

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
APR 26 2018
DEPT 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. 63-316841. Owner Vicki CantlonPhone No. 208-362-4295Current address 8401 South Cole Road, Boise, ID 837092. Examiner's name Terry Scanlan, P.E., P.G. CWRE #129EXAM DATE April 13, 20183. Accompanied by Roger and Vicki CantlonEmail Roger@cantlon.org Vicki@cantlon.orgAddress 8401 South Cole Road, Boise, ID 83709Relationship to permit holder Permit HolderPhone No. 208-362-42954. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use 63-10526, 63-316832. Other water rights with the same source and point of diversion 63-10526, 63-31683**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
8-inch		SE	SE	NE	12	2N	1E	Ada	Exam, 2015 Aerial Photo

2. Place(s) of Use:

Method of determination Exam, 2015 aerial photo

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2N	1E	12				20													20

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
8-inch well	Franklin Electric	25	Submersible	Franklin Electric	4-inch discharge
	460V, 3-Wire			Sub Turbine, 3-PH	
				Model 2255STS6	

*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
Panametrics Portable Flowmeter	Ultrasonic	GE	PT878	7140	various	3/27/2017

2. **Measurements:** _____

See 10-minute flow rate at 272 gpm (0.60 cfs) average in Attachment C

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

0.60 cfs with ultrasonic flow meter (see Attachments C and D)

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I,R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 20 \times 4.5 = 90$$

$$V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.40 \times 260 \times 1.9835 = 206.3$$

$$V = \text{Smaller of } V_{I,R} \text{ and } V_{D,R} = 90$$

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Irrigation	3/1	11/15	0.40 cfs	90 afa
Totals:			0.40 cfs	90 afa

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

I. AUTHENTICATION

Field Examiner's Signature

Terry M. Scanlan

Date

4/25/2018

Reviewer

Date



Attachment A
Field Exam Map



Legend



Well Location



63-31684 pou (20 acres)



63-31683 pou (10 acres)

