Where:

- H = saturated thickness of the aquifer before pumping (m)
- Δh_r = drawdown due to radial flow towards the pumped well (m)
- r_w =radius of well (m)

The equation is applicable when $r_e/r_w > 100$ accepting an error of 10%. The radius of influence describes the distance at which infiltration recharge is sufficient to supply the yield from the well.

It can be derived from appropriately analysed pumping tests or estimated by the use of commonly used formulas, e.g. Sichardt's formula and Cooper and Jacob formula.

5.9.3. Well Field in a Rectangular Pattern

For rectangular configurations, which are formed in parallel lines at a distance B apart and the spacing of the wells along the lines is L, as presented in Figure 5-6.
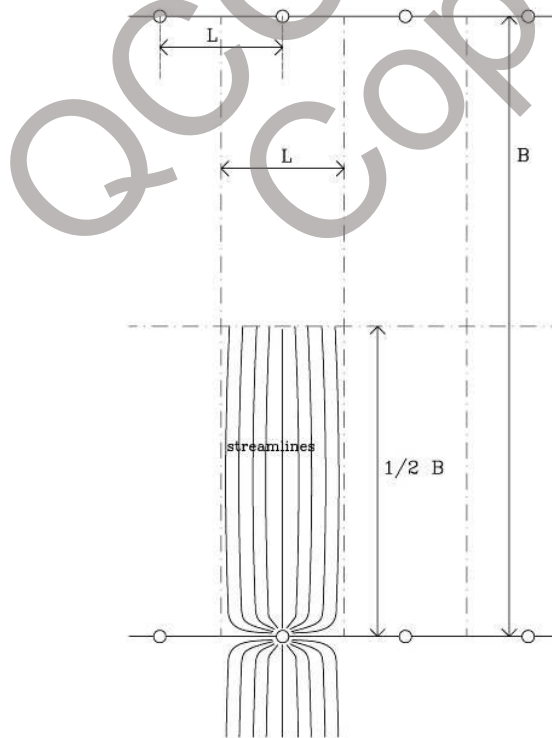

Figure 5-6 – Wells in Parallel Series with L<<B.

In such a situation, if the recharge on the land surface is uniform and flow towards the wells has attained a steady state, the discharge of each well can be written as:

$$Q = RBL$$

Where:

- Q : discharge rate of each well (m3/d)
- R : recharge rate of the aquifer per unit surface area (m/d)
- B : distance between the parallel lines (m)
- L : spacing of the wells along the lines (m)