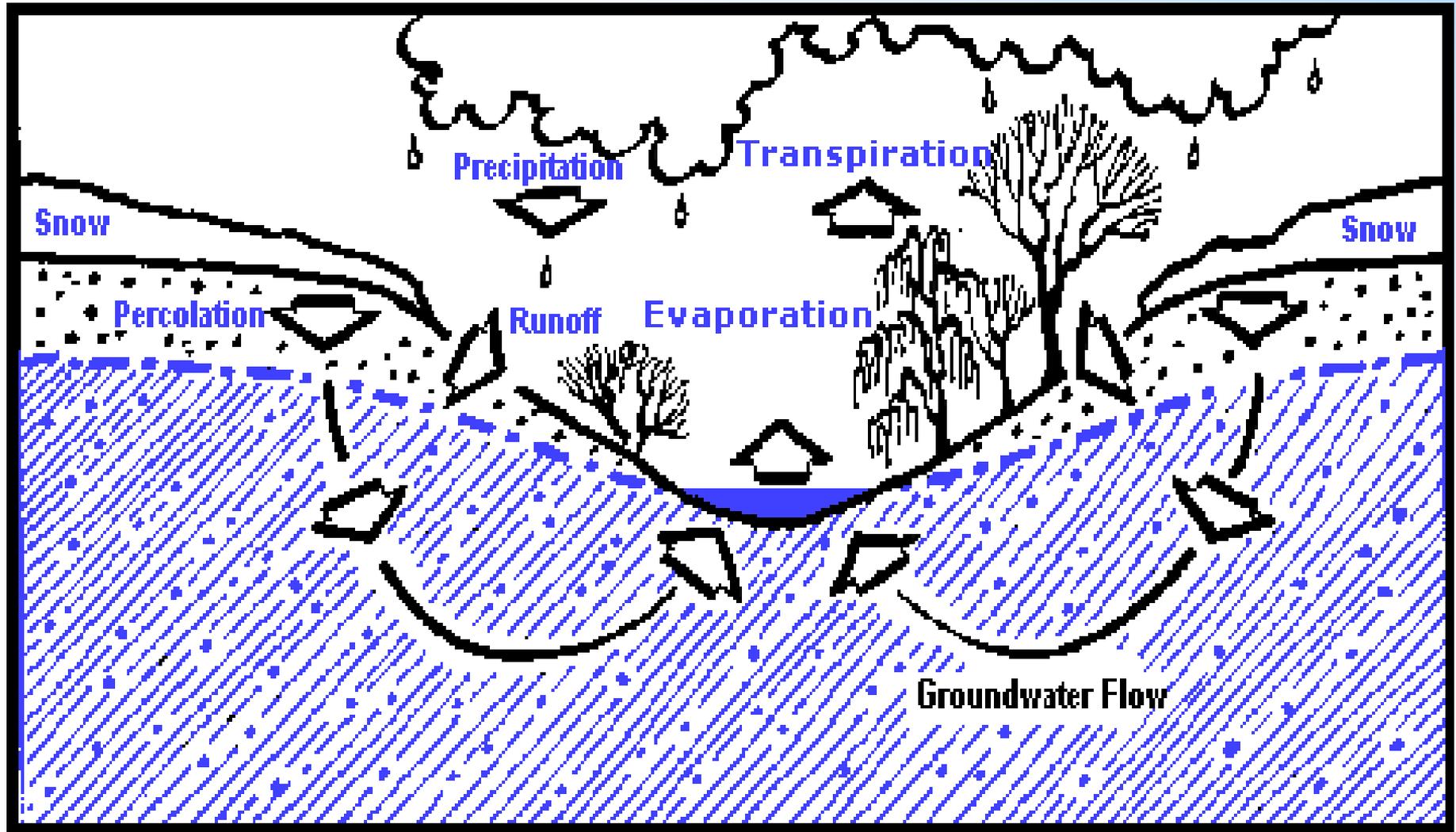