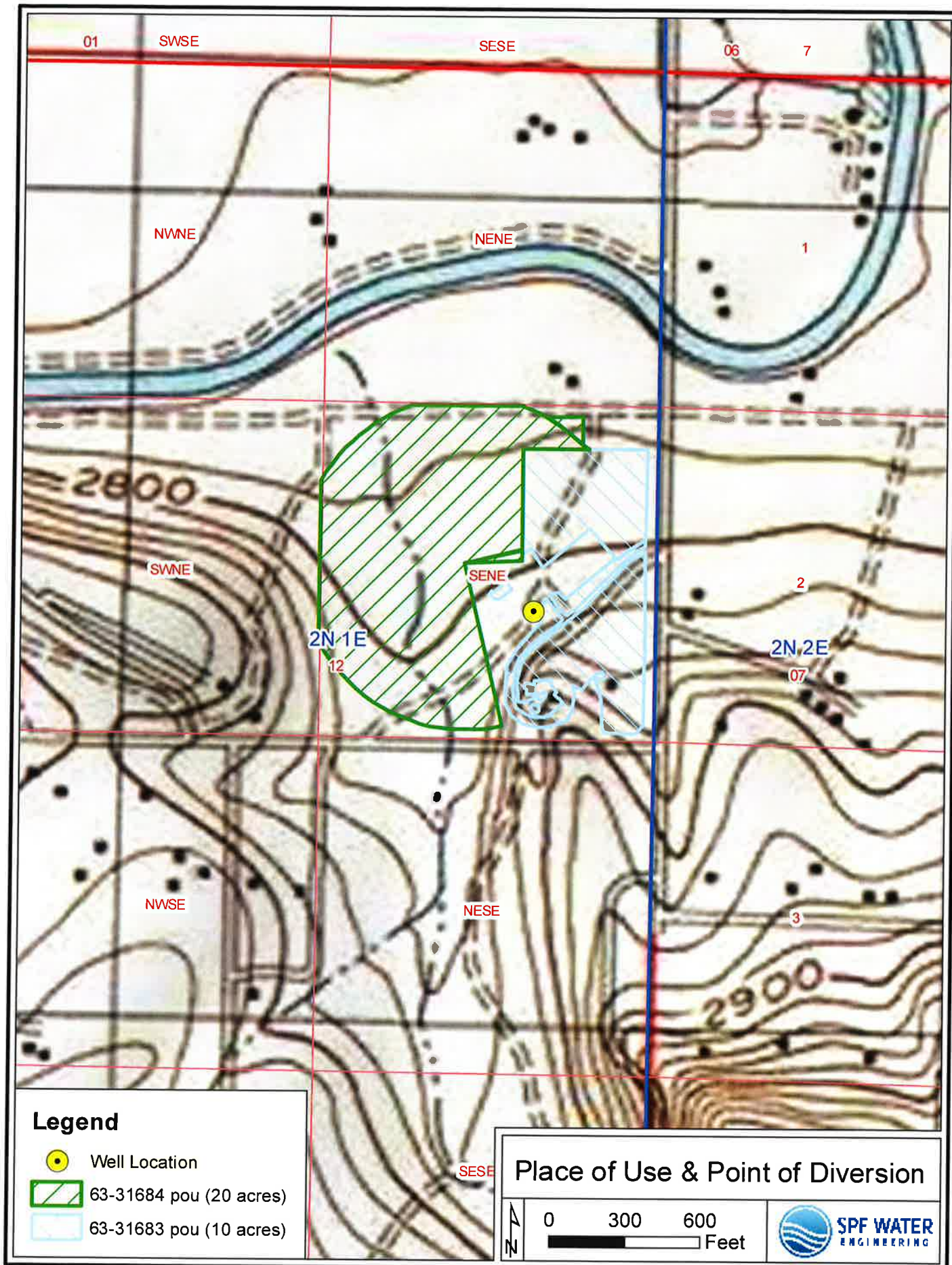
Place of Use & Point of Diversion



0 150 300
Feet



SPF WATER
ENGINEERING





Legend

-  Well Location
-  Pivot Acres - 22.6
-  Hose Reel & Big Gun Acres - 3.8
-  Solid Set Acres - 6.0

