

PVC HAND PUMPS

BY CHARLIE FORST

Published 2003

ECHO APPROPRIATE TECHNOLOGY NOTE

DESCRIPTION

The pumps shown in the following diagrams are made out of PVC pipes and fittings. The material is relatively inexpensive and durable.

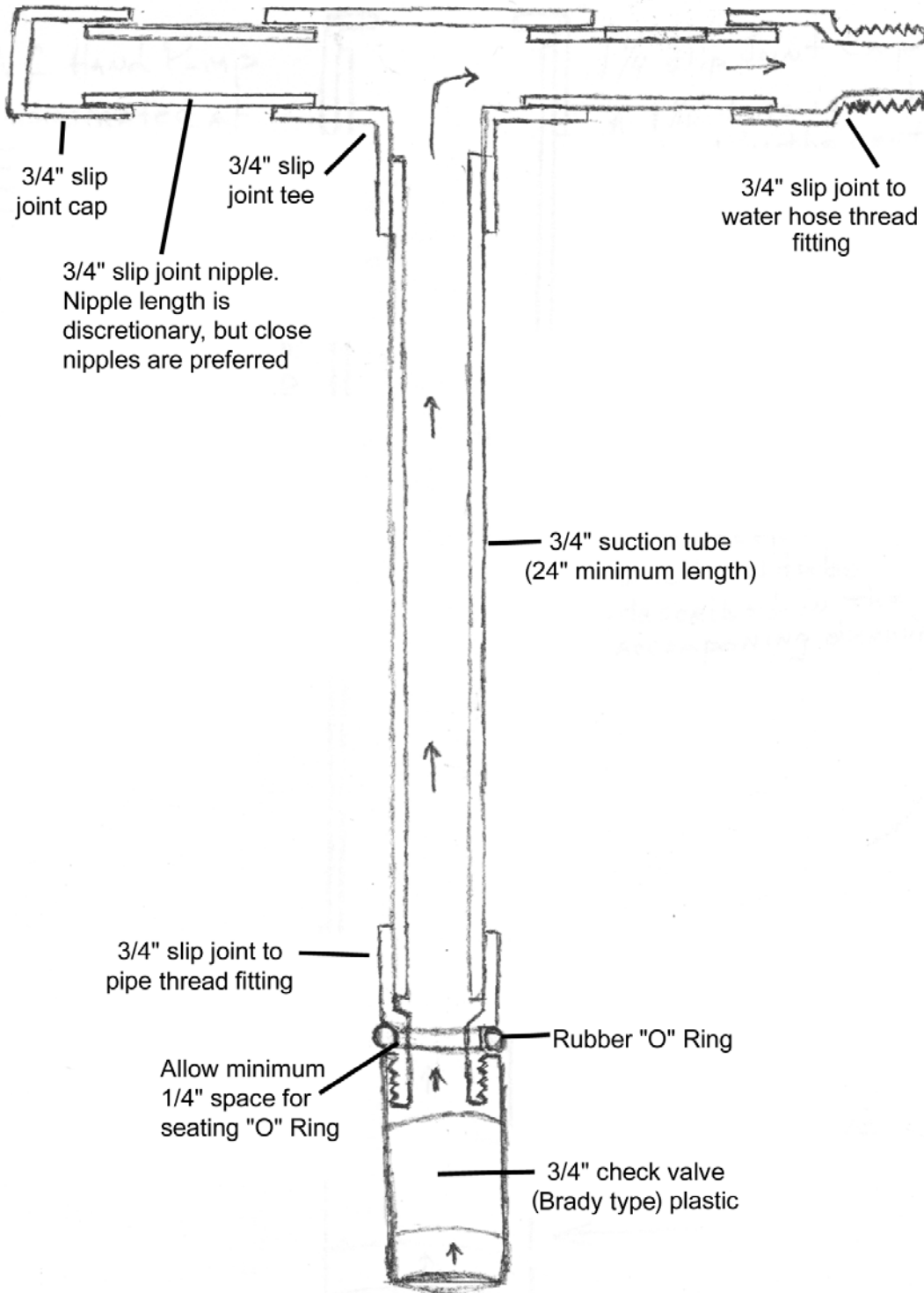
Many different designs exist for PVC hand pumps. This document shows diagrams for 2 basic designs that have worked well. The first design uses two manufactured check valves and the second design uses marbles to construct the check valves.



