**QAPP Worksheet #17: Sampling Design and Rationale**

**(UFP-QAPP Manual Section 3.1.1)**

**(EPA 2106-G-05 Section 2.3.1)**

This worksheet should be used to describe the sampling design and the basis for its selection. This worksheet will mainly consist of text. It documents the last step of the systematic planning process. If a site consists of multiple areas to be sampled, a separate worksheet should be used for each.

There are two general types of sampling designs: 1) probability-based designs, which should be used when statistical conclusions are required, and 2) judgmental designs, which are more applicable to help refine conceptual site models when further study is planned, or to confirm previous findings, but which usually do not provide sufficient basis on their own to support statistical conclusions. Advice on selecting appropriate sample designs may be found in Chapter 2 of *Guidance for Choosing a Sampling Design for Environmental Data Collection*, EPA QA/G-5s. *Regardless of the type of design selected, this worksheet should explain the basis for its selection.* It also should describe the following:

1. The physical boundaries for the area under study (include maps or diagrams).
2. The time period being represented by the collected data.
3. The descriptions and basis for dividing the site into sampling areas (e.g., decision units, exposure units, etc.) that support the decision statements documented on Worksheet #11.
4. The basis for the number and placement of samples within sampling areas.
5. If sample locations are specified in the QAPP, descriptions of how actual sample positions will be located once in the field. (Include maps or diagrams).
6. If a sample cannot be collected where planned, the decision process for changing the location.
7. If sample locations will be determined in the field, the decision process for doing so.
8. Contingencies in the event field conditions are different than expected and could have an effect on the sample design.