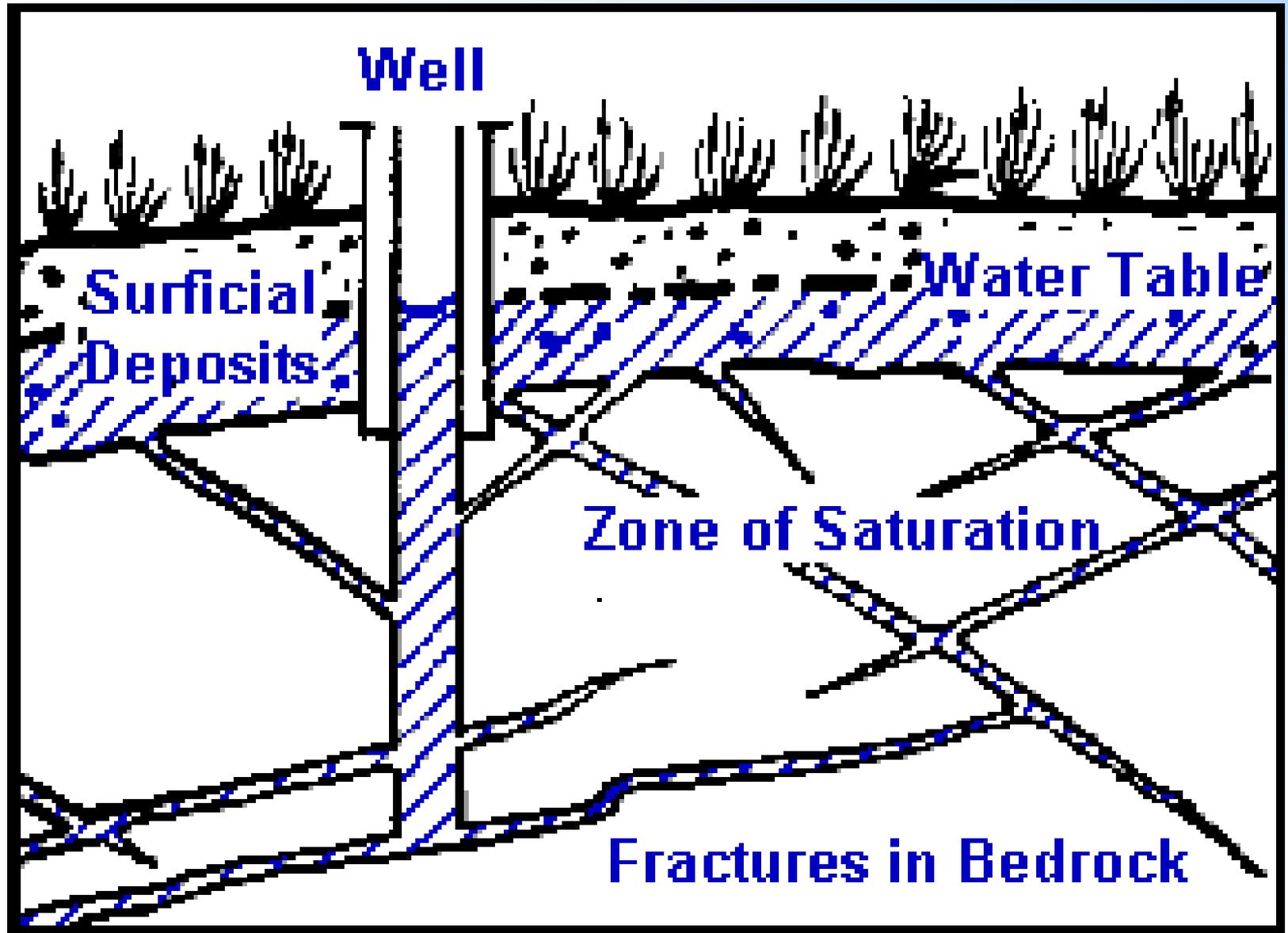