Irrigation Systems Map



0 125 250
Feet



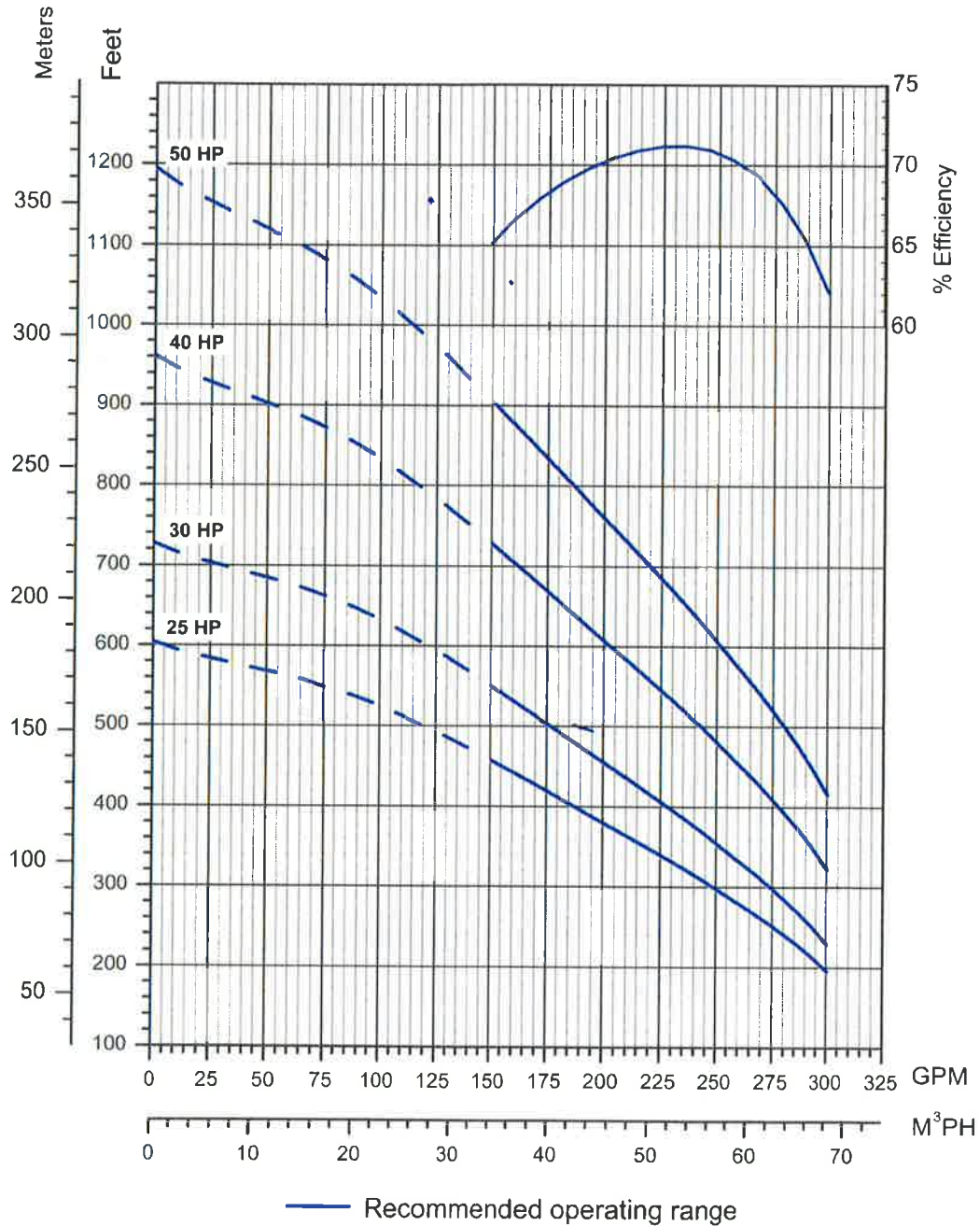
SPF WATER
ENGINEERING

Attachment B

System Components

Submersible Turbine Pumps

Model 225STS6 Performance



Note: Performance based on:
- Fresh water, 68 °F
- 6" motor / 3450 rpm

FPS
STSseries

COONSE WELL DRILLING & PUMP CO., INC.

P O BOX 366
Middleton, ID 83644

Phone # (208) 454-0190

Fax #

ESTIMATE

ESTIMATE FOR:

ROGER CANTLON

DATE**ESTIMATE NO.**

3/2/2018

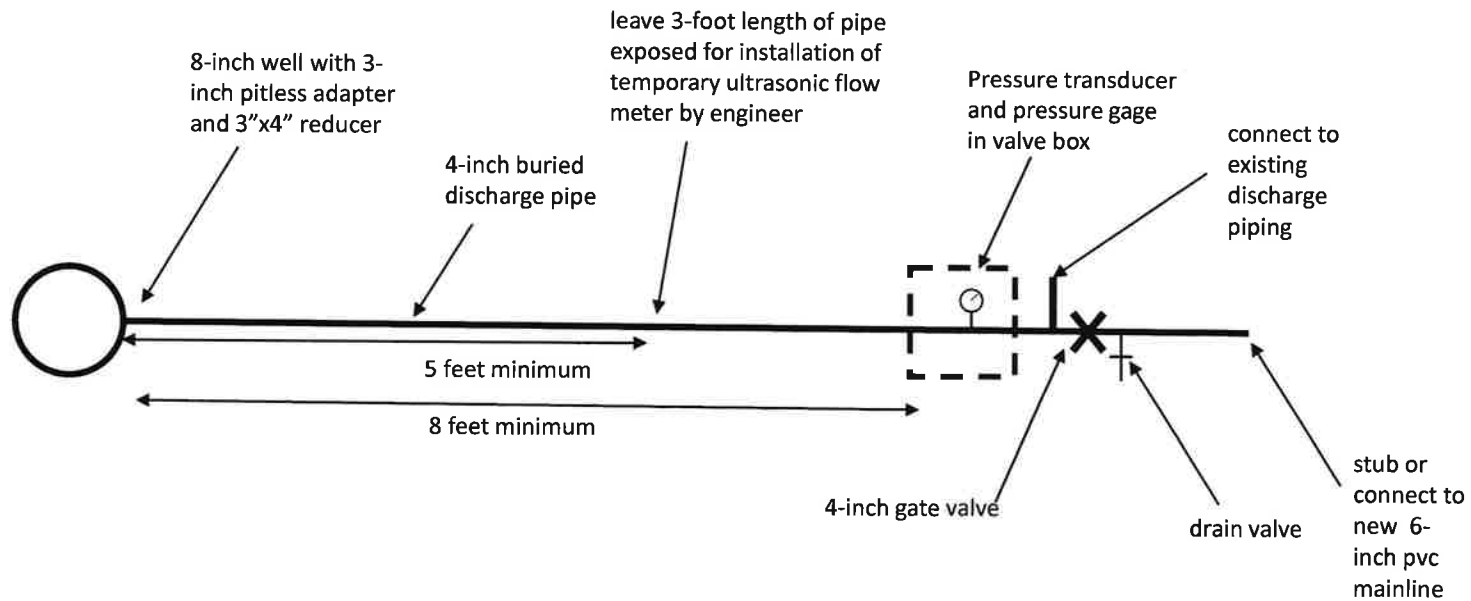
1617-1948

PROJECT

QTY	DESCRIPTION	UNIT PRICE	TOTAL
1	225 GPM 6-IN FRANKLIN ELECTRIC SUB TURBINE, 25 HP 3-PH		
	FRANKLIN ELECTRIC MOTOR, 460V, 3-WIRE		
1	25HP DRIVE PACKAGE NEMA4 W/DISCONNECT LINE & LOAD FILTERS		
189	4-IN GALV DROP PIPE		
21	3-IN GALV DROP PIPE		
210	#6-3 W/GROUND SUB PUMP CABLE		
10	1 1/4 SCH 40 PVC CONDUIT		
10	1 1/4" SCH 80 PVC CONDUIT		
1	3" 8J3 WELD ON PITLESS		
2	4" FLOMATIC CHECK VALVE, MODEL 80DI		
1	MISC ELECTRICAL		
1	MISC PLUMBING		
1	STATE OF IDAHO ELECTRICAL PERMIT		
1	BACKHOE		
1	SPLICE KIT #10		
1	SPLICE KIT #6		
1	LABOR- INSTALL PUMP/WATER SYSTEM		
	THIS IS A PERMANENT SOLUTION Scope of work includes (1) removal of existing pumps from well for on-site storage, (2) all electrical work at well site, and (3) all plumbing work at well site. Scope assumes that 480 V 3-phase power conductors will be installed within 5 feet of the well by others. Scope assumes either stubbing 4-inch buried discharge pipe for connection to future irrigation mainline by others, or connecting to 6-inch pvc irrigation mainline within 20 feet of well if mainline is already installed. The 4-inch buried discharge pipe will include connection to existing water system, 4-inch isolation valve, drain valve, and valve box with pressure gage and transducer. All work will be complete within 30 days of notice to proceed unless customer requests a delay in writing.		
		TOTAL	\$

UNIT PRICES REFLECT CURRENT MARKET VALUE AND ARE SUBJECT TO CHANGE.

Cantlon Discharge Pipe Schematic





Sale Quotation

Nampa

www.rainforrent.com

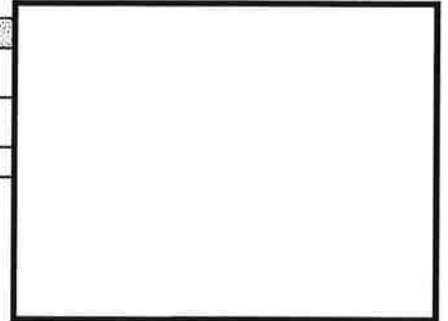
1303 N 20th St
Nampa ID 83687
Phone: 208-466-8929
Fax: 208-466-8514

Quotation Number: 1096-AG-72454

Application: Irrigation Materials: Irrigation Water

Sale Items

Qty	Unit	Item	Description
1	Each	MS	588' Reinke E2065 Pivot Sale: includes pivot, pad, water tie-in, delivery and construction
1	Each	MS	Excavation- Sale & Installation of 6"- 460' pipe. Includes all fittings, pivot wire, and thrust blocks.
1	Each	MS	Electrical- Standard Service w/ (1) Pivot





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Quotation Number: 1096-AG-72454

Scope of Work

Summary

Rain for Rent design, supply, and install irrigation system in accordance to the materials and work scope stated in this estimate.

Job Profile

Pivot

Customer to purchase (1) 3 Tower Reinke E2065 Pivot approx. 588' long with an end gun and booster pump. The pivot has an operation point of 178 GPM @ 30 psi and will irrigate approx. 21.5 acres.

- Key customer chosen features include:
 - o Reinke RPM Advanced Panel w/ GPS
 - o 11.2-38 Tires
 - o Nelson O3030 Orbiters w/ 10 lb Regulators
 - o Nelson SR75 End Gun w/ Booster Pump

Pivot Pad

Rain for Rent will locate pivot center and pour pivot pad.

- Pivot pad dimension is 9' X 9' and allows for the pivot point, valve, and filter to have a solid working surface below, free of unwanted vegetation.
- Each pad has five footings and is tied with rebar.

Pivot Point Tie In

Pivot point will have a custom fabricated 4" galvanized dive that hooks the pivot point and PVC together.

- At each pivot point a fully electric Jain valve will be placed in line and shut water off in case pivot "safety's" out due to electric issues.
- Each pivot point tie in will include a 2.5" Pressure Relief, (1) 0-100 psi gauge, butterfly valve, and air vent

Electrical

Wiring of pivots from Idaho Power drops have been included in bid. Key electrical labor and components include:

- Pull proper permits with Idaho Division of Building Safety.
- Install top of line parts and components of the industry.
- Install safe and legal disconnecting means for irrigation machines and pumps according to the NEC.
- Tie in Pivot panel to power supply provided from disconnect means.
- Install power supply to any electric valves or solenoids
- Install service power pole and conduit mast at service
- Build meter base service stand and wire in any connections from mast down
- Install grounding systems according to the NEC
- Set up GPS and check operation of pivot and make sure is function properly
- Walk through electrical system with customer and explain safe operation

Customer electrical responsibilities



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- Coordinate with Idaho Power to supply sufficient power to Meter base location.
- Coordinate and pay Idaho Power for all set up costs.
- Contact Idaho Power to hook up power service after customer has been notified inspections with state have been completed
- Protect all electrical systems from live stock

Pipeline Sale & Excavation

Excavation of pipeline will begin at Power Drop, continue to pump station, and end at pivot point.

