**Section 259.340 Detailed Assessment for Development of Site-Specific Soil Cleanup Objectives**

The purpose of the detailed assessment for site-specific SCOs is to provide the information necessary for the calculation of site-specific SCOs based on the site physical properties. The detailed assessment is optional and is only required when an applicant proposes corrective actions based on site-specific SCOs, instead of reliance on the default SCOs of Appendix B and Appendix C of this Part.

a) To determine site-specific physical soil and hydrogeologic parameters, a minimum of one boring per 0.5 acre of contaminated soil area shall be collected. This boring shall be deep enough to allow the collection of the required field measurements. The soil taken from the borings shall be visually inspected to ensure there are no significant differences in the stratigraphy. If there are similar soil types, one boring may be used to determine the site-specific physical soil parameters. If there are significant differences, all of the borings shall be evaluated before determining the site-specific soil parameters for the site. The site-specific physical parameters shall be determined from the portion of the boring representing the stratigraphic units being evaluated. In general, two samples from the boring shall be required:

1) a sample of the predominant soil type in the unsaturated zone, and

2) a sample of the predominant geologic unit in the saturated zone.

b) Not all of the parameters identified in the equations in Section 259.350(a) of this Part shall be determined on a site-specific basis. An applicant may collect partial site-specific information and use default values for the other parameters. Applicants should consider measuring the organic carbon content in all soil samples that have been collected to analyze for pesticide concentrations because the product of the Equation in Section 259.350(a) of this Part is most sensitive to the organic carbon content. The variable foc may not be measured in soils with visible evidence of pesticide contamination.

c) A site-specific groundwater dilution factor (DF) (used in developing SCOs based upon the protection of groundwater) may be determined by substituting site information in the equation in Section 259.350(a)(1) of this Part. A groundwater recharge rate (R in the equation in Section 259.350(a)(2) of this Part) less than 0.15 m/yr may not be used unless it is demonstrated through on-site testing of hydraulic properties that the saturated hydraulic conductivity of the geologic material in which a Class II groundwater occurs or of the geologic material overlying a Class I or III groundwater is smaller than 1 x 10-6 cm/sec. The mixing zone depth (d in the equation in Section 259.350(a)(2) of this Part) is the mean thickness of the geologic unit in which the Class I, II or III groundwater is present. A mixing zone depth larger than 6.5 meters may not be used in calculating a site-specific dilution factor.

d) In addition to the parameters in the equation in Section 259.350(a)(2) of this Part, the following information on hydrogeologic conditions beneath the site shall be determined:

1) mean depth to water table,

2) mean depth to uppermost Class I, Class II or Class III groundwater,

3) mean thickness of uppermost Class I, Class II or Class III groundwater, and

4) groundwater flow direction.

e) The applicant shall inform the Department of the schedule for conducting the final site assessment to allow representatives of the Department to conduct a site visit and observe assessment activities.

(Source: Amended at 32 Ill. Reg. 1308, effective January 21, 2008)