

AQUA Index Formula:

Where:

X = original acreage of high yield sand and gravel aquifer (as mapped by M.G.S.)

Y = road acreage with 75 ft additional buffer from centerline as bounded by X.

Z = sum of risk values, and $z >$ or equal to 1 (divisor must be non-zero).

A = balance of acreage modified by sum of risk values

I = index, balance of risk modified acreage divided by original aquifer acreage (unitless)

$$\frac{(X - Y)}{Z} = A \text{ (unit in acres)}$$
$$\frac{A}{X} = I \text{ (unitless)}$$

Where 1 (or alternately 100%) equals minimal land use risk,

>.50 equals moderate risk, and

<.50 equals significant risk.