FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS

For

ASHLEY LAKE NORTH CAMPGROUND RENOVATION

OPTION ITEM 2

U.S.D.A Forest Service, Region 1
Flathead National Forest, Tally Lake Ranger District
Flathead County, Montana

SPECIFICATION INDEX
FOR
Ashley Lake North Campground Hand Pump

GENERAL REQUIREMENTS…… 1

PRODUCTS…….. 1

EXECUTION…… 2

MESUREMENT AND PAYMENT……. 3

END OF SPECIFICATION INDEX

SECTION 221113
HAND PUMPS

1.PART 1 - GENERAL

1.01 SUMMARY

A. This section specifies construction and installation of hand pumps.

1.02 RELATED SECTIONS

A. FP-24 - 601 Minor Concrete.

1.03 SUBMITTALS

A. Submit sufficient descriptive literature to demonstrate compliance with these specifications for the following:
   1. Hand Pump.
   2. Pump Cylinder.

B. Furnish 1 copy of the manufacturer's installation instructions for the hand pump and 1 copy of a parts list.

C. Furnish 1 copy of installation instructions for sealed pump flange if Model 11HD pump is specified.

2.PART 2 - PRODUCTS

2.01 MATERIALS

A. Pump Stand.
   1. Monitor Model 11HD pump, spigot type with syphon spout, with separate sealed pipe flange for mounting on well casing, Baker Manufacturing Company, Evansville, WI, or approved equal.
   2. Pump stand shall include:
      a. Adjustable stroke with a minimum of 3 leverage pin positions.
      b. Packing nut and packing.

B. Cylinder.
   1. Brass-lined cast iron barrel, 3 inches inside diameter, 10 inch stroke, 2 leather brass plunger tapped for 7/16 inch diameter pump rod, and brass check valves.

C. Riser Pipe.
   1. Galvanized steel pipe, threaded and coupled, ASTM A53/A, Schedule 40.

D. Pump Shroud.
   1. Monitor Conversion Kit 100DPS Baker Manufacturing Company, Evansville, WI, or approved by equal.

E. Access Port.
   1. 1-1/4 inch Thredolet with 1-1/4 inch plug, Bonney Forge Inc., Mount Union, PA, or approved equal.

F. Floor Drain.

1. Drain shall be cast iron with threaded side outlet, 9 inch top diameter, vandal-proof screws. Drains shall be similar to or JOSAM 32110 or approved equal.

G. Drainpipe.

1. Galvanized steel pipe, threaded and coupled, ASTM A53/A, Schedule 40.
2. PVC, threaded and coupled, ASTM D1785, Schedule 80.

H. Caulking Seal.

1. Silicone base; clear.

3.PART 3 - EXECUTION

3.01 CONSTRUCTION

A. Concrete Slab.

1. Center concrete slab on well casing and construct to lines and elevations shown on the site plan. Orient hand pump as directed by the COR.
2. Place slab on level compacted surface. After concrete placement and form removal, backfill edges of slab with previously excavated material, level and compact surplus material to blend in with adjacent contours.
3. Floor drain rough-in shall be approved before placement of concrete for the slab.
4. Seal joint between concrete and well casing pipe with silicone caulking.

3.02 INSTALLATION

A. Hand Pump Installation.

1. Install hand pump, pump rod, drop pipe, and pump cylinder in accordance with manufacturer's instruction. One (1) copy of the instructions shall be at the job site before installation of the hand pump or pump cylinder shall begin.
2. Install pump cylinder 5 feet ± 2 feet above bottom of the well.
3. Equal lengths of drop pipe and pump rod shall be installed on the pump.
4. Particular care shall be taken to install cylinder piston in center of cylinder so it does not strike the top or bottom of the cylinder during operation of the pump handle.
5. Drill weep hole in drop pipe. Do not torch cut weep hole. Check weep hole by operating the hand pump until water is discharged. Let pump stand idle for 2 minutes and operate again. If water is discharged from the spout within 1 or 2 strokes of the pump handle, recheck weep hole to see if it is plugged or the incorrect size.
6. Tighten set screws at pump base and seal flange joint at casing with silicone caulking.
7. Operate pump continuously for 5 minutes in the presence of the COR to demonstrate proper functioning.

B. Pump Shroud.

1. Install shroud in accordance with manufacturer's instructions.

C. Access Port.

1. Cut hole and weld access port fitting to casing as shown on the plans. Install 1-1/4 inch brass plug.

D. Drain Pipe Installation.

1. Install drain pipe from the slab floor drain at depth and locations shown on the site plan. Minimum burial depth shall be 6 inches below ground surface to top of pipe unless shown otherwise on the plans.
2. Provide 2 inches of bedding for the drain pipe from excavated material free of rocks larger than 1/2 inch. Backfill within 3 inches of pipe shall be free of rock larger than 1 inch. Compact backfill in 6 inch layers with 2 passes of a tamper and finish trench surface to blend in with adjacent ground and contours.
3. Install pipe on continuous slope to drain, or as shown on the plans. Handle and install pipe in accordance with manufacturer's installation guide.

E. Disinfection of the Well.

1. Pour chlorine solution into well just before installing pump cylinder and drop pipe assembly. Chlorine solution shall be a solution of 1 cup 5-1/4 percent chlorine bleach diluted in 5 gallons of clear water into the well for each 20 feet of standing water. Disperse chlorine evenly through the well by pouring chlorine solution through a hose or pipe that is moved up or down in the well.
   a. Note: 1/6 cup of 5-1/4 percent household bleach per 5 gallons of water is approximately a 100 mg/l chlorine solution.
   b. Wash the exterior surface of the drop pipe and pump cylinder with a 100 mg/l chlorine solution as they are lowered into the well.
   c. After installation of the hand pump is completed, operate the hand pump until the distinct odor of chlorine is detected in the discharge.
   d. Allow chlorine to remain in the well for a minimum of 4 hours, preferably overnight.
   e. After disinfection, flush the well until the free chlorine residual is measured less than 0.5 mg/l.

4.PART 4 - MEASUREMENT AND PAYMENT

END OF SECTION