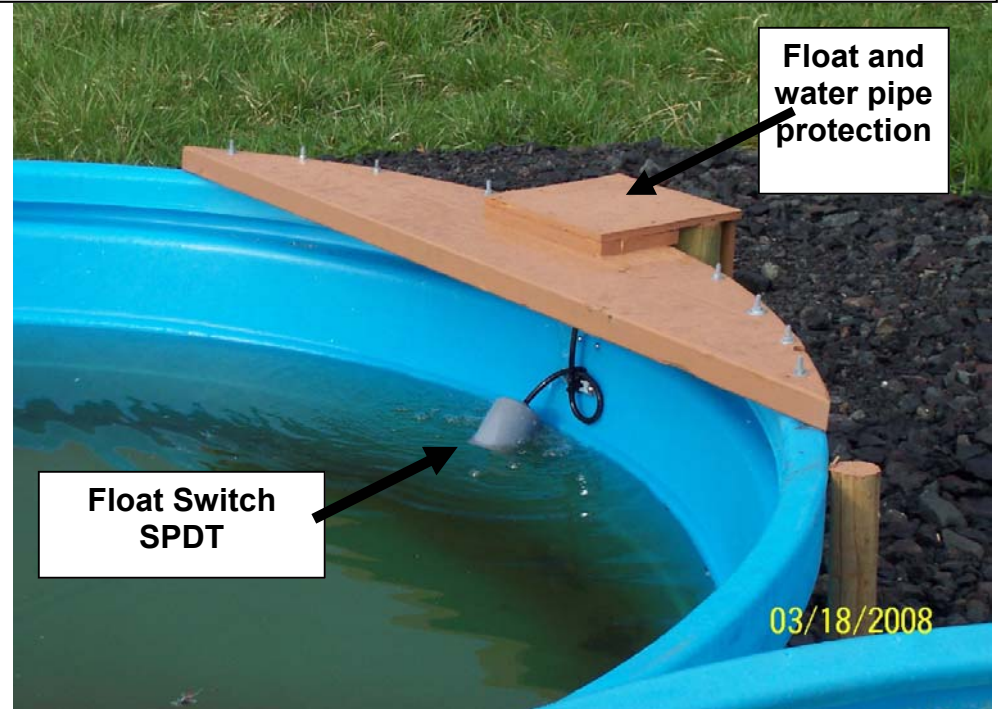
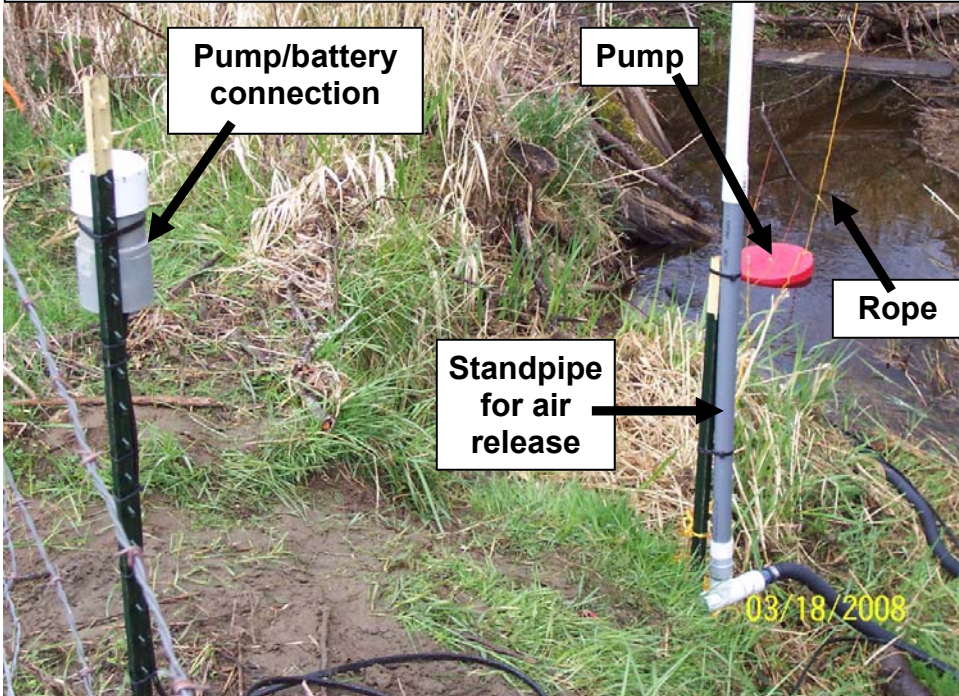
