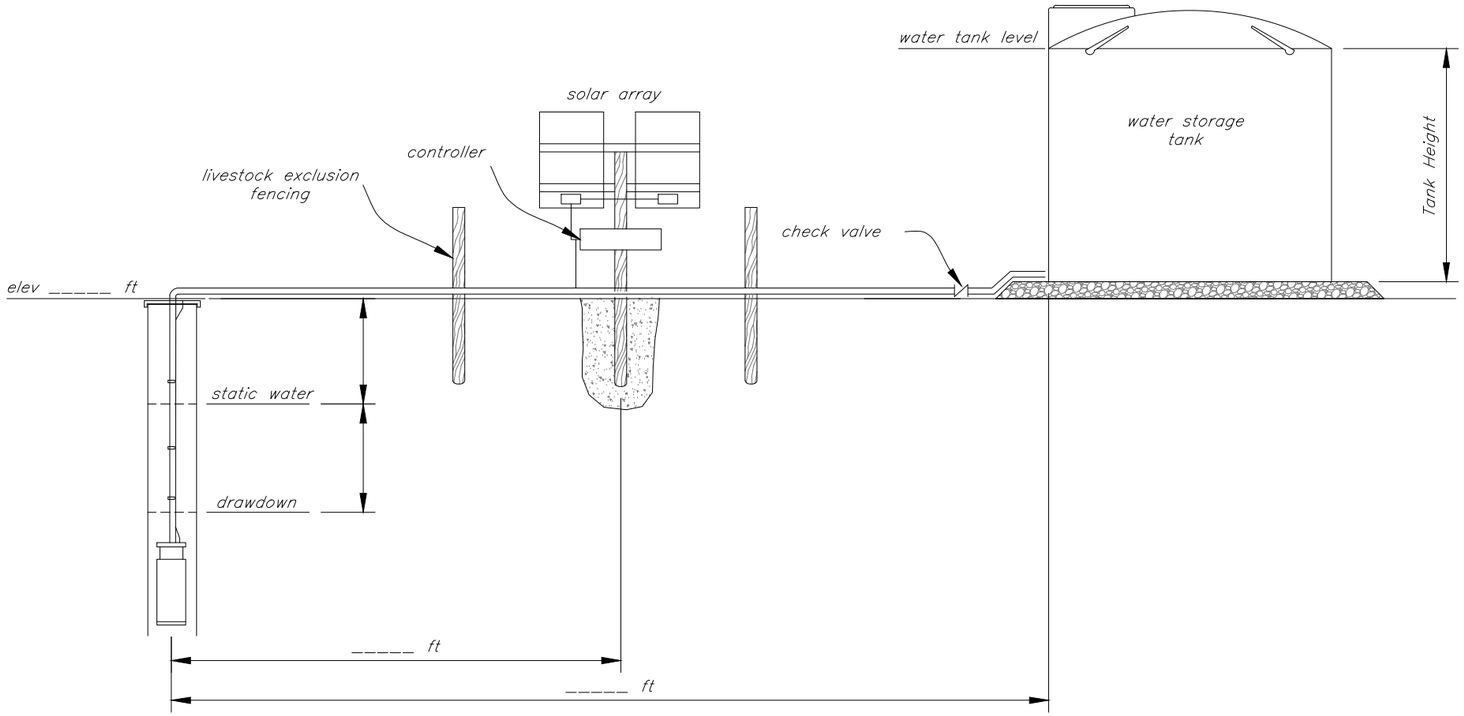


SOLAR POWERED SUBMERSIBLE PUMP FOR WELL

PUMP [1]

_____ design TDH _____ design gpm

_____ Input Power _____ Operating Voltage

_____ manufacturer

_____ model

_____ controller

_____ description of switch box or _____ shut-off valves

PV PANELS _____ Rated Maximum Power, Watts

_____ Vmpp Tracker ___ YES ___ NO

_____ Impp _____ Fixed Tilt Angle

PANEL CONFIGURATION [2] _____ series _____ parallel

[1] Pump controller, valves, switch box to be specified by manufacturer's recommendation.

[2] Contractor to provide landowner/NRCS a diagram of the panel array wiring configuration.