- Complete excavation of PVC pipe is estimated to take 2 days.
- Pipe & Excavation Profile is as follows:
 - o 460 LF of 6" 100# PVC
 - o 725 LF of 1/0 Pivot Wire
 - o 500 LF of #4 Pivot Wire
- Pipeline excavation and installation will include all thrust blocks per NRCS specifications.
- Prices contingent upon all materials on job site.
- Bid does not include working around underground utilities. Working around underground utilities will be an extra charge.
- Rain for Rent has taken the necessary steps and due diligence to account for all aspects of job installation. In many cases Rain for Rent can not predict the excavation circumstances until work begins. In the event that rock work, hard digging, or dewatering is needed once excavation begins a "Change Order" will be created and completed.
 - o Under circumstances where smaller rocks are present that must be separated from backfill a change order of \$1.25/ft will be charged. This charge will only be for areas where separating will be required, not the entire length of pipeline.
 - o Under circumstances where rock is encountered and no back fill is available a change order will be charged to load, move, and dump needed material. This charge will only be for areas where fill is needed, not the entire length pipeline.
 - o In the event that extra ordinary digging circumstances are found Rain for Rent and customer will get together and come up with a cost effective plan to move forward.

Payment Schedule

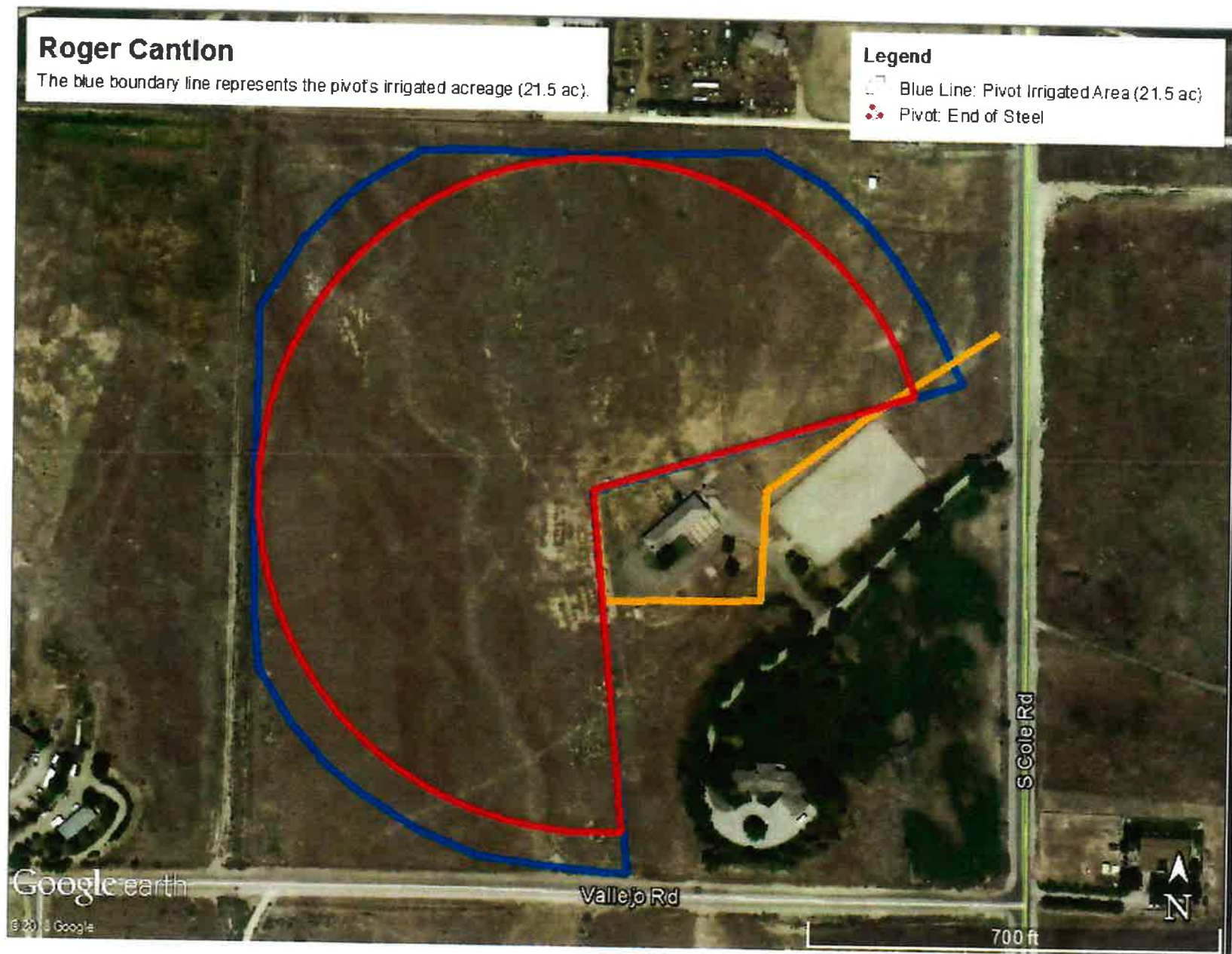
Unless agreed differently, Rain for Rent will require a 20% down payment upon notice to proceed.