CHECK VALVE HAND PUMP

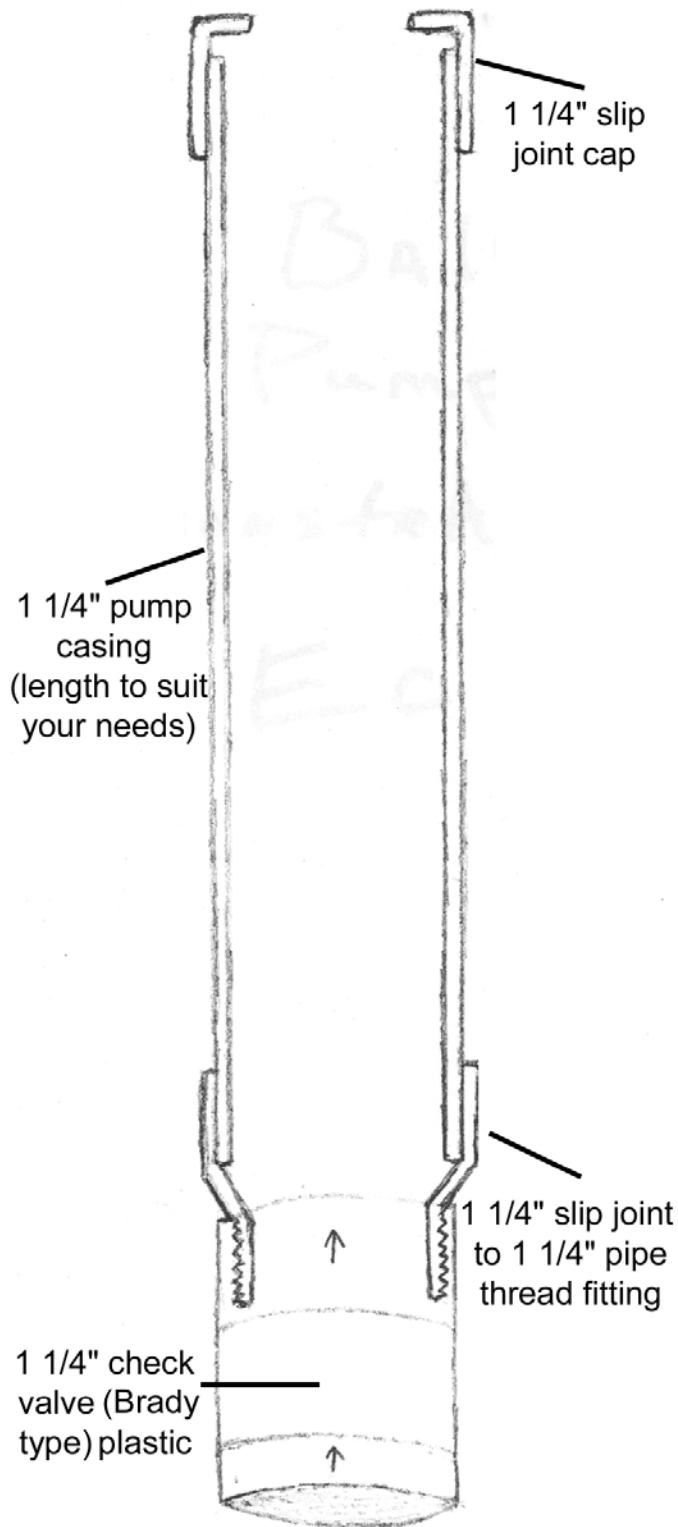
Charlie Forst

Figure 1. Suction Tube for Check Valve PVC Pump



The suction tube will be inserted in the 1 1/4" pump casing described in Figure 2.