PV SYSTEM AS-BUILT

Date

Designed

Checked

Approved

TYPICAL SOLAR PUMP INSTALLATION

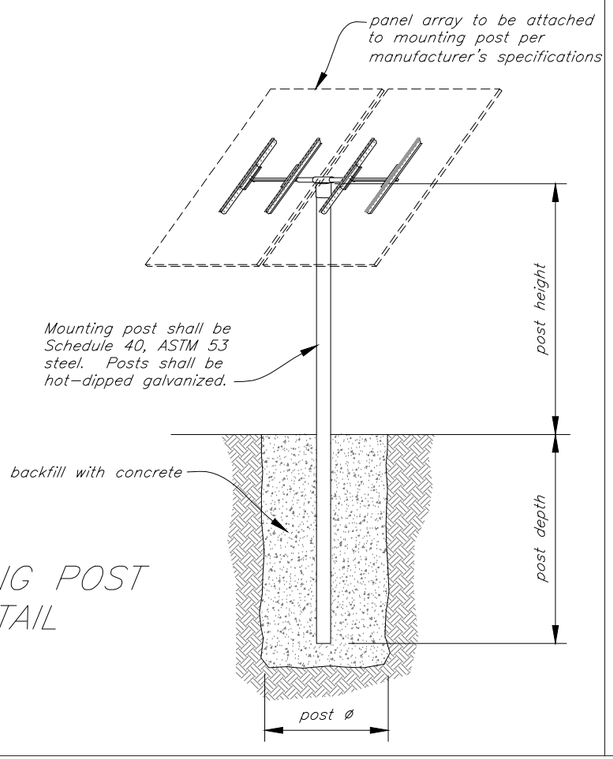
OWNER:

COUNTY:

MOUNTING POST SELECTION TABLE

(Producer shall install mounting configuration circled below)

POST HEIGHT (FT)	PANELS	MIN. POST DIA. (IN)	POST HOLE DIA. (IN)	MIN. EMBEDMENT DEPTH (IN)	CONCRETE VOLUME (CY)
4 FT	Single Panel (A = 13.9 ft²)	4	24	38	0.46
	Double Panel (A = 27.8 ft²)	4	24	48	0.55
	Triple Panel (A = 41.7 ft²)	4	30	54	0.96
	Quad Panel (A = 55.6 ft²)	4	36	56	1.42
6 FT	Single Panel (A = 13.9 ft²)	4	24	36	0.44
	Double Panel (A = 27.8 ft²)	4	30	50	0.90
	Triple Panel (A = 41.7 ft²)	4	36	54	1.38
	Quad Panel (A = 55.6 ft²)	6	36	60	1.49
8 FT	Single Panel (A = 13.9 ft²)	4	30	38	0.72
	Double Panel (A = 27.8 ft²)	4	30	50	0.90
	Triple Panel (A = 41.7 ft²)	6	36	54	1.36
	Quad Panel (A = 55.6 ft²)	6	36	60	1.49
10 FT	Single Panel (A = 13.9 ft²)	4	24	44	0.51
	Double Panel (A = 27.8 ft²)	6	30	52	0.91
	Triple Panel (A = 41.7 ft²)	6	36	58	1.45
	Quad Panel (A = 55.6 ft²)	8	36	64	1.58



MOUNTING POST DETAIL

NOTES:

1. PV panels are to shown to be tested and listed by Underwriters Laboratories (UL) to meet UL 1703 or tested and certified to withstand the impast of a 25-mm (1-inch) diameter hail at a minimum velocity of 23-m/s (51-mph) without major visual defects by another nationally recognized testing lab in accordance with IEC 61215 or IEC 61646. The panels are to also be certified to withstand winds of 130-km/hr (81-mph) or greater and an ice loading of 25-mm (1-inch) thick minimum over all exposed surfaces.
2. Installation of the storage tank shall meet North Dakota NRCS Specification 614 – Watering Facility.
3. Minimum post diameter, post hole diameter and post depth values in the Mounting Post Section Table have been designed for a wind speed of 95 mph and a 1 inch thick ice load. Soil properties for the foundation design were presumed to have an allowable bearing pressure of 1,500psf and a lateral pressure per unit depth of 100psf/ft and is representative of all soil types except for organics. For a site whose conditions do exceed these design parameters, the required mounting post size and embedment depth will need to be determined by a qualified engineer.
4. The concrete backfill is to be properly batched above ground prior to placement in the post hole. It is not acceptable to place dry ready mix concrete in the post hole and then fill the hole with water.
5. Care should be taken that all connections associated with the solar power system are made of similar materials to avoid the potential for corrosion.
6. The PV panel mount and all electrical components shall be properly grounded to provide lightning protection. Lightning rods are recommended for systems installed on high terrain if lightning is a known problem.

NRCS

Natural Resources Conservation Service

United States Department of Agriculture

Drawing Number

ND-DWG-134

Date

Sheet of