Other Important Information

Customer is responsible to obtain any permits, licenses, certificates, bonds and give all notices required by law for the construction and earthwork portion of the project. Environmental easements and permits that may be required for crossing drainage ditches, creeks, rivers, or vegetation areas will be the sole responsibility of the customer to provide if applicable.

Additional parts and/or labor necessary to complete job or added into the job after completed estimate will result in a "change order." Parts and labor will be billed as an additional charge.

Note: Examiner found as-built pivot barricades placed further south (for the east barricade) and east (for the south barricade) than shown below to increase pivot arc length and increase the system area from 21.5 to approximately 22.6 acres.





ELECTROGATOR II™

Rain For Rent

Irrigation System Proposal - Roger Cantlon

3/7/2018

PRICES EFFECTIVE: July 1, 2017

Customer Information

Customer: Flying Hawk Ranch LLP
Manager: Vicki Cantlon
8401 S Cole Rd
Boise ID

Mailing: 8401 S Cole Rd
Boise ID

Email:

Phone:

Dealer Information

Rain For Rent
1303 N 20th St.
Nampa, Idaho 83687
Phone: 208 466 8929
FAX:
Mobile: 541 235 0494
Email: jstipe@rainforrent.com

System Information

System Type:	Center Pivot	Model:	E2065-G/57"
System GPM:	173.0 GPM	System Length	589'
Elevation	25' feet		
Top of Inlet Pressure	46.1 PSI	System Acres:	18.7 Acres
End Pressure:	35 PSI	End Gun Acres:	2.7 Acres
Hours to Apply 1":	60.9 Hours	Total Acres:	21.5 Acres

Span Information

Number:	Type	Length	Ext.	Spacing	Wheel Track	Tire Size	PSI Loss	Span Cable
1	E2065	175'	N	57"	177'	11.2 x 38	0.1	10C/#12/0s
2	E2065	175'	N	57"	352'	11.2 x 38	0.1	10C/#12/0s
3	E2065	175'	N	57"	527'	11.2 x 38	0	10C/#12/0s
EB	E2060	61'	N	57"	589'		0	

System Components

Qty	Description	
1	Pivot Center, Galvanized	
1	Riser Pipe-Short-8" Dia.-EII	
1	Bottom Elbow-8" Plain End-Galv	
1	RPM Advanced Main Control Panel	
1	Lightning Arrestor	
1	Low Pressure Safety Shutdown	
1	GPS CDW MCP KIT	
1	GPS End of System Control	
3	Spans, 175', 6 5/8" dia., Galvanized Pipe, 57" Outlet Spacing	
3	Tower Assembly, Heavy Duty, Galvanized, Standard Profile	
3	Tire Option, 11.2 x 38 New Tires with Tubes, Galvanized Wheels, 1 Forward, 1 Reversed	
3	Wheel Gears, Reinke, Non-Towable	
3	Helical Center Drive-Std Speed-EII	
1	Auto Reverse, Tower Option	

Note: Examiner found as-built pivot barricades placed further south (for the east barricade) and east (for the south barricade) to increase the pivot arc length and increase the system area from 21.5 to 22.6 acres.

Irrigation System Proposal

Customer/Owner Name: Flying Hawk Ranch LLP

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3/7/2018



ELECTROGATOR II™

Rain For Rent

Irrigation System Proposal - Roger Cantlon

3/7/2018

<u>Qty</u>	<u>Description</u>
1	End Boom, 61', Galvanized Pipe
1	End Gun, Nelson SR75 with 800 Valve, Automatic Controls
1	Booster Pump, End Gun, 2 Hp
59	NELSON ORBITOR BLACK W/WT
59	Pressure Regulators, Nelson 10 PSI
59	GOOSENECK-3/4MNPTX3/4B-SGL-180
2	Barricade, Tower Auto Stop/Auto Reverse, Stationary

