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CS 325 - Fall 2021

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Business Rules

- BMP sampling locations must be directly upstream or directly downstream of a particular stormwater BMP. Infiltration and bioretention BMPs only have upstream sampling locations since it is assumed that all water infiltrates. Flow-through BMPs have both upstream and downstream sampling locations.
- Each sample must be composed of stormwater or distilled water. Distilled water is used for blank samples.
- Each stormwater sample is collected at a particular sampling location.
- Blank samples do not have an associated sampling location.
- Each monitoring location has zero, one, or two samples collected during a single storm.
- Each sample must have one concentration result for each evaluated parameter.
 - (Note that concentration rows have only been inserted for a single, example storm since each storm would have more than 400 rows of corresponding concentration data. Samples associated with all other storms currently have no concentration results stored in the database.)
- The same testing method is always used to evaluate each parameter. For example, testing method D1688-07 A is always used to evaluate Dissolved Copper.
- Non-detect parameter results, i.e. results that are below the lab detection limit, must be set to the detection limit for all data statistics and calculations.
- Duplicate sample concentrations for a particular monitoring location during a storm must be averaged for all data statistics and calculations except statistics and calculations that use the duplicates to evaluate the consistency of the sampling method.
- A sample's corresponding duplicate sample must have been collected from the same sample location during the same storm.
- Concentration results for blank samples shall only be used to evaluate the accuracy of the sampling and testing methods and shall not be used in any other data statistics or calculations.
- Maintenance dates for each stormwater BMP must occur after BMP installation.
- The sample time for each sample must occur during the corresponding sampled storm.

- A sample location's pervious drainage area must be smaller than the sample location's total drainage area.
- For each sample location, the pervious drainage area plus the drainage area corresponding to each soil type should be equal to the total drainage area.