Figure 2. Pump Casing for Check Valve PVC Pump



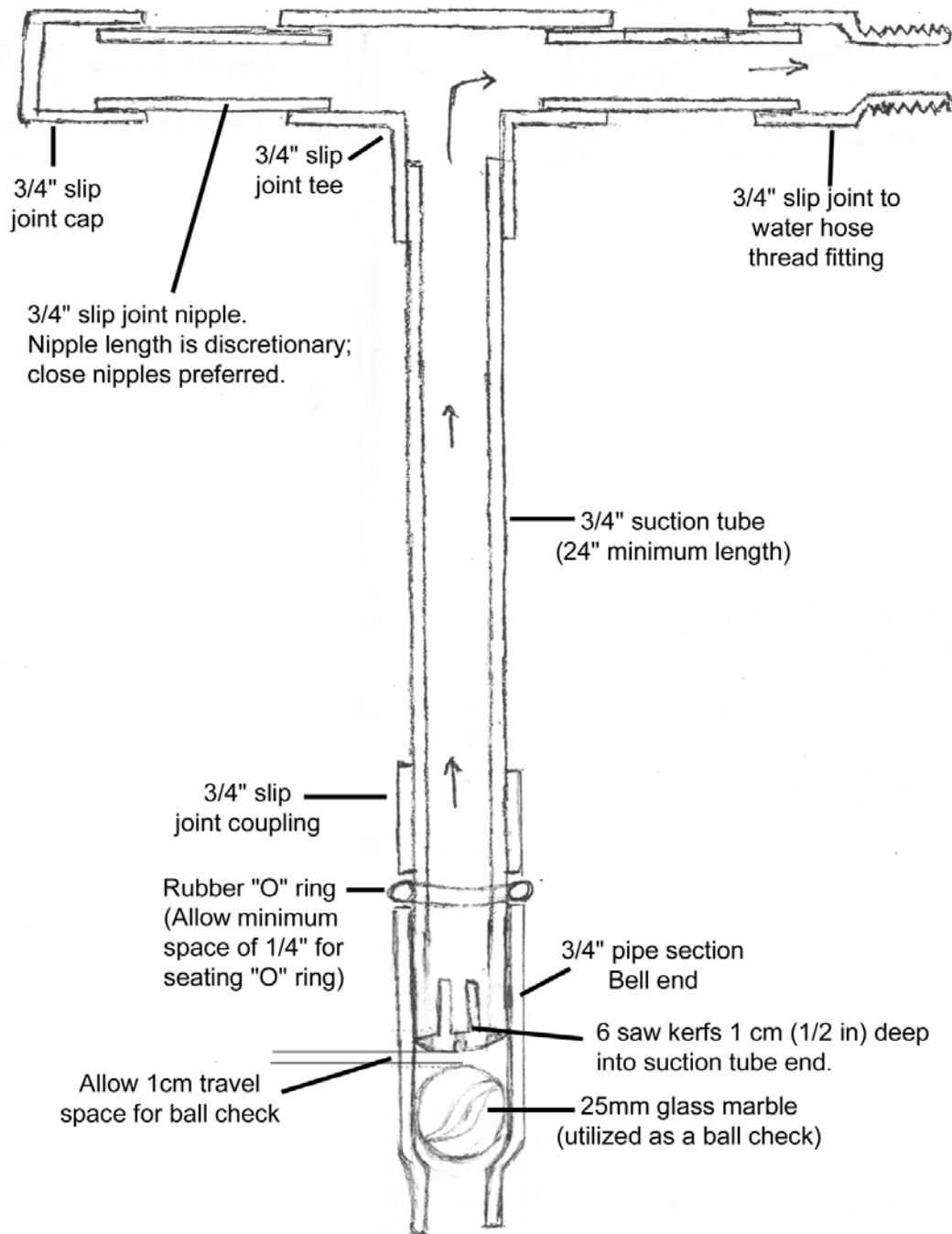
A 1/16" hole is to be drilled in the center end of the cap to allow the suction tube to travel freely up and down.

All the material used for these pumps should be PVC schedule 40. This pump casing will accept the suction tube described in the Figure 1.

BALL CHECK HAND PUMP

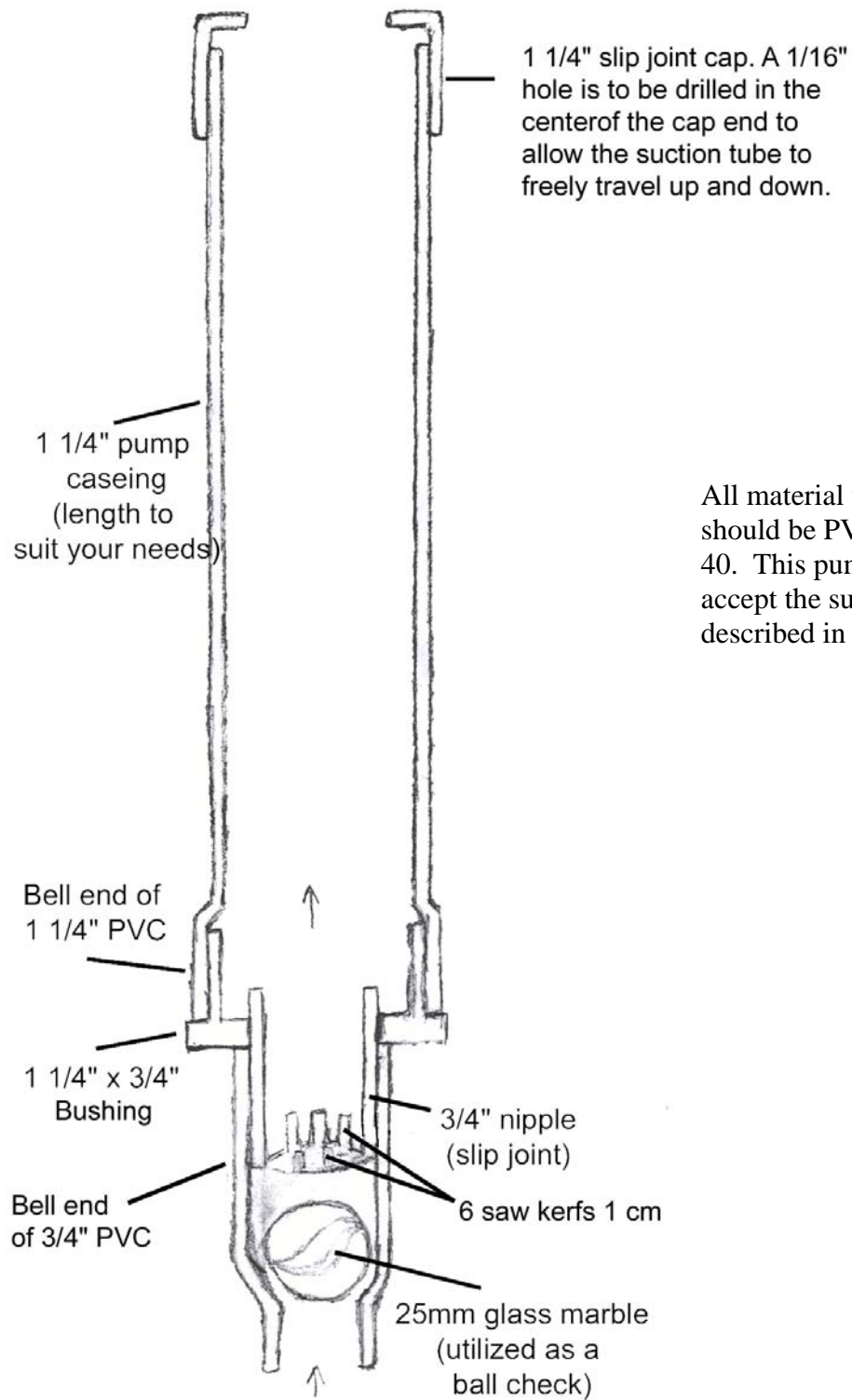
Charlie Forst

Figure 3. Suction Tube for Ball Check PVC Pump



This suction tube will be inserted into the 1 1/4" pump casing described in Figure 4.

Figure 4. Pump Casing for Ball Check PVC Pump



All material that is used should be PVC schedule 40. This pump casing will accept the suction tube described in Figure 3.