29L403A

CALCULATING REQUIRED LIFT

Total Required Lift = Head Loss in Hydrant, Fittings + Head Loss in Intake + Static Head (H)
Fittings, Intake Strainer and Pipe (HL)
10' of Flexible Hose

Using 750 Gallons/Min.
Total Required Lift = 1.2' + $\frac{L \times HL}{100}$ + H = 1.2' + ____ + ____ = ____

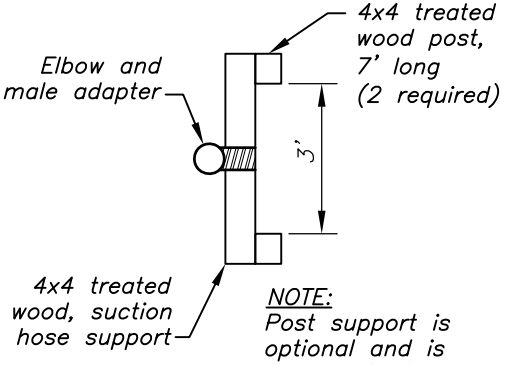
Using 500 Gallons/Min.
Total Required Lift = 0.6' + $\frac{L \times HL}{100}$ + H = 0.6' + ____ + ____ = ____

Using 250 Gallons/Min
Total Required Lift = 0.2' + $\frac{L \times HL}{100}$ + H = 0.2' + ____ + ____ = ____

L = Length of pipe HL = Head Loss

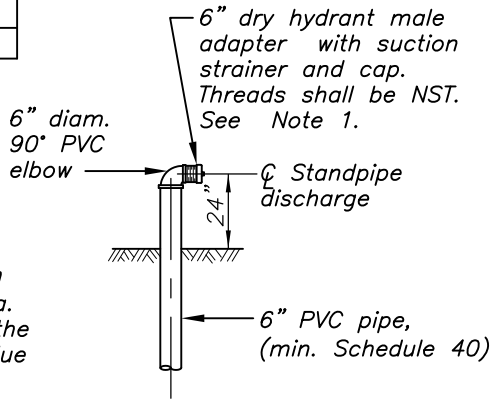
ALTITUDE (Feet)	ALLOWABLE LIFT (Feet)
0	23.0
500	22.5
1,000	22.0
1,500	21.6

HEAD LOSS IN FEET (HL) PER 100 FEET OF 6" PIPE		
Gallons Per Minute	Plastic Pipe	Smooth Steel Pipe
750	3.4	7.1
500	1.6	3.3
250	0.5	0.9



NOTE:
Post support is optional and is not required on all installations.

PLAN OF POST SUPPORT



STANDPIPE DETAIL

NOTES:

1. Check with local fire department for approved type of connection. Each fire truck utilizing the dry fire hydrant should have an adapter or equivalent to fit the 6" dry hydrant male adapter.
2. Intake strainer shall have a minimum open area of 4 times the pipe cross section area or 113 square inches for 6 inch diameter pipe. Inlet holes shall be 3/8 inch diameter. Holes shall be cut in a manner so as not to significantly reduce strength of the pipe. Holes shall be clean cut and free of burrs. Holes shall be located in bottom 2/3 of pipe. A manufactured well screen may be used if it provides required open area.
3. The total required lift exceeding 20 feet is not desirable. This may vary depending on the capacity of local fire department pumps. The total required lift shall not exceed the value obtained from the table of allowable lifts. The static head shall not exceed 15 feet.
4. To allow for a minimum amount of sediment storage the intake shall be placed not less than 2 feet above the bottom of the pond. If sediment is a problem, this dimension shall be increased.
5. Install in a manner that normal water level in the pipe is protected from freezing. Some installations may require that compacted backfill be mounded around the pipe to accomplish this or by installing insulating sleeves.
6. PVC pipe equivalent in strength to ASTM D1785 Schedule 40 is adequate for up to 14' of earthfill cover over the pipe.
7. If a post support is required the treated lumber shall be pressure treated with 0.4 pounds per cubic foot of preservative.
8. If the length of the pipe and strainer protruding into the water exceeds 5 feet, a support will be required.
9. The usable water below the low water level down to the top of the inlet pipe shall be of sufficient volume to provide the anticipated needs. This shall be a minimum of 2 feet deep.
10. The drop in water level from normal water level to low water level shall be computed by the dry fire hydrant design worksheet.
11. There shall not be more than 15 feet of pipeline above the low water level unless otherwise approved by local fire department.

DRAFT

NOT FOR CONSTRUCTION

Date
Designed
Drawn
Checked
Approved

DETAILS OF 6" DIAMETER DRY FIRE HYDRANT

United States Department of Agriculture
Natural Resources Conservation Service
NRCS

File Name

Drawing Name
29-L-403A

Sheet of

Adapted from Indiana Standard Drawing IN-EDS-DH88

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