Irrigation System Proposal

Customer/Owner
Name: Flying Hawk Ranch LLP

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3/7/2018



ELECTROGATOR II™

Rain For Rent

Irrigation System Proposal - Roger Cantlon

3/7/2018

Standard Features

- Galvanized high tensile strength steel pipeline material for years of corrosion protection
- High Tensile Strength Steel utilized in all structural components for maximum durability
- High Tensile Strength Steel lets Reinke reduce tower weight considerably, reducing drive train stress and repair expense
- High Tensile Strength Steel provides highest strength to weight ratio in the industry
- Friction reducing full sweep elbows reduces your pumping cost
- Fully gusseted 18 inch pivot bearing increases bearing life
- Pivot Flex Joint relieves stress and improves pivot bearing life
- Stainless Steel riser gasket seat maintains positive seal, reducing repair expense
- Corrosion Resistant Aluminum Alloy Main Control Panel outlasts ordinary steel panels
- Fully upgradeable Main Control Panel to meet your future needs
- Simple, easy to understand controls makes your Reinke easy to operate
- Adjustable Main Control Panel mount insures a location convenient for you
- Eye level pressure gauge provides convenient, accurate readings
- Computer designed sprinkler packages insure uniform water application for maximum yields
- Reinke Heavy Duty Wheel Gear designed especially for the demands of irrigation
- Centering ring on gearbox prevents lug bolt breakage
- Driveline Shields protect you and your family
- Reinke Irrigation Duty Motors provide years of reliable service
- Insulated Tower Boxes protect electrical components from condensation
- Exclusive mechanical safety interlock prevents access to inside of tower boxes without shutting off the electrical power
- Double Jacketed Span Cables for extra safety and long cable life
- Unique V-Ring pipe flange seal reduces your pumping and maintenance costs
- Reinke Internal Flex Joint increases the life of rubber boots reducing repair costs
- High strength single tower legs protect your systems water-pipe by absorbing the stress associated with uneven terrain
- End Booms are supported with truss rods (not only cable) for more stability

Irrigation System Proposal

Customer/Owner
Name: Flying Hawk Ranch LLP

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3/7/2018

Attachment C

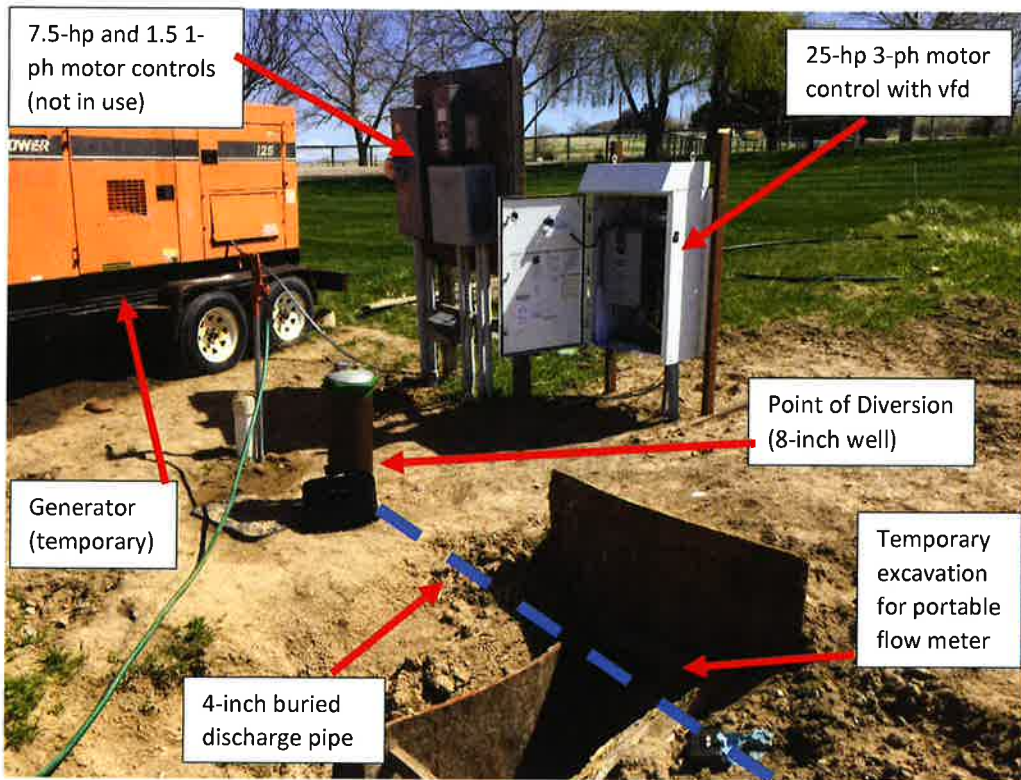
**Additional Information Including Flow
Measurement Data**

