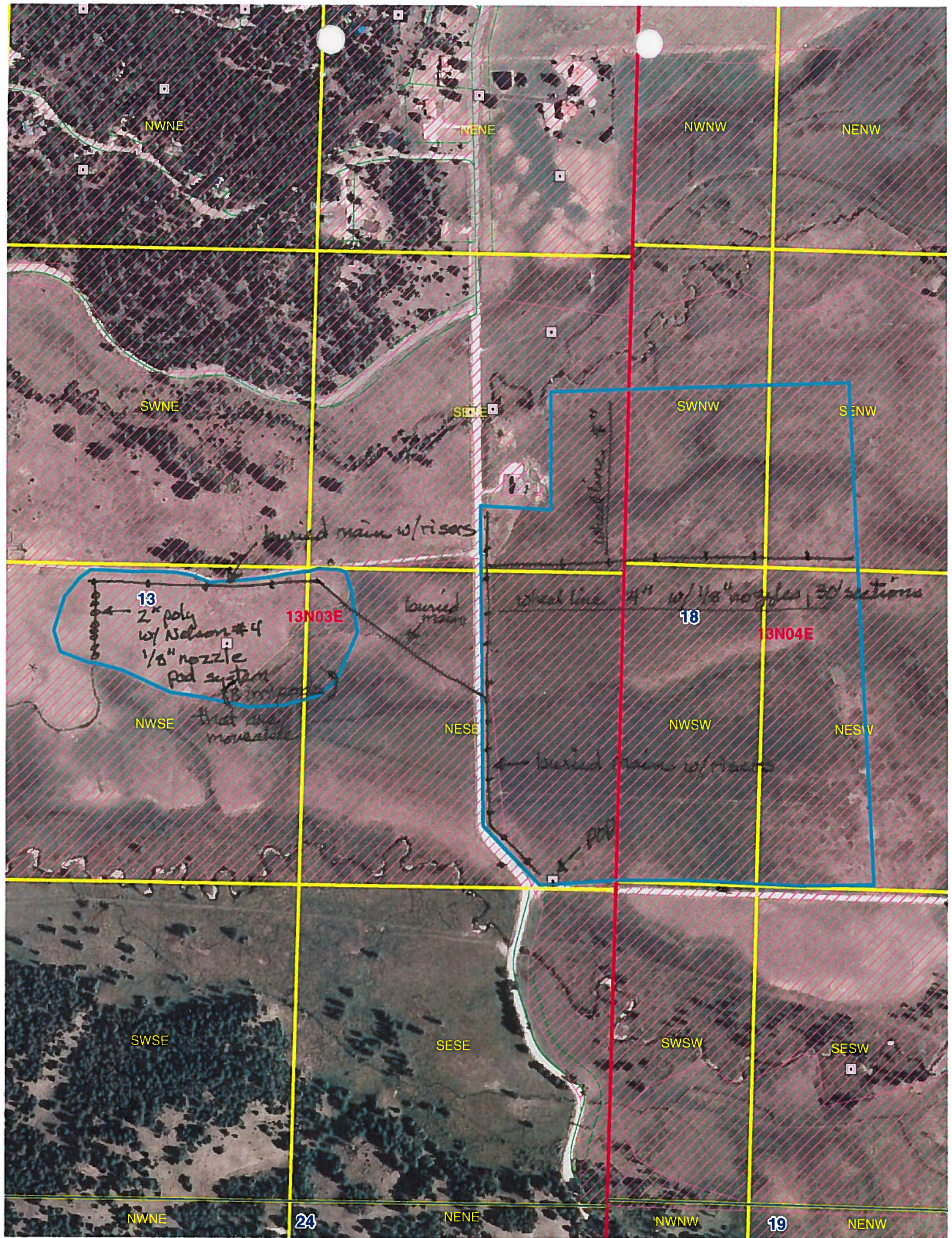


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

6" MOTOR STANDARD, 10-60 HP/3450 RPM.
8" MOTOR STANDARD, 75-125 HP/3525 RPM.

* Alternate motor sizes available.

Performance conforms to ISO 9906 Annex A
@ 8 ft. min. submergence.



NWNE

NENE

NWNW

NENW

SWNE

SESE

SWNW

SENW

NWSE

NESE

NWSW

NESW

SWSE

SESE

SWSW

SESW

NWNE

NENE

NWNW

NENW

13
2" poly
w/ Nelson #4
1/8" nozzle
pod system

13N03E

18

18N04E

buried main w/risers

buried main

wheel line 4" w/ 1/8" nozzles, 30 sections

buried main w/risers

24

19



POD:

8" casing
30 HP
Grundfos
8" discharge
50 psi
(4155-
300-4A)
170' deep
10' static



POU:

buried
main
runs
south to
north on
the west
side of
the field
with
risers
to hook
up the
4" wheel
line

65-13986 MacGregor

S. Hemmway



POU
4" wheel
line
1/8" nozzle
per
section,
30'
sections

10/03/2011



10/03/2011

riser
for 4"
wheel
line
(looked
north to
south,
down
the we
boarder
of the
field)



POU:

2"
poly pipe
with 8
Irripeds
run at
one time
that
move
across
the
field.
Run at
the same
time as
the
wheel line



Irripod
Nelson
4 (1/8")
rotator
nozzles



POU
w/risers
to hook
up the
2" poly
pipe
with
the
irrigators

10/03/2011



POU

POD

10/03/2011

65-13986 MacGregor

S. Hernenway