Re: SFPUC Stormwater Design Guidelines Supplement: Accepted Hydrologic Calculation Methods

Combined Sewer Areas (CSS Areas):

Quantity Control Calculations for LEED 6.1 shall demonstrate how the system is sized to meet peak discharge rate and quantity requirements for the required design storm.

1. Preferred:
   - SF Stormwater Design Guidelines, Appendix B: CSS BMP Sizing Calculator.
     - Allowed for project sites < 2 acres (one drainage area discharge); or
     - project sites < 5 acres (w/ multiple drainage area discharges < 2 acres).
   - Single-event hydrologic modeling software or continuous simulation modeling software (e.g. EPA SWMM, or equal).

2. Acceptable (for drainage areas with simple BMP systems or estimating systems with BMPs in series or network):
   - The Rational Method to predict the peak flow rate, and the Simple Method to estimate volume. (Only allowed for project sites < 1/2 acres)
   - An industry-standard engineering method for generating runoff hydrographs (e.g., the SCS Unit Hydrograph Procedure or the Santa Barbara Urban Hydrograph Method).
     - Only allowed for project sites < 2 acres

Separate Sewer Areas (MS4 Areas):

Water Quality Calculations for LEED 6.2 shall demonstrate how the system is sized to capture and/or treat 90% annual rainfall volume. San Francisco qualifies as a Semi-arid Watershed and therefore 0.75 inches of rainfall shall be used.

1. Preferred:
   - SF Stormwater Design Guidelines Appendix B: MS4 BMP Sizing Calculators.
   - Continuous simulation modeling software (e.g. EPA SWMM, or equal).

2. Acceptable (for drainage areas with a simple BMP systems or estimating systems with BMPs in series or network):
   - The industry-standard Rational Method may be used for flow based sizing, and the Simple Method may be used to estimate treatment volumes.
     - Only allowed for project sites < 2 acres

---

1 The UWMP interprets the quantity requirements of this credit as permanent stormwater volume reduction, NOT temporary stormwater volume reduction, i.e. detention. For more information, contact UWMP staff.
2 San Francisco 1-yr and 2-yr 24-hr design storm data is available online. [http://sfwater.org/sgd](http://sfwater.org/sgd)
3 The SFPUC does not endorse any particular proprietary software. Acceptable software include, but not limited to: Pondpack, HydroCAD, Civil 3D, or equivalent.