Permit: 63-31684
 Owner: Cantlon
 Site Name: Irrigation Well
 POD Location: 2N 1E 12 NWSE
 Drilling Permit No: 63-96-W-0523-000
 Meter: GE TransPort PT878
 Type: Portable Ultrasonic Time Flight Liquid Flow Meter
 Serial Number: 7140
 Calibration Date: March 27, 2017
 Operator: Scott King

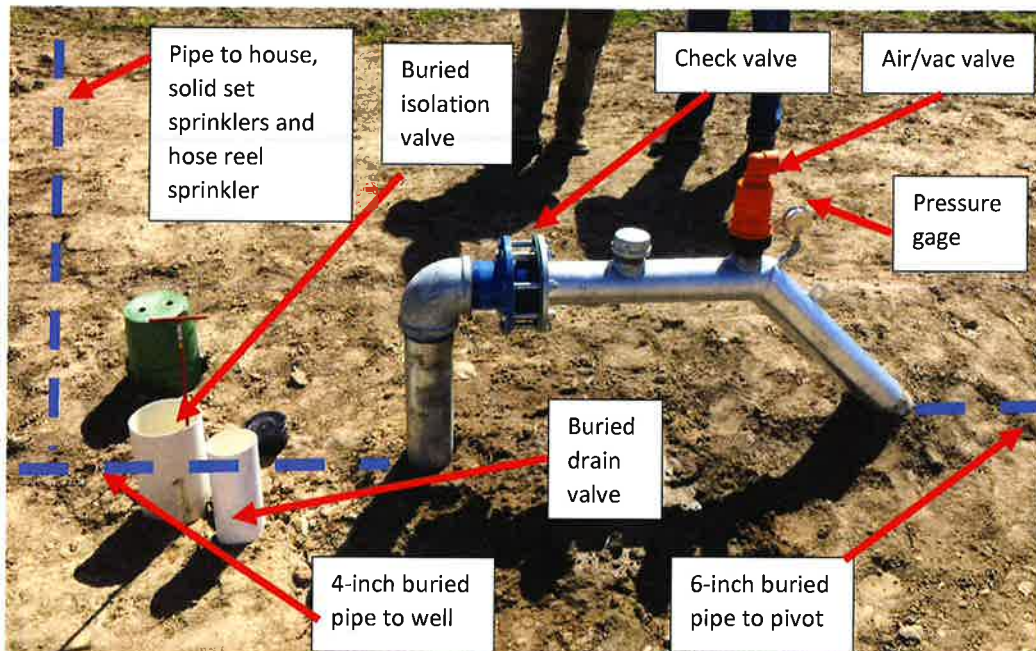
Date/Time	Volume (gal/m)	(+)Total (gal)	(-)Total (gal)	Error #
4/13/2018 14:21	272	9204	0	0
4/13/2018 14:22	274	9485	0	0
4/13/2018 14:23	266	9764	0	0
4/13/2018 14:24	274	10027	0	0
4/13/2018 14:25	268	10291	0	0
4/13/2018 14:26	271	10570	0	0
4/13/2018 14:27	270	10834	0	0
4/13/2018 14:28	267	11116	0	0
4/13/2018 14:29	270	11379	0	0
4/13/2018 14:30	270	11646	0	0
4/13/2018 14:31	272	11922	0	0

Time	10 minutes
Volume	2718 gallons
Rate	272 gpm
Rate	0.61 cfs

Attachment D
Exam photos



Well, motor controls, and temporary excavation for portable ultrasonic flow meter.



Riser pipe for pivot and valves



Pivot point



Pivot in operation



East pivot barricade



South pivot barricade



Portable ultrasonic flow meter readout



Portable flow meter installed on 4-inch discharge pipe from well



Pivot delivery pipe pressure



Hose-reel sprinkler at north tap



Meter base and disconnect switches (follow up photo taken by examiner on April 25, 2018)



Hose-reel sprinkler in operation on 1-acre parcel in NE corner (April 2018 photo provided by Roger Cantlon)



Hose-reel sprinkler in operation on east of pivot (April 2018 photo provided by Roger Cantlon)



Planting field (April 2018 photo provided by Roger Cantlon)



Planting field (April 2018 photo provided by Roger Cantlon)



Movable big gun sprinkler on 2-inch hose between house and barn
(April 2018 photo provided by Roger Cantlon)



Movable big gun sprinkler on 2-inch hose between house and barn
(April 2018 photo provided by Roger Cantlon)



Movable big gun sprinkler on 2-inch hose between house and barn
(April 2018 photo provided by Roger Cantlon)



Hose-reel sprinkler in operation on between pivot and arena (April 2018 photo provided by Roger Cantlon)



Hose-reel sprinkler in operation on between pivot and arena (April 2018 photo provided by Roger Cantlon)