Groundwater Recharge



Bedrock Well Cross Section



How Much Water is Available to recharge the bedrock aquifer?

1. Average Annual Precipitation in Pelham NH is 45.88 inches/year.
2. Distribution of rainfall over the year is fairly uniform. Low month – 3.28” High month – 4.22”
3. 10 to 20% of the precipitation makes it into the bedrock aquifer.
4. 10% recharge of the bedrock over 1 acre results in an annual recharge of about 125,000 gallons of water or about 340 gallons of water per day.

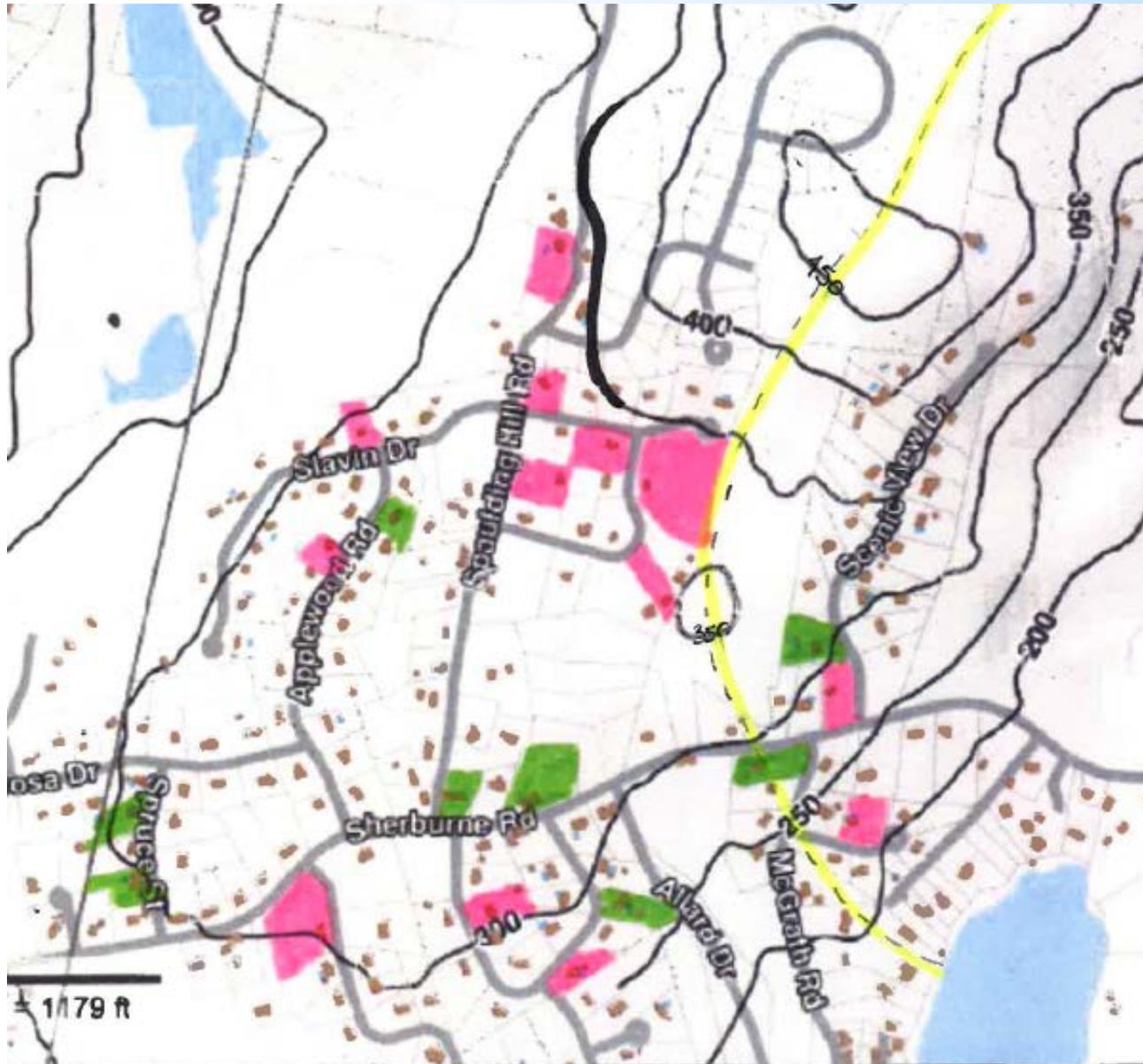
How Much Water do I need for household purposes per day?

1. Clothes Washer (HE) – 15 gallons per load @ 2 loads/day = 30 gallons
 2. Dishwasher (HE) – 4 gallons per load @ 2 loads/day = 8 gallons
 3. Toilet flushing (HE) – 4 people x 7 flush/day @ 1.2 gallon/flush = 34 gallons
 4. Showering – 4 people x 1/day x 10 minutes x 2 gallons/minute = 80 gallons
 5. Tooth Brushing – 4 people x 2/day @ 0.5 gallons/brushing = 4 gallons
 6. Hand washing – 4 people x 10 times/day @ 0.5 gallons/wash = 20 gallons
 7. Food Prep, drinking water @ 5 gallons/day = 5 gallons
- Projected daily water usage for family of four = 181 gallons

National Average is between 150 to 200 gallons per day per family

181 gallons per day at 50% available use translates to ¼ Gallon Per Minute (GPM) well capacity. A properly designed well system with a well groundwater input of ¼ to ½ GPM should comfortably sustain a typical 4 member family household.

