nonstructural practice. The following formula is to be used for a structural

$$GR_V = \frac{1}{12}(S_{in})(0.05 + 0.009 \cdot I)(A)$$

$GR_V$ = Groundwater recharge volume, acre-ft.
$S_{in}$ = Soil specific recharge, in.
I = Percent impervious, %.
A = Total area of site, acre.

Examples of structural practices that can be used for groundwater recharge are bioretention areas, infiltration facilities, terraformed berms, and infiltration swales.

Since Scott County is in a karst region, designers that intend to use structural practices for groundwater recharge must evaluate potential areas to ensure that these proposed facilities would be adequate and not have an adverse impact on surrounding areas, such as increasing the water table. Designers are to ensure that the groundwater recharge volume is to exit proposed facilities through natural infiltration or a designed outlet, and that the volume is treated by BMPs prior to infiltration. Dewatering times for structural practices should not exceed 48 hours. Groundwater recharge requirements may be waived for redevelopments only if approved by the Planning Commission Engineer.

**B. *Water Quality Protection:*** The water chemistry of runoff is extremely important to the health of creeks and streams. When enough rainfall occurs, runoff from land areas is transported from these sites to drainage ways. These drainage ways eventually reach the creek systems of Scott County. Depending on the types of sites, pollutants are transported by the force of the runoff or by its physical factors such as temperature and pH level. Water quality BMPs are to be used to the maximum extent practical to minimize these impacts and to treat runoff from all proposed impervious surfaces.

For adequate treatment, 90 percent of the average annual rainfall must be treated by stormwater BMPs. Rainfall records from GMWSS water treatment plant shows that approximately 90 percent of total storm events occurred with 1 inch of rainfall or less.