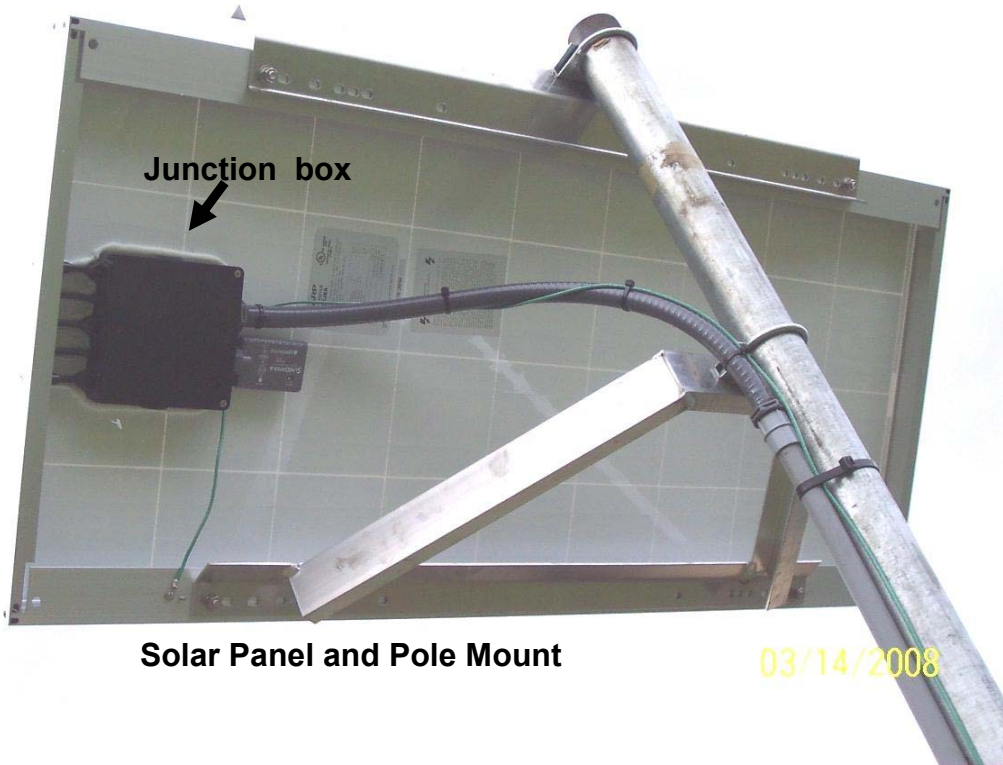




**Snow Creek Solar Water Pump System for Livestock Water
Jefferson Co. Conservation District
March 2008**

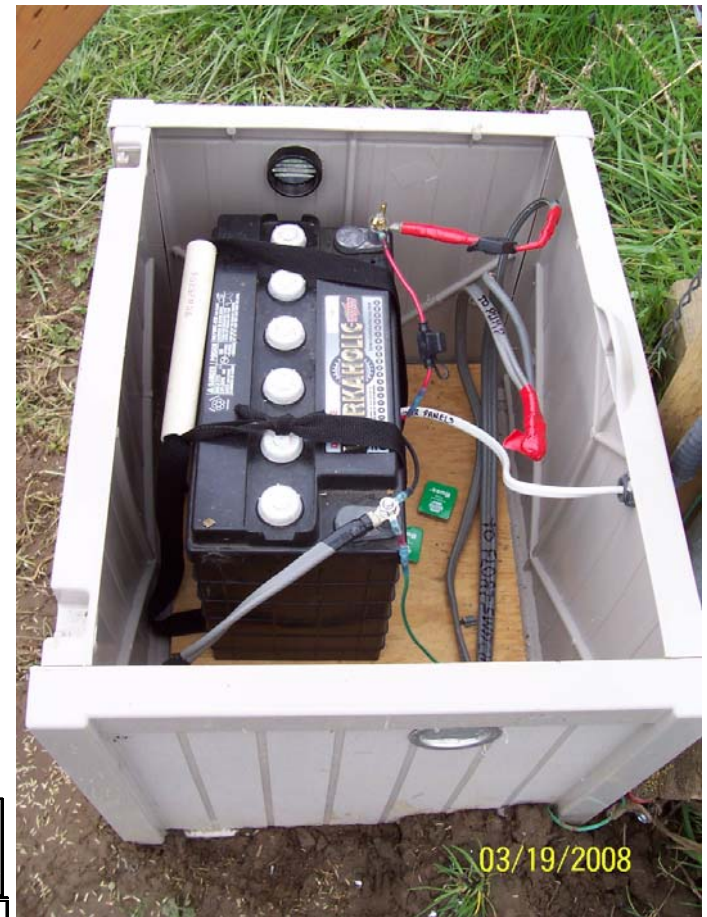




Junction box

Solar Panel and Pole Mount

03/14/2008



12 volt battery and ventilated box

03/19/2008

PERFORMANCE CHART SUNMOTOR M3 PUMP										
Pumping Head		12.5 Volts			16.0 Volts			17.0 Volts		
		Current	Flow		Current	Flow		Current	Flow	
Meters	Feet	(A)	L/min	US gpm	(A)	L/min	US gpm	(A)	L/min	US gpm
1	3.3	3.7	22.7	6.0	5.4	30.1	8.0	6.3	31.8	8.4
2	6.6	3.4	18.0	4.8	5.4	27.1	7.2	6.0	28.6	7.6
3	9.9	3.1	12.7	3.4	5.2	23.6	6.2	5.7	25.4	6.7
4	13.2	2.7	6.0	1.6	4.7	19.2	5.1	5.4	22.0	5.8
5	16.5	2.3	0	0	4.4	15.3	4.0	5.2	18.3	4.8
6	19.8	2.3	0	0	4.1	10.4	2.8	4.9	13.9	3.7
7	23.1	2.3	0	0	3.7	4.9	1.3	4.6	9.9	2.6

Components for solar powered livestock water pump system (3-08)			
item	Costs - general	costs - snow cr.	sources
Pump kit (M3 Sunmotor floating pump, float, 50' wire)	\$825	\$825	Sunmotor Int., 463-5566-8755 sunmotor@reveal.com
Sharp Solar panel 80 watt	445	475	Wholesale Solar 800-472-1142
Unirac Fixed tilt/pole side mount 401-274	95	120	Wholesale Solar 800-472-1142
Charge controller (morningstar SunKeeper SK6)	60	60	Wholesale Solar 800-472-1142
Battery (deep cycle minimum 80 amp hr.)	80 - 270	270	12 volt industrial deep cycle 120 amp hour
Float switch SPDT	50	50	Backwoods Solar 208-263-4290 or hardware store?
Battery Box (Suncast 17.8 Gallon Deck Box)	35	35	Henery's Hardware can order; Lowes might have.
25' 1 1/4" sump pump hose	12	\$12	hardware store? Grainger
2" Sch 40 Steel pipe or 6x6 treated post for panel rack		\$45	
additional electrical wire & fittings	150	200	
Stock tank (300 gal or larger)	300	300	for 550 gal. round poly tank
140' Sch 40 PVC pipe	100	100	
Rock pad (3' minus "loggers special) 26 ton	375	375	
4 hours backhoe + move in	500	500	
		\$3,367	
Note - Snow Cr. project: stock tanks 140' from creek. Costs include gravel pad and backhoe work.			

Notes:

- Water flows back through pump when it's not operating.
- Pump is tethered to bank with rope.
- Screen on pump may need occasional cleaning, depending on water.
- Battery must be deep cycle type. Storage capacity depends on amount of use expected. Typical RV type battery should be sufficient.