Sherburne Road Survey Results



Pink – Reported well problem

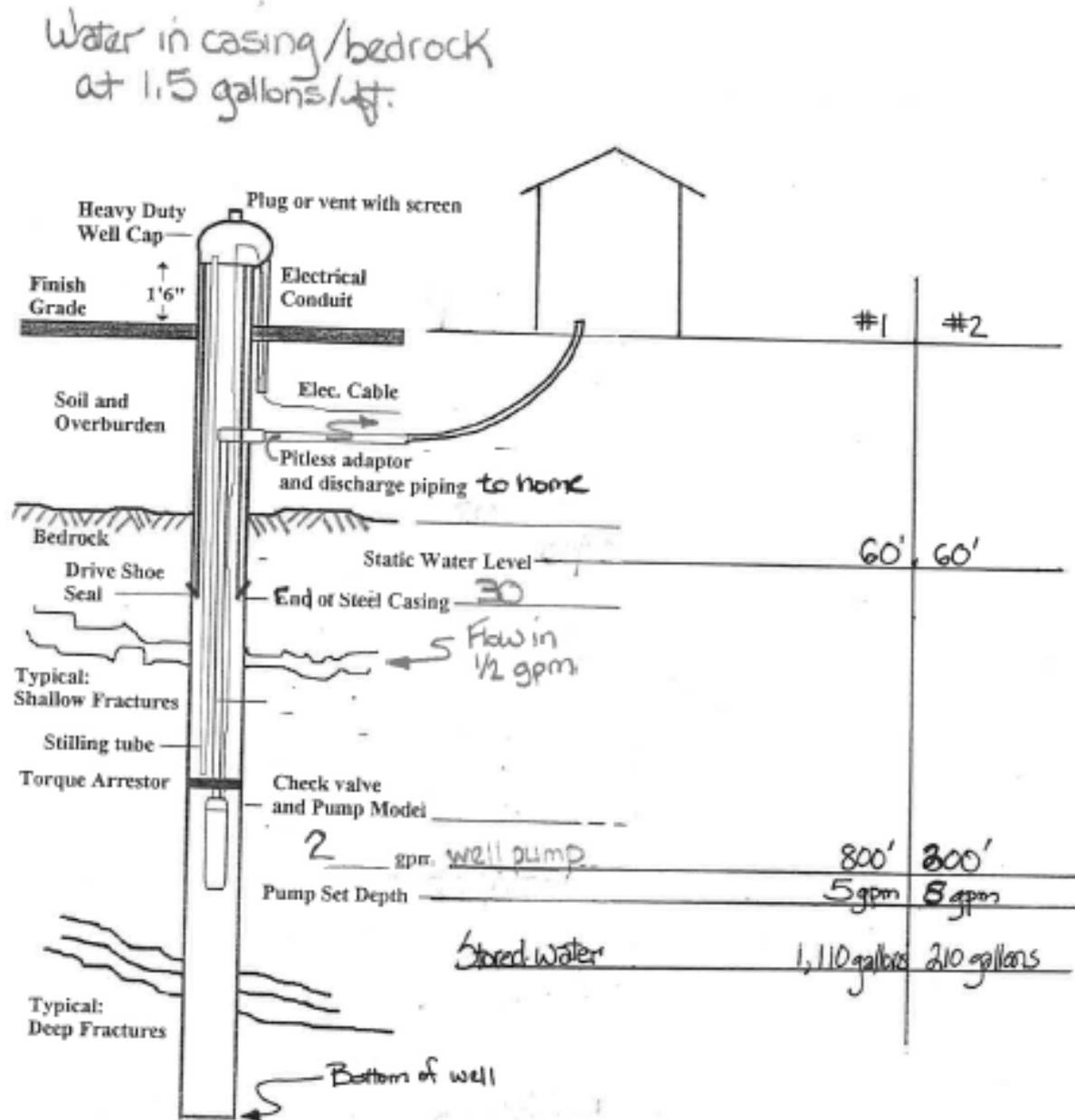
Green – Reported no well problem

Why am I having Well problems?

1. My home is located high in the groundwater watershed.
2. The bedrock is not well fractured.
3. Well pump too big.
4. Well pump not set deep enough
5. Not enough storage before well pump (in well column)
6. Not enough storage after well pump before pressure tank – Atmospheric storage before pressure pump.
7. Shift in bedrock structure closing off water bearing fracture.

Records on your well (if drilled after 1984) are available from the NHDES website, One-Stop data under “water wells”

Typical Residential Bedrock Well



Questions??