Example 4 - Pressure drop over 25%

Static pressure of 50 psi
After opening a 1¾" line flowing 200 gpm
Pressure drops to 35 psi (=30% drop)
"No GPM left"

Hydraulics

- NP = Nozzle Pressure – pressure needed at the nozzle for an effective stream
- FL = Friction Loss – the amount of energy (psi) lost or used to push the water through the hose
- BP = Back Pressure – created by elevation changes between the nozzle and the pump
- AL = Appliance Loss -
    - Heavy Stream - 10 – 25 psi
    - Wyes - 5 – 10 psi
    - Siamese -5 – 10 psi
- EP = Engine Pressure - Discharge pressure needed to overcome all friction loss and produce correct GPM and efficient nozzle stream

Efficient carrying capacities: discuss the term "efficient carrying capacity". Discuss the difference between turbulent flow and laminar flow and how it affects water movement through a hose. Why is it important to know the efficient carrying capacity? We should always use the efficient carrying capacities when figuring friction loss.

Efficient carrying capacities

Hand Lines	Supply lines
1 ½" 100 GPM	2 ½ " 499GPM
1 ¾" 150 GPM	3" 500 GPM
2" 200 GPM	4" 1000 GPM
2 ½" 250 GPM	5